

Northern Minnesota and Ontario Peatlands Section Forest Resource Management Plan

Management Opportunity Areas

Management opportunity areas (MOAs) are areas on DNR-administered lands that offer an opportunity to maintain or create spatial patterns to address natural resource values that are difficult to achieve at the stand level or through the normal stand development process. They contribute toward meeting goals in the Northern Minnesota and Ontario Peatlands Section Forest Resource Management Plan (NMOP SFRMP), including providing wildlife habitat for a range of species (e.g., ruffed grouse management areas), providing older forest and older forest characteristics distributed throughout the Section (e.g., old forest management complexes), and considering species of special concern or conservation need in management (e.g., northern forest owl MOA).

This document contains summary information for each management opportunity area type and the guidance document for each management opportunity area in the NMOP Section. More information, including the NMOP SFRMP, is available on the DNR's [NMOP SFRMP webpage](#). Individual MOA templates can be downloaded from links within the NMOP SFRMP and the tables below.

Deer Management Areas

Deer management areas provide habitat elements, such as winter cover, for deer on the landscape.

Map 1: Deer management/winter habitat areas in the NMOP Section.

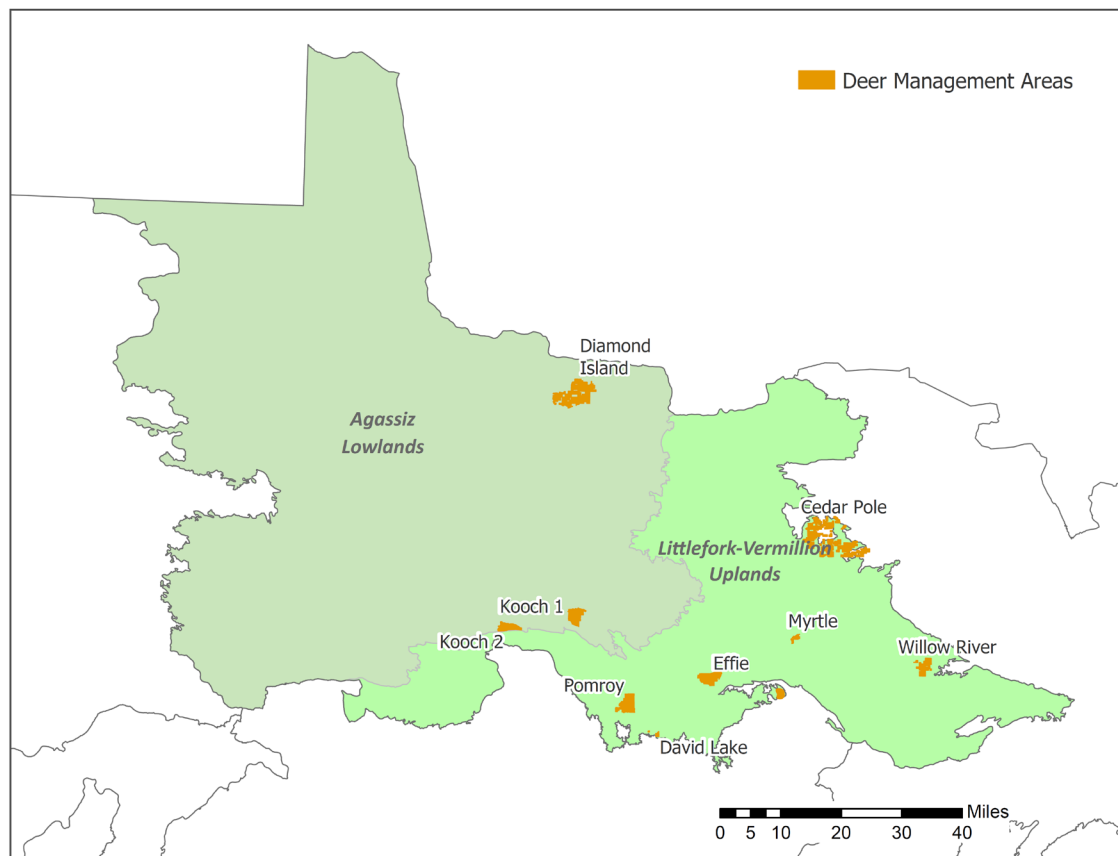


Table E.1: Deer management/winter habitat areas in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Name | Forestry Area | Total Stand Acres |
|---|-------------------|-------------------|
| Cedar Pole Deer Yard | Littlefork, Tower | 13,305 |
| David Lake Winter Habitat | Deer River | 209 |
| Diamond Island Deer Yard | Baudette | 9,768 |
| Effie Winter Habitat | Deer River | 1,136 |
| Kooch 1 Winter Habitat | Deer River | 2,560 |
| Kooch 2 Winter Habitat | Deer River | 1,610 |
| Myrtle Winter Habitat | Deer River | 511 |
| Pomroy Winter Habitat | Deer River | 1,918 |
| Willow River Winter Habitat MOA | Tower | 2,709 |

Northern Forest Owl MOA

The Northern Forest Owl MOA is designed to consistently provide all habitat needs for rare boreal owl species, using timber harvest to rotate areas that provide various nesting and prey-production habitat elements over time. This MOA recognizes where great gray and northern hawk owl concentrations occur continually, and cannot simply be created elsewhere on the landscape.

Map 2: Location of the Northern Forest Owl MOA in the NMOP Section.

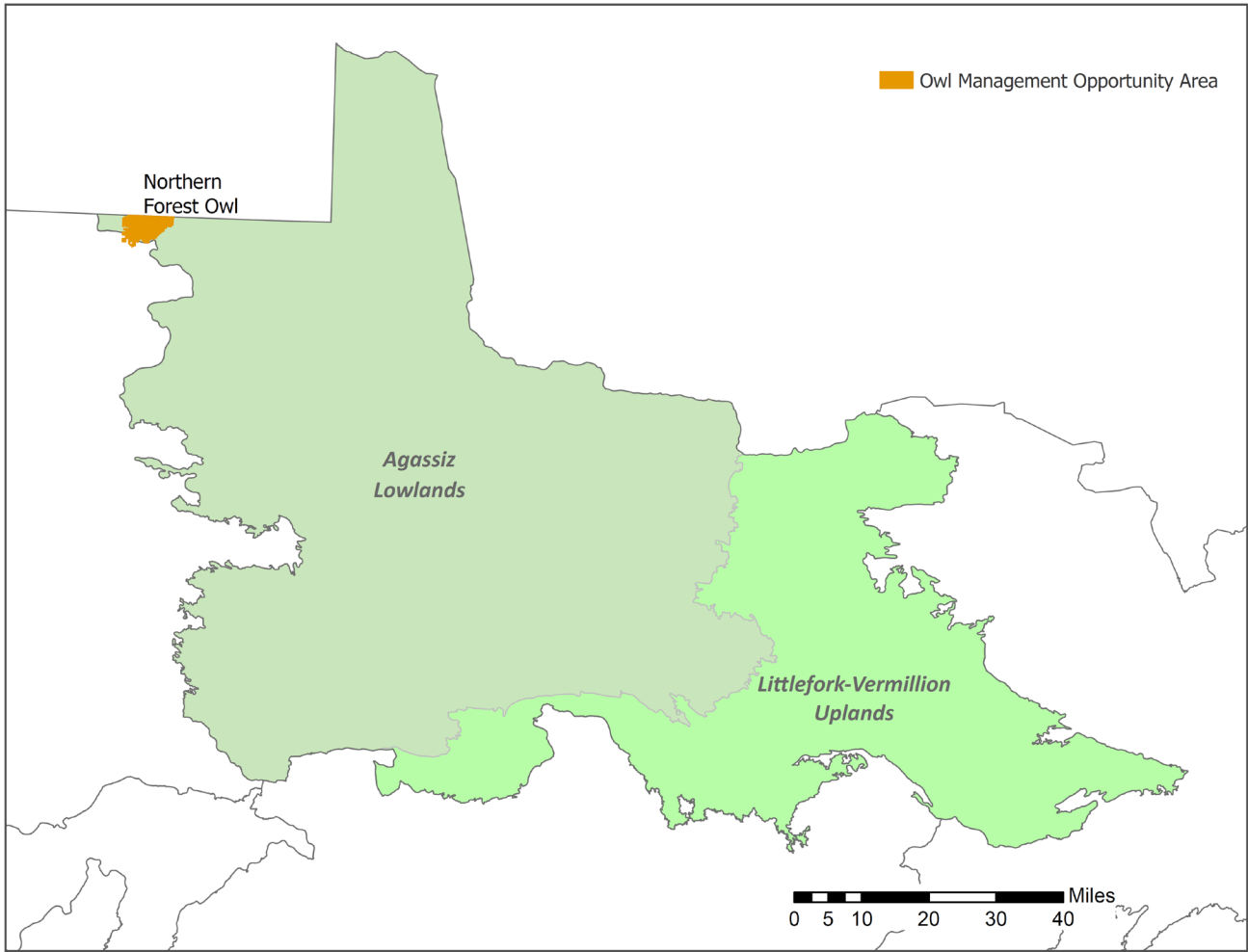


Table 2: Northern Forest Owl MOA in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Name | Forestry Area | Total Stand Acres |
|-------------------------------------|---------------|-------------------|
| Northern Forest Owl | Warroad | 14,418 |

Old forest management complex (OFMC)

The conservation value of designated old-growth can be further enhanced by managing additional stands around old-growth stands and their special management zones (SMZs) as OFMCs. Old forest management complexes complement and support values represented in the designated old-growth stands. They serve policy, management, and ecological purposes, and include three elements: 1) designated old-growth or future old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics. Refer to the DNR Old Growth Forests Guidelines and amendments for more information.

Map 3: Location of old forest management complexes in the NMOP Section.

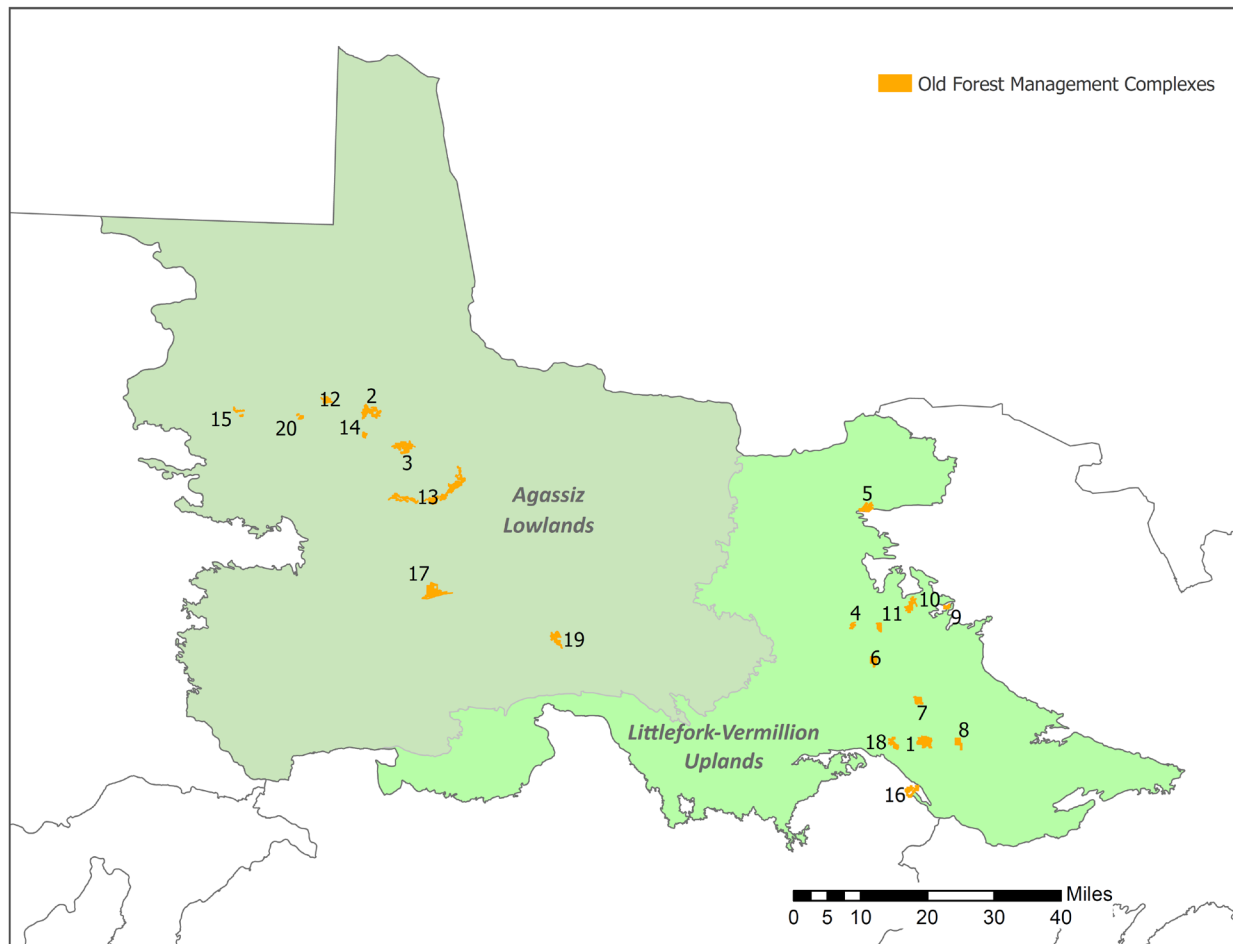


Table 3: Old forest management areas in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Map Number | Name | Forestry Area | Total Stand Acres |
|------------|---|---------------------------|-------------------|
| 1 | Bramble OFMC | Hibbing | 1644 |
| 2 | Brown's Bog East OFMC | Baudette | 1246 |
| 3 | Gustafson's Camp OFMC | Baudette | 1537 |
| 4 | Highway 65 OFMC | Littlefork | 202 |
| 5 | Hwy217 (Littlefork) OFMC | Littlefork | 854 |
| 6 | Little Fork River North OFMC | Deer River, Littlefork | 504 |
| 7 | Little Fork River South OFMC | Hibbing | 566 |
| 8 | Nass OFMC | Hibbing | 611 |
| 9 | Nett Lake North Boundary East OFMC and Cedar Pole Deer Yard | Tower | 193 |
| 10 | Nett Lake North Boundary West OFMC and Cedar Pole Deer Yard | Littlefork | 778 |
| 11 | Nett Lake West Boundary - Littlefork River OFMC | Littlefork | 379 |
| 12 | Norris Camp South OFMC | Baudette | 338 |
| 13 | Rapid River East OFMC | Baudette | 3077 |
| 14 | Rapid River West OFMC | Baudette | 192 |
| 15 | Stotts OFMC | Warroad | 213 |
| 16 | Thistledew Lake OFMC | Hibbing | 902 |
| 17 | Upper Red Lake North Shore OFMC | Bemidji | 2025 |
| 18 | Valley River Headwaters OFMC | Hibbing | 643 |
| 19 | Waskish Little Tamarack River OFMC | Bemidji | 907 |
| 20 | West Hogsback OFMC | Warroad | 199 |

Patch MOAs

Older forest patches reduce habitat fragmentation and provide for some species dependent on large, continuous areas of older forest. They also help represent natural variability in patch size across the landscape. This plan includes four old, lowland conifer patch MOAs and one intermediate-aged upland deciduous patch MOA that is intended to provide older forest patch values in the future.

Map 4: Location of patch MOAs in the NMOP Section. (PIUD = patch intermediate upland deciduous; POLC = patch old lowland conifer)

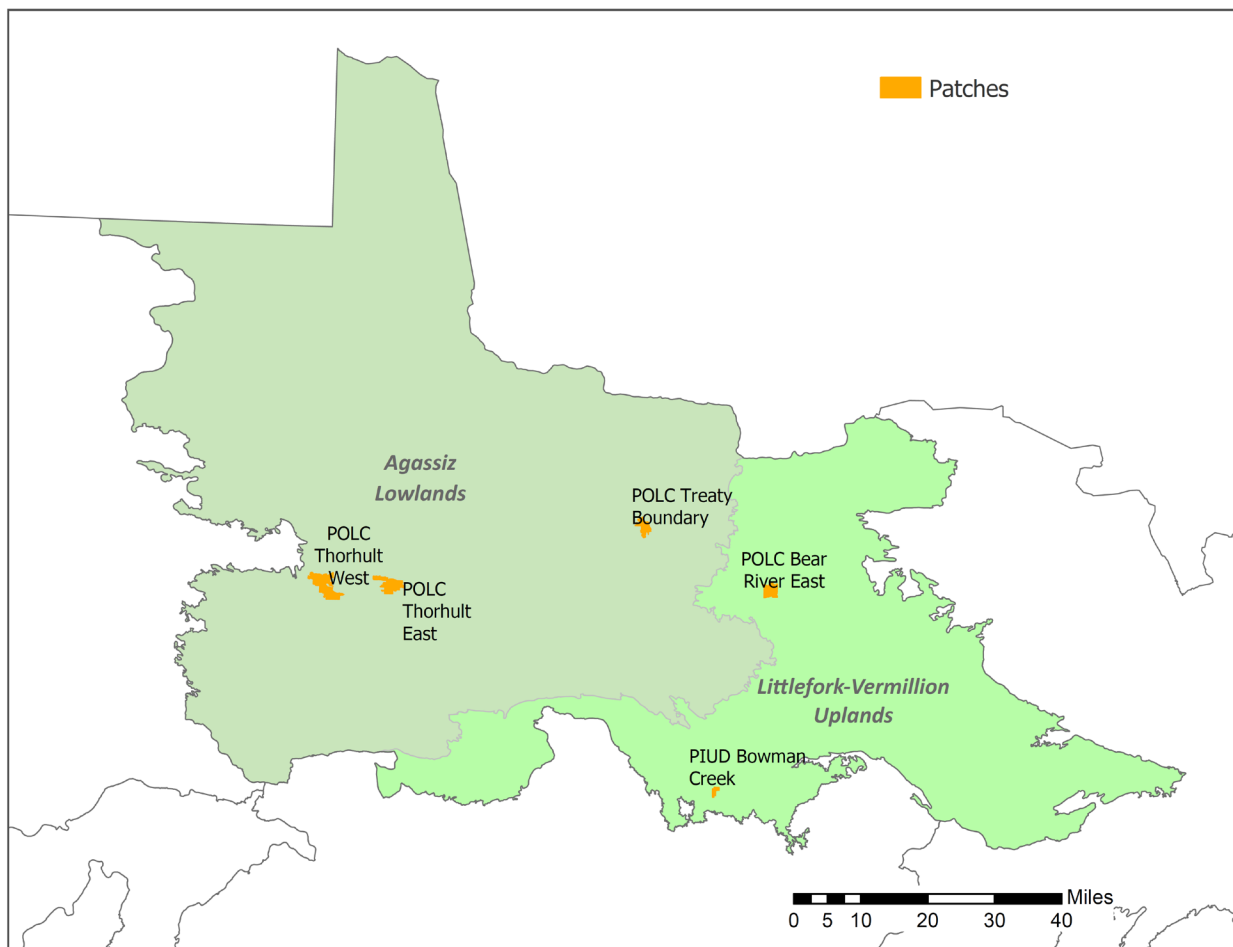


Table 4: Patch MOAs in the NMOP Section. Click on the name of a MOA to view or download its management guidance document (PIUD = patch intermediate upland deciduous; POLC = patch old lowland conifer).

| Name | Forestry Area | Total Stand Acres |
|--------------------------------------|----------------------|-------------------|
| PIUD Bowman Creek | Deer River | 503 |
| POLC Bear River East | Littlefork | 2238 |
| POLC Thorhult East | Bemidji, Warroad | 3582 |
| POLC Thorhult West | Warroad | 5600 |
| POLC Treaty Boundary | Littlefork, Baudette | 1933 |

Open Landscape Management Area

Forests or patches of trees in these areas are managed to benefit species with open landscape habitat requirements. Forest stands on the edge of open landscapes may be harvested at or before standard DNR harvest ages to create regenerating trees that temporarily mimic brushland habitat.

Map 5: Location of DNR-administered stands within Littlefork Vermillion Uplands Priority Open Landscapes.

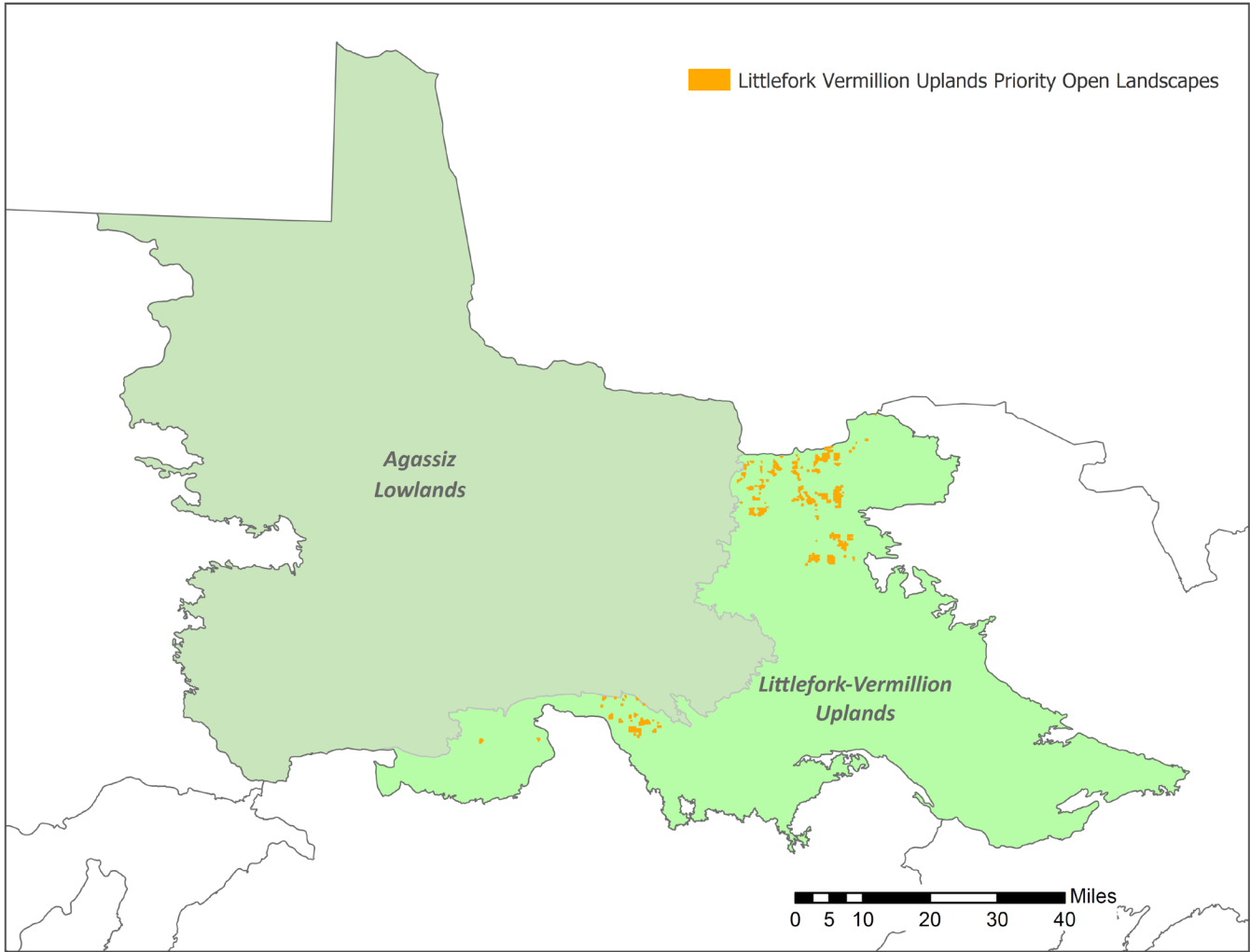


Table 5: Littlefork Vermillion Uplands Priority Open Landscapes MOA in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Name | Forestry Area | Total Stand Acres |
|---|---------------------------------|-------------------|
| Littlefork Vermillion Uplands Priority Open Landscape | Littlefork, Deer River, Bemidji | 14,984 |

Ruffed Grouse Management Areas (RGMAs) and Small Block Habitat MOAs

Ruffed grouse management areas are managed to supply all of the habitat needs of ruffed grouse, as well as other species with similar habitat requirements such as woodcock, and maximize their abundance. These species need several age classes of certain forest cover types, especially aspen, within a relatively small area. Configuration of habitat elements within RGMAs is meant to maximize the abundance of grouse to provide quality hunting experiences around Hunter Walking Trail networks. This category also includes a small-block habitat management area focused on managing for nesting and brood-rearing habitat for golden-winged warblers and American woodcock (Wapiti Young Forest MOA).

Map 6: Location of ruffed grouse and small block management areas in the NMOP Section.

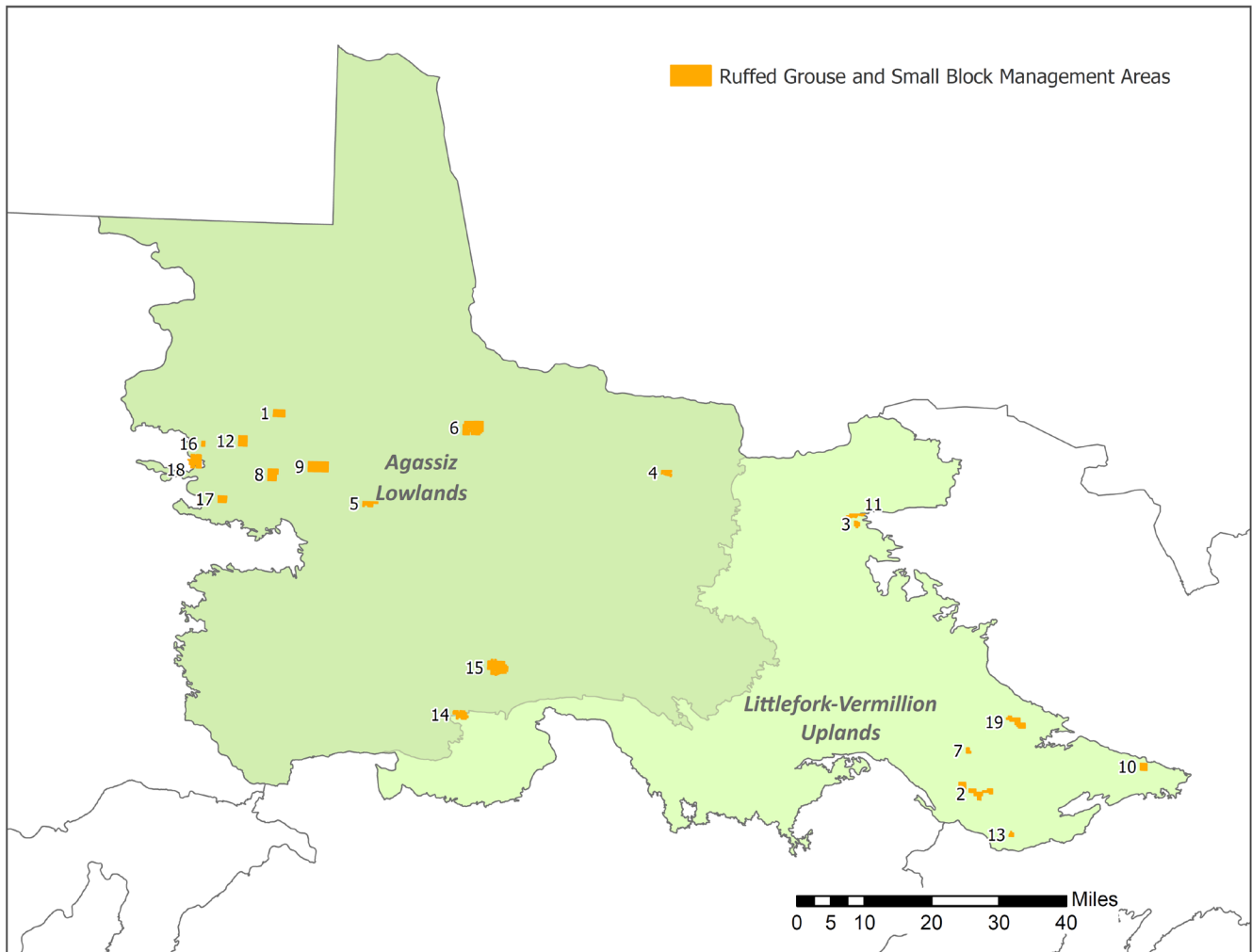


Table 6: Ruffed grouse management areas (RGMAs) in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Map Number | Name | Forestry Area | Total Stand Acres |
|------------|---|---------------|-------------------|
| 1 | 7-Mile RGMA | Warroad | 1,498 |
| 2 | Bear River RGMA | Hibbing | 1,979 |
| 3 | Beaver Brook RGMA | Littlefork | 360 |
| 4 | Black River RGMA | Baudette | 521 |
| 5 | Canis Lupus RGMA | Baudette | 1,078 |
| 6 | Carp Swamp RGMA | Baudette | 2,942 |
| 7 | Celina RGMA | Tower | 213 |
| 8 | Gate's Corner RGMA | Warroad | 1,599 |
| 9 | Gladen's Camp RGMA | Baudette | 3,394 |
| 10 | Hwy 115 RGMA | Tower | 672 |
| 11 | Moose Lake RGMA | Littlefork | 572 |
| 12 | Morehouse Road RGMA | Warroad | 1,140 |
| 13 | Mud Hole RGMA | Hibbing | 229 |
| 14 | Saum RGMA | Bemidji | 1,166 |
| 15 | Shotley RGMA | Bemidji | 3,203 |
| 16 | Wapiti North RGMA | Warroad | 286 |
| 17 | Wapiti South RGMA | Warroad | 1,173 |
| 18 | Wapiti Young Forest Small Block | Warroad | 1,933 |
| 19 | Willow River RGMA | Tower | 1,223 |

Landscape Management Opportunity Areas

Landscape MOAs address forest resource values that aren't captured in another category above. They provide the opportunity to address landscape-level values, for example, increasing conifer cover in an area.

Map E.7: Location of MOAs that address other landscape-scale objectives not captured in other categories.

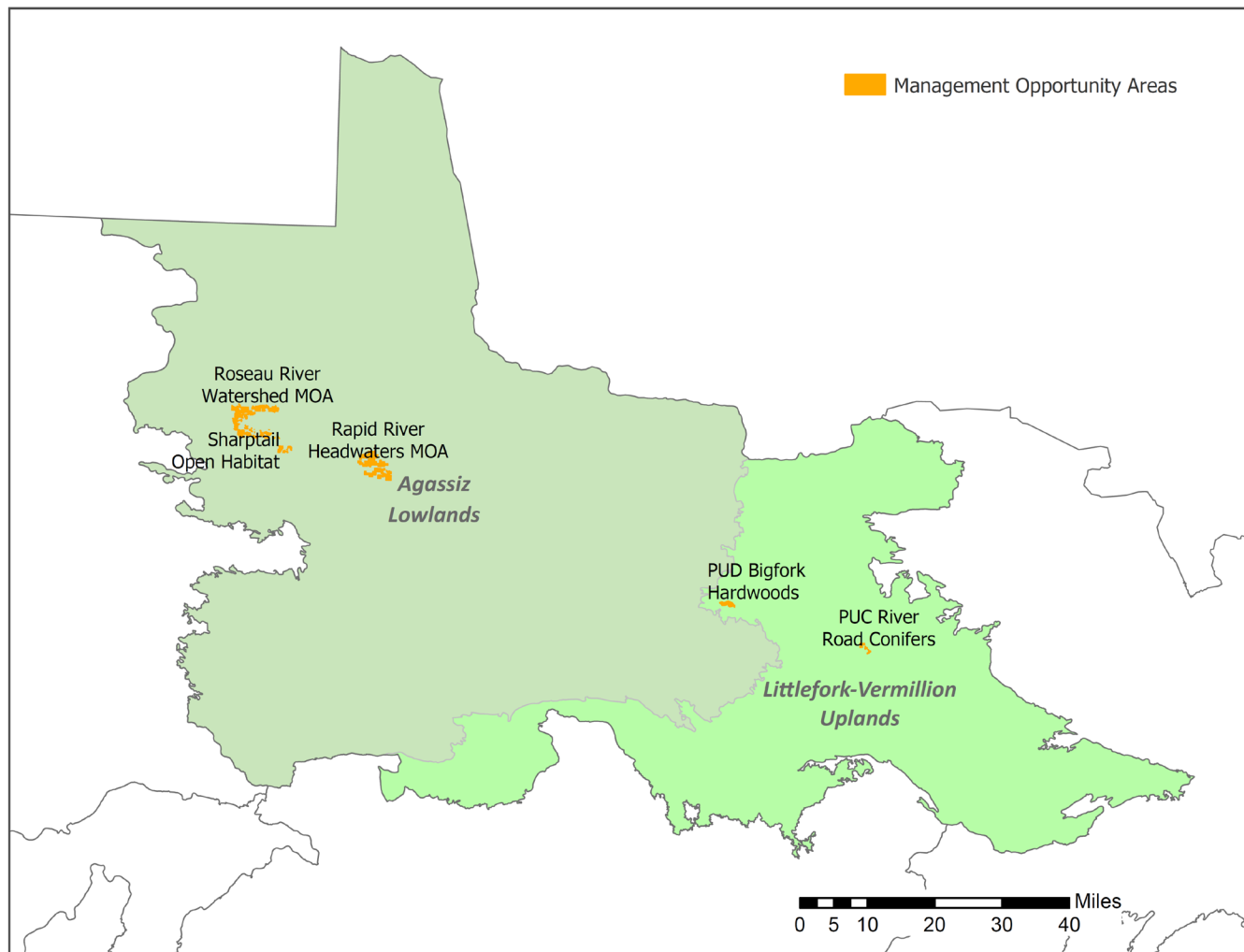


Table 7: Landscape MOAs in the NMOP Section. Click on the name of a MOA to view or download its management guidance document.

| Name | Forestry Area | Total Stand Acres |
|--|---------------|-------------------|
| River Road Conifers | Littlefork | 215 |
| Bigfork Hardwoods | Littlefork | 592 |
| Rapid River Headwaters MOA | Baudette | 4,076 |
| Roseau River Watershed MOA | Warroad | 4,414 |
| Sharptail Open Habitat | Warroad | 399 |

SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Cedar Pole Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T66N, R21W, Sec 19; T66N, R22W, Secs 7, 8, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30; T66N, R23W, Secs 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 16, 22, 23, 24, 25, 26, 29, 30, 31, 32, 33; T67N, R23W, Secs 25, 26, 27, 28, 33, 34, 35, 36 |
| NPC System | Haney Till Plain (primary), Koochiching Peatlands (secondary), and Ash Lake Till Plain |
| Acres by Land Status (approx.) | 14,276 acres total; 13,915 acres School Trust, 360 acres ConCon |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area comprises about 14,275 acres of state land (within an area of about 25,500 acres). It has a diverse mix of productive and stagnant lowland conifers, upland conifers, aspen, ash and lowland brush. It includes three designated old growth stands (132 acres of northern white cedar, 25 acres of red pine, and 80 acres of white pine), and overlaps two old forest management complexes (Nett Lake Boundary North 1 OFMC and Nett Lake Boundary North 2 OFMC). |

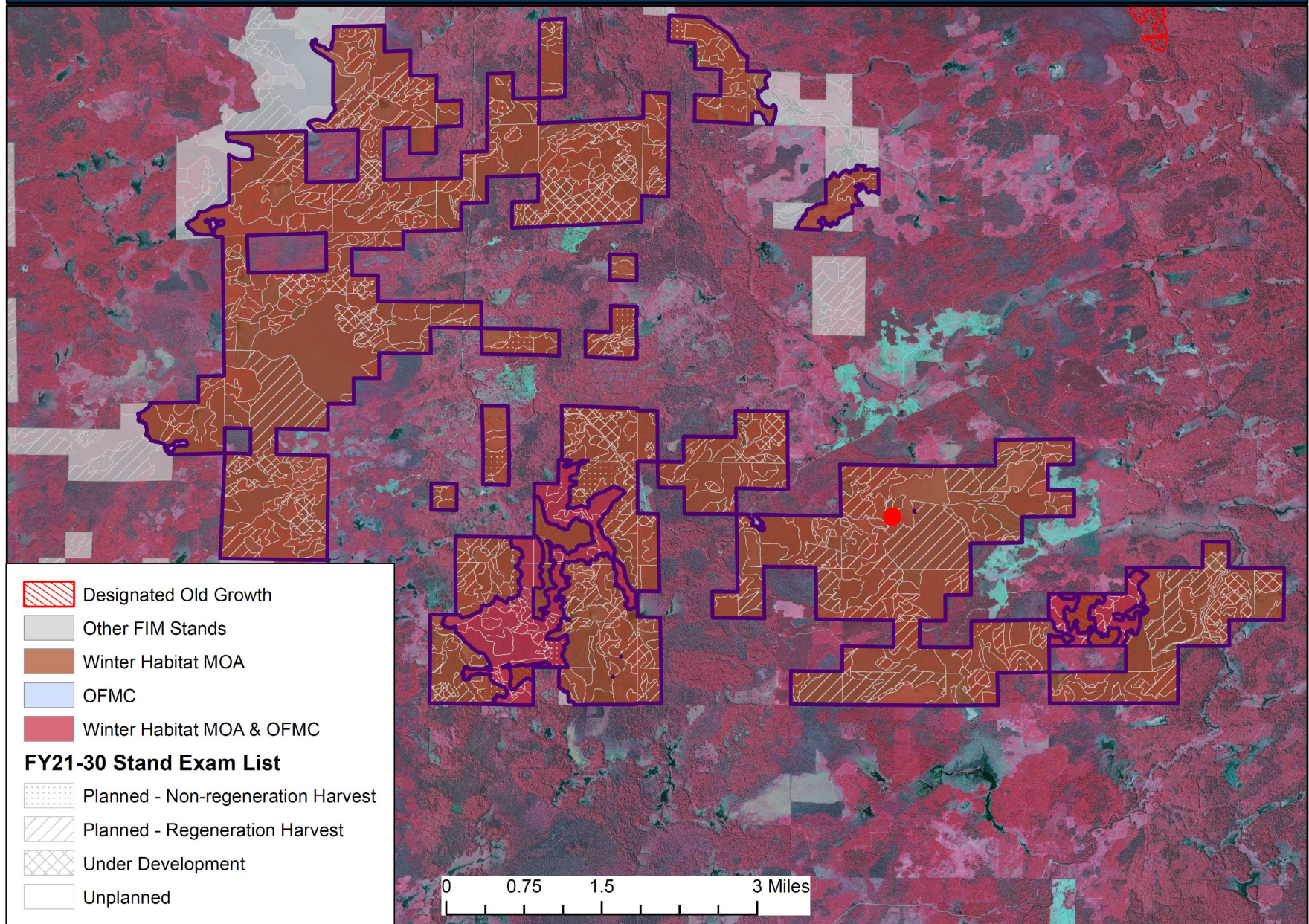
| FUTURE DIRECTION | |
|----------------------------------|---|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time. Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable-density thinning while maintaining a mixed stand. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands. |
| Direction or Consideration for Specific Stands (optional) | For red pine and white spruce plantation thinnings, consider variable-density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership. |
| Future Planning Considerations (optional) | Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account. |

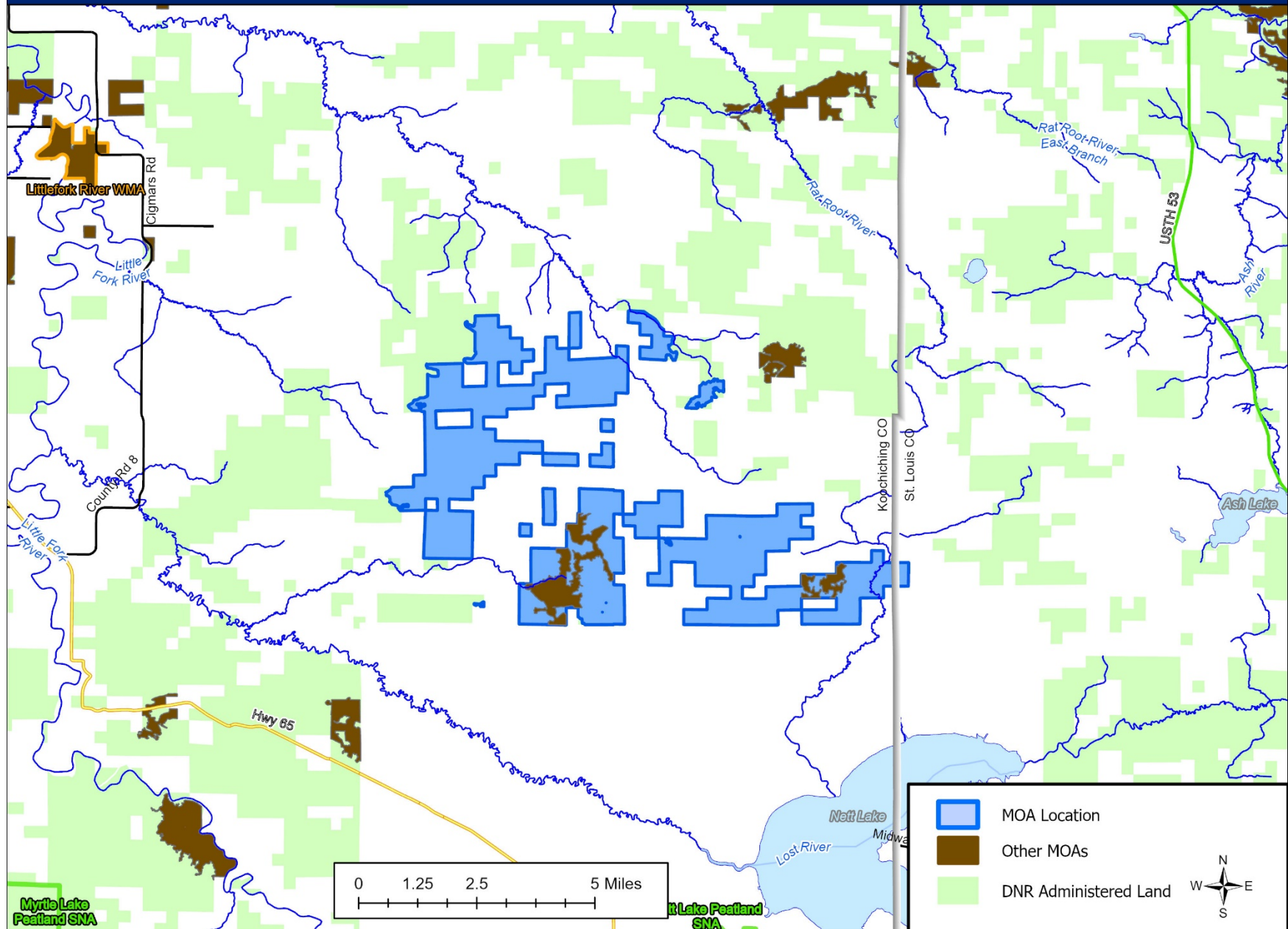
List of stands by Stand ID from FIM

Note: 682 stands in MOA (too many to list)

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | David Lake Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T149N, R25W, Sec 4.5.8.9.10 |
| NPC System | Effie Till Plain |
| Acres by Land Status (approx.) | 210 acres total; all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area comprises about 210 acres of state land (within an area of about 1,250 acres). It has a diverse mix of aspen, balsam fir, cedar, and non-forest cover types. |

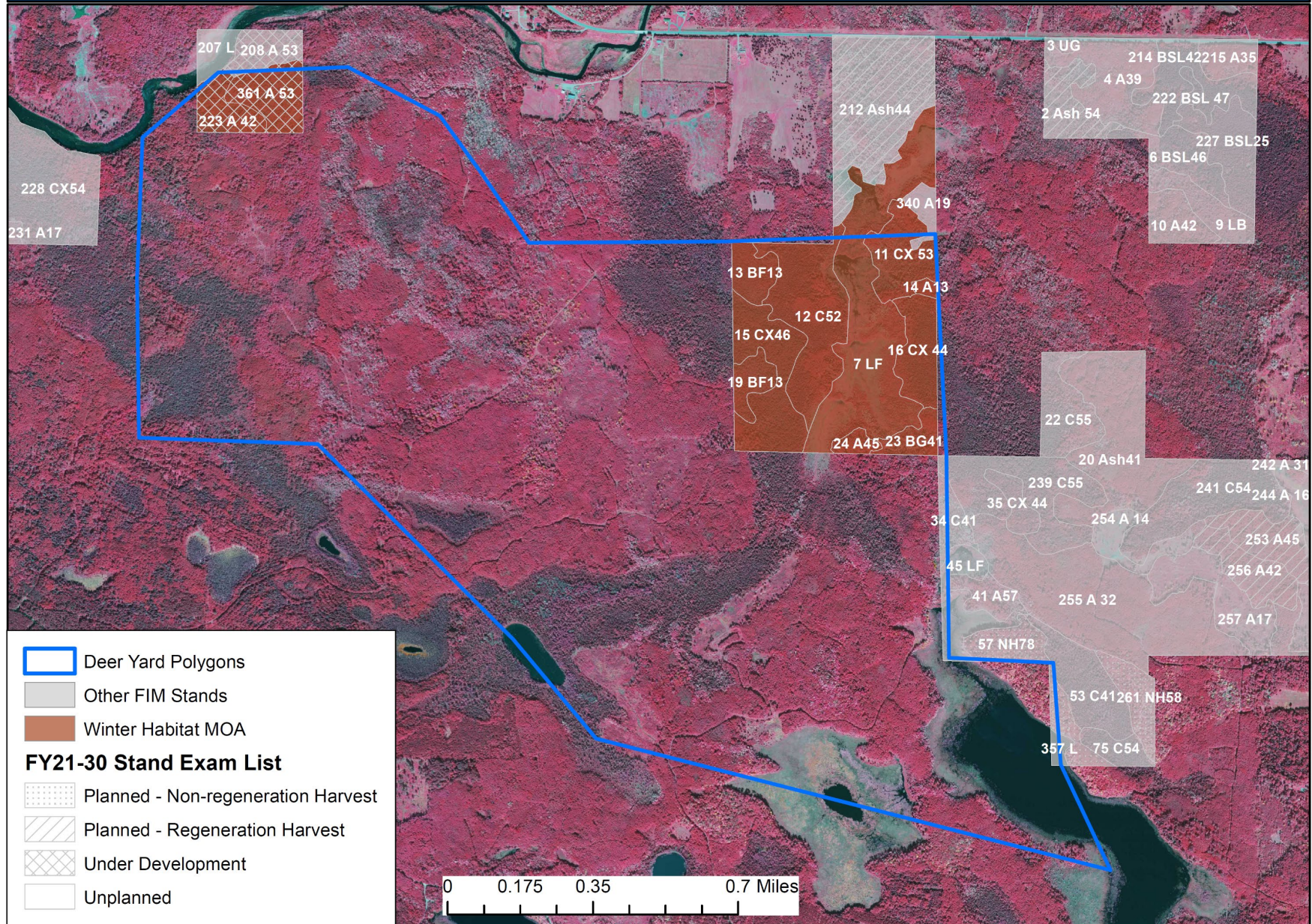
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse, which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (Continued) | Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand. Look for opportunity to coordinate with other agencies or private landowners. |
| SFRMP Goals this MOA Will Advance | This MOA offers opportunities to address section-wide SFRMP goals: <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | For red pine and white spruce plantation thinnings, consider variable density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership. |
| Future Planning Considerations (optional) | Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account. |

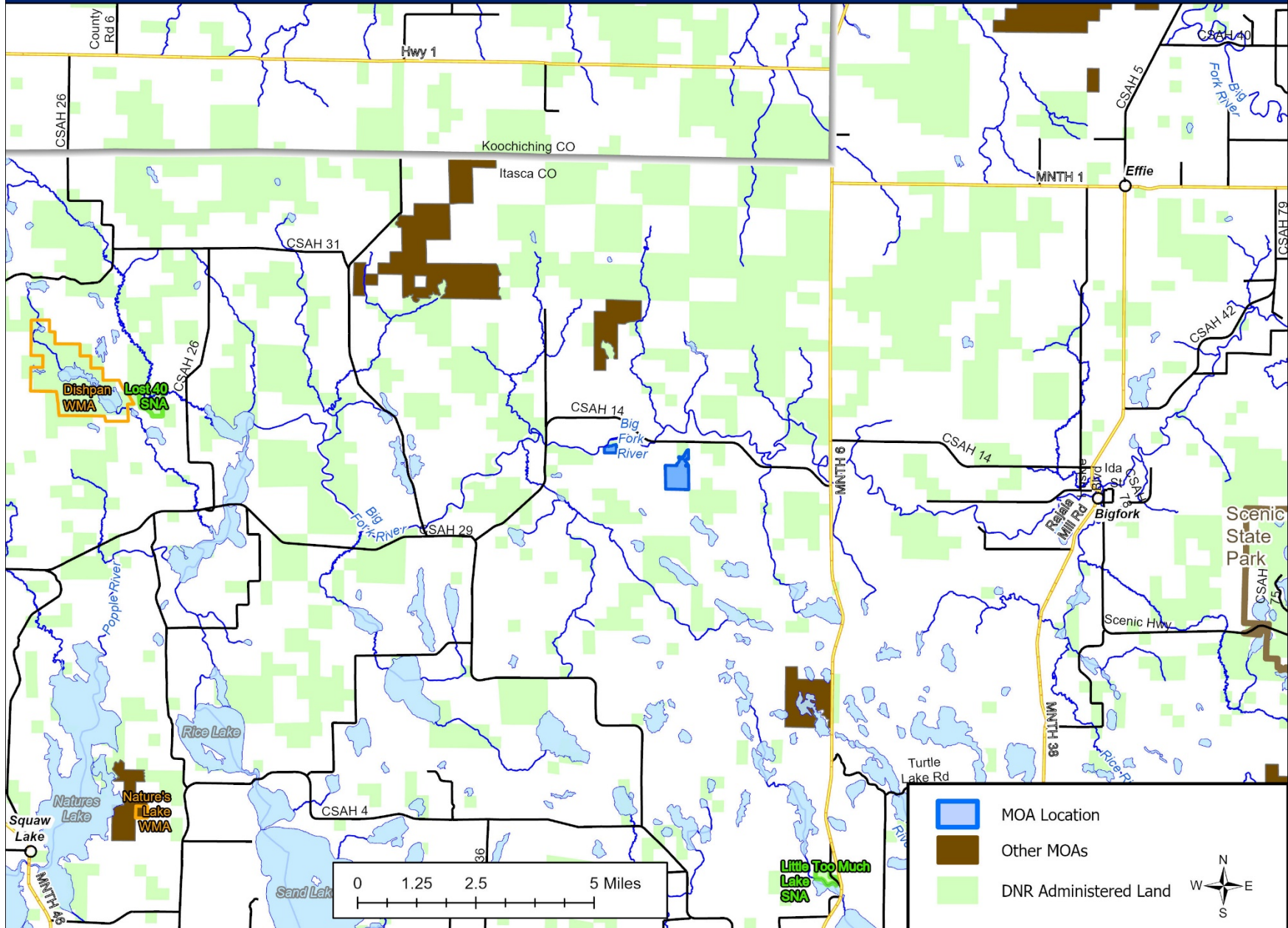
Attach a list of stands by Stand ID from FIM

t14925w1040007
t14925w1040011
t14925w1040012
t14925w1040013
t14925w1040014
t14925w1040015
t14925w1040016
t14925w1040019
t14925w1040023
t14925w1040024
t14925w1050223
t14925w1050361

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Diamond Island Winter Habitat |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R27W, Secs 5, 6; T158N, R28W, Secs 1, 2, 3; T159N, R27W, Secs 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 31, 32, 33; T159N, R28W, Secs 1, 25, 26, 27, 34, 35, 36 |
| NPC System | Core is MHn – Includes FPn, APn Baudette Lake Plain and Beltrami-Pine Island Peatland LTAs |
| Acres by Land Status (approx.) | 9,770 acres total; 8860 ConCon, 910 Volstead |
| Current Conditions | <p>This Winter Habitat Area is comprised of a mix of uplands (28%, most is aspen coverytype) and adjacent or intermingled lowland conifers. As of 2020, 13% of the aspen/BAM/birch cover types is in the age class 1-10 and 28% is under development. About 18% is in the 11-20 age class and approximately 8% is over age 50 and not under development. The commercial lowland coverytypes comprise about 41% (black spruce lowland (BSL)-41%, tamarack-19%, cedar-40%) of the MOA. Of the BSL and tamarack, ~12% is less than age 40 and ~35% is less than age 100. An additional 7% is under development, which is or soon will be young. About 87% of the cedar is over age 100. Most of the area (31%) in this MOA is either non-productive or non-forested. The southern portion of MOA overlaps lowland conifer old growth candidates, and the Great Northern Transmission Line project passes through the MOA. This area is currently managed for fiber production, recreation and wildlife resources.</p> |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Manage for continuous browse through small harvest blocks in hardwood stands to maximize edge habitat (< 40 acre where practical). NPC appropriate conifer components (excluding tamarack, which doesn't provide thermal cover), distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time. |
| Strategies to Achieve 10-year Intent | Avoid harvesting adjacent stands at the same time to optimize a mix of age classes. Keep harvest areas as small as possible. If two adjacent stands are selected, treat one early in the plan and the other late; or swap one with another similar stand. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (cont.) | Look for opportunities to favor conifers during annual stand exam list coordination, including leave patches, regeneration, or cover type conversion to maximize conifer composition. Provide travel corridors. Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | |

List of stands by Stand ID from FIM

Note: 367 stands in MOA (too many to list)

LOCAL MOA MAP

Other FIM Stands

Winter Habitat MOA

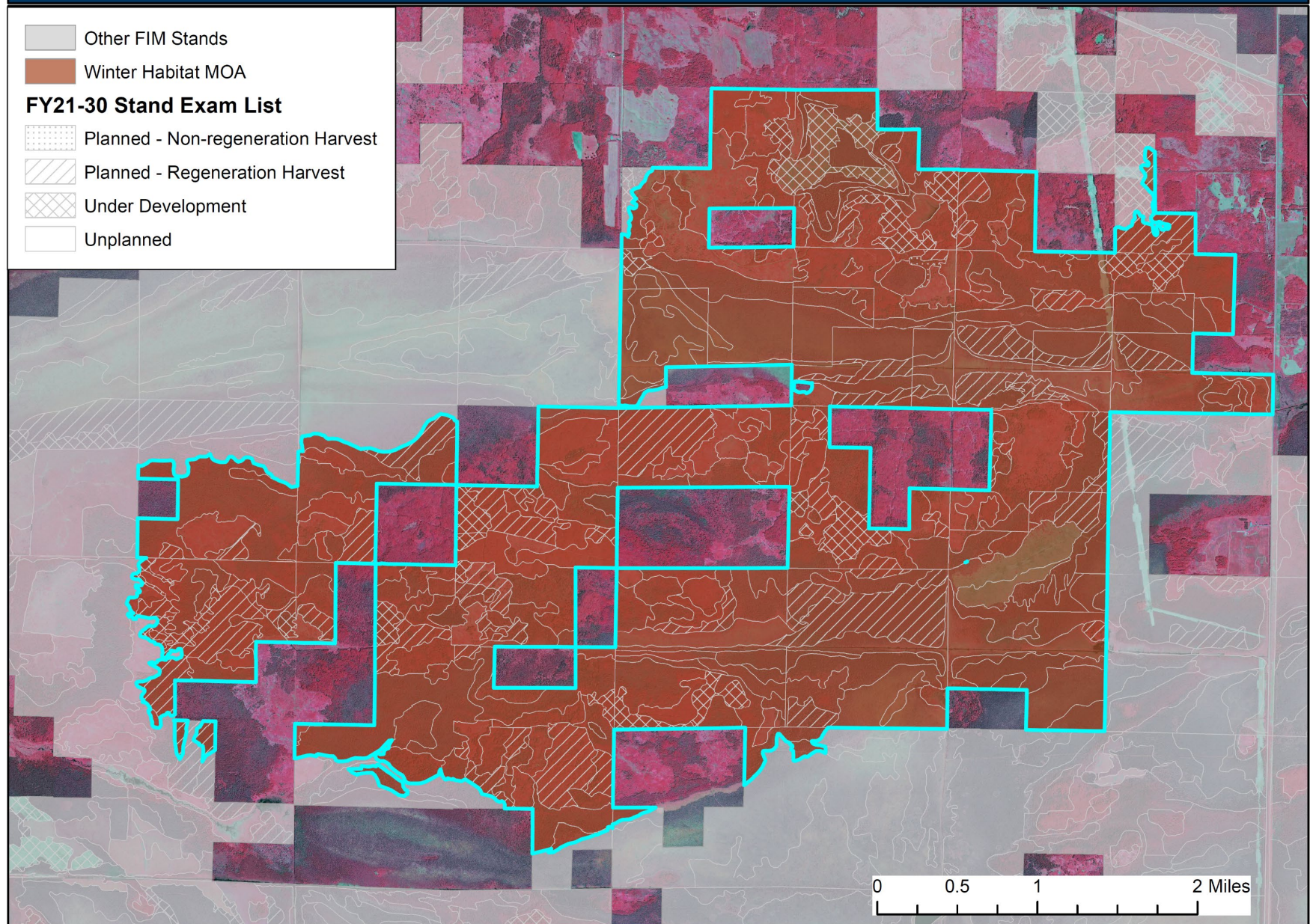
FY21-30 Stand Exam List

Planned - Non-regeneration Harvest

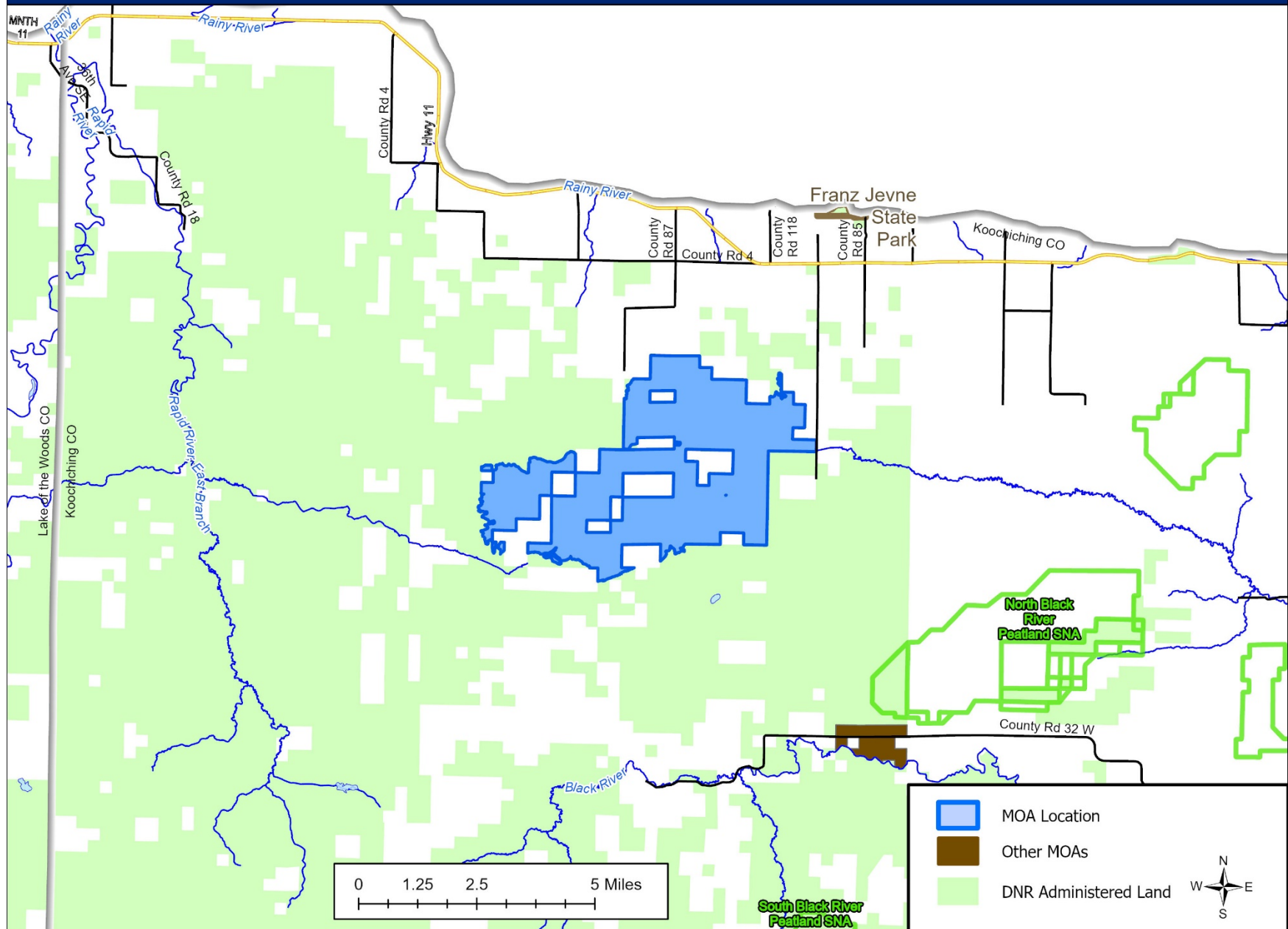
Planned - Regeneration Harvest

Under Development

Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Effie Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T63N, R26W, Sec 34,35 T62N R26W sec. 2,3,4,5,8,9,10 |
| NPC System | Effie Till Plain |
| Acres by Land Status (approx.) | 1,140 acres total; all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area comprises about 1,140 acres of state land (within an area of about 3,880 acres). It has a diverse mix of productive and stagnant lowland conifers, upland conifers, aspen, ash and lowland brush. |

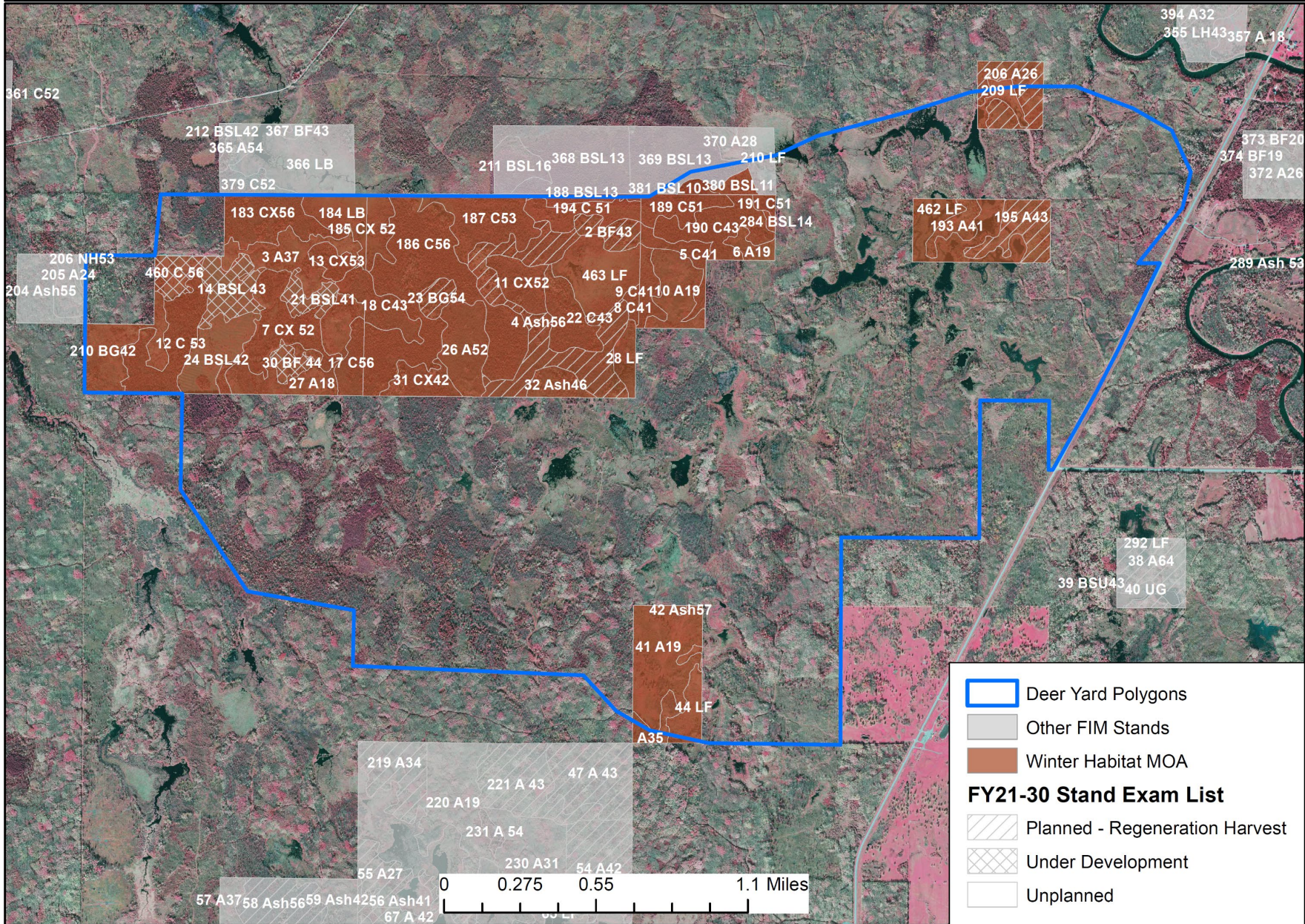
| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy |

| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <p>closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time. Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand.</p> <p>Look for opportunity to coordinate with other agencies or private landowners.</p> |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | <p>For red pine and white spruce plantation thinnings, consider variable density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership.</p> |
| Future Planning Considerations (optional) | <p>Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account.</p> |

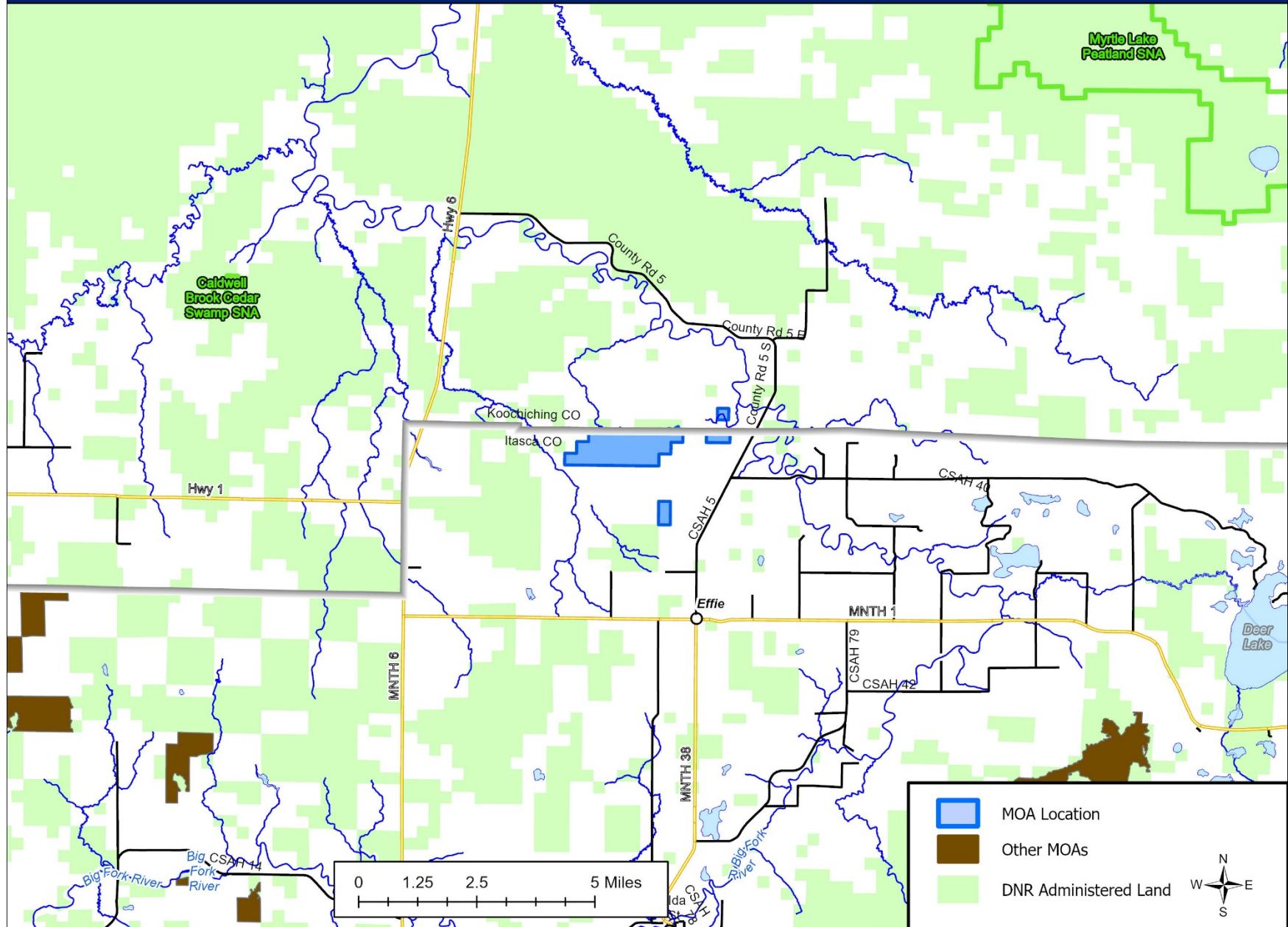
List of stands by Stand ID from FIM

| | | |
|----------------|----------------|----------------|
| t06226w1020193 | t06226w1040023 | t06226w1050021 |
| t06226w1020195 | t06226w1040026 | t06226w1050024 |
| t06226w1020462 | t06226w1040028 | t06226w1050027 |
| t06226w1030005 | t06226w1040031 | t06226w1050030 |
| t06226w1030006 | t06226w1040032 | t06226w1050183 |
| t06226w1030009 | t06226w1040185 | t06226w1050184 |
| t06226w1030010 | t06226w1040186 | t06226w1050210 |
| t06226w1030189 | t06226w1040187 | t06226w1050460 |
| t06226w1030190 | t06226w1040188 | t06226w1100041 |
| t06226w1030191 | t06226w1040194 | t06226w1100042 |
| t06226w1030284 | t06226w1040463 | t06226w1100044 |
| t06226w1040002 | t06226w1050003 | t06226w1150292 |
| t06226w1040004 | t06226w1050007 | t06326w1340380 |
| t06226w1040008 | t06226w1050012 | t06326w1340381 |
| t06226w1040011 | t06226w1050013 | t06326w1350206 |
| t06226w1040018 | t06226w1050014 | t06326w1350209 |
| t06226w1040022 | t06226w1050017 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Kooch 1 Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T153N, R27W, Sec 3,4,5,6,7,8,9,10. T152N R27W sec 5,6 |
| NPC System | Beltrami Pine Islands Peatlands and Beach Ridges |
| Acres by Land Status (approx.) | 2,560 acres total; all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area comprises about 2,560 acres of state land (within an area of about 3,230 acres). It has a diverse mix of productive and stagnant lowland conifers, upland conifers, aspen, ash and lowland brush. |

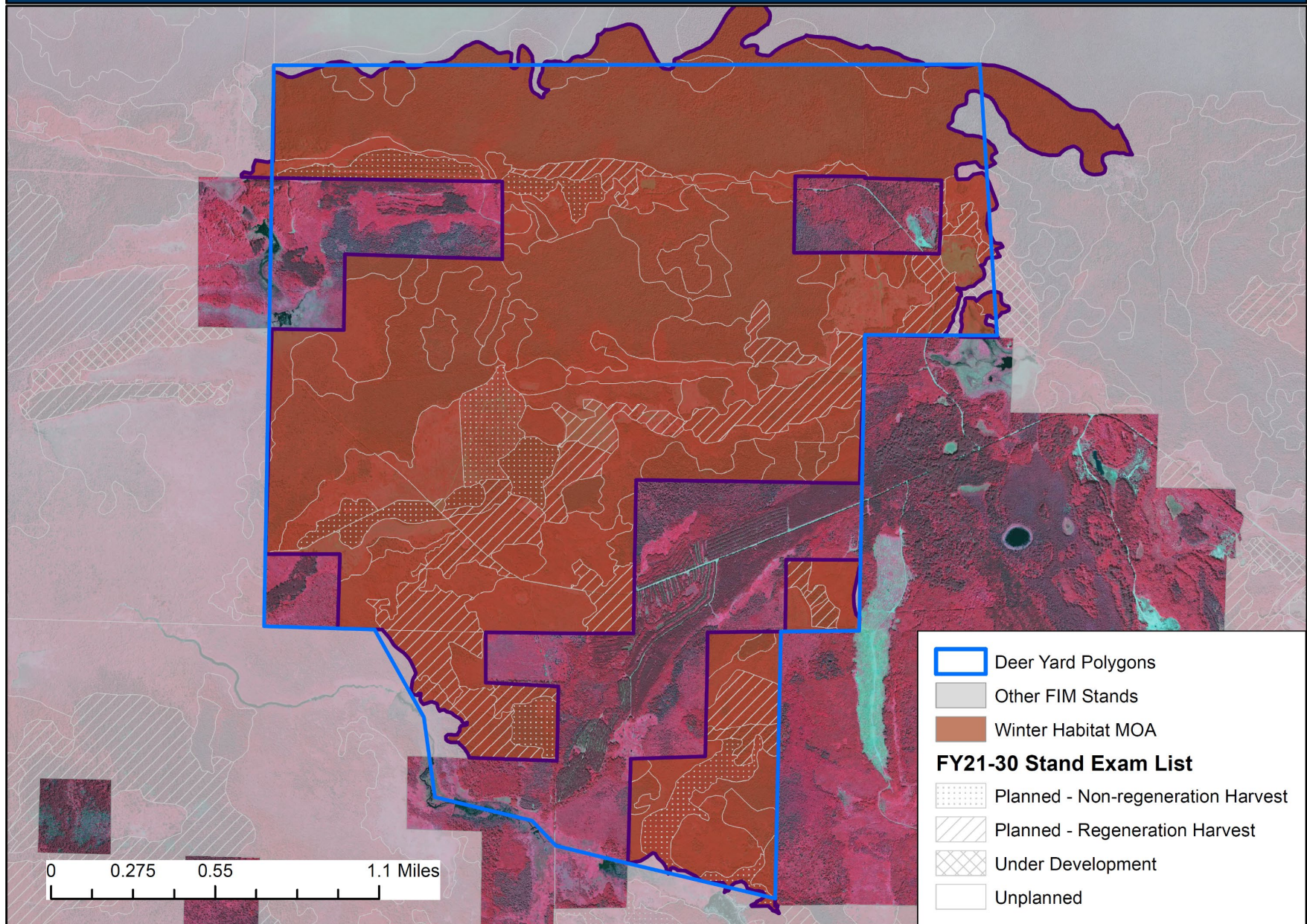
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse, which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy closure) and conifer inclusions will be encouraged across approximately one-half of the MOA at any one time. Maintain species and structural diversity |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (cont.) | <p>throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand.</p> <p>Look for opportunity to coordinate with other agencies or private landowners.</p> |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | For red pine and white spruce plantation thinnings, consider variable density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership. |
| Future Planning Considerations (optional) | Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account. |

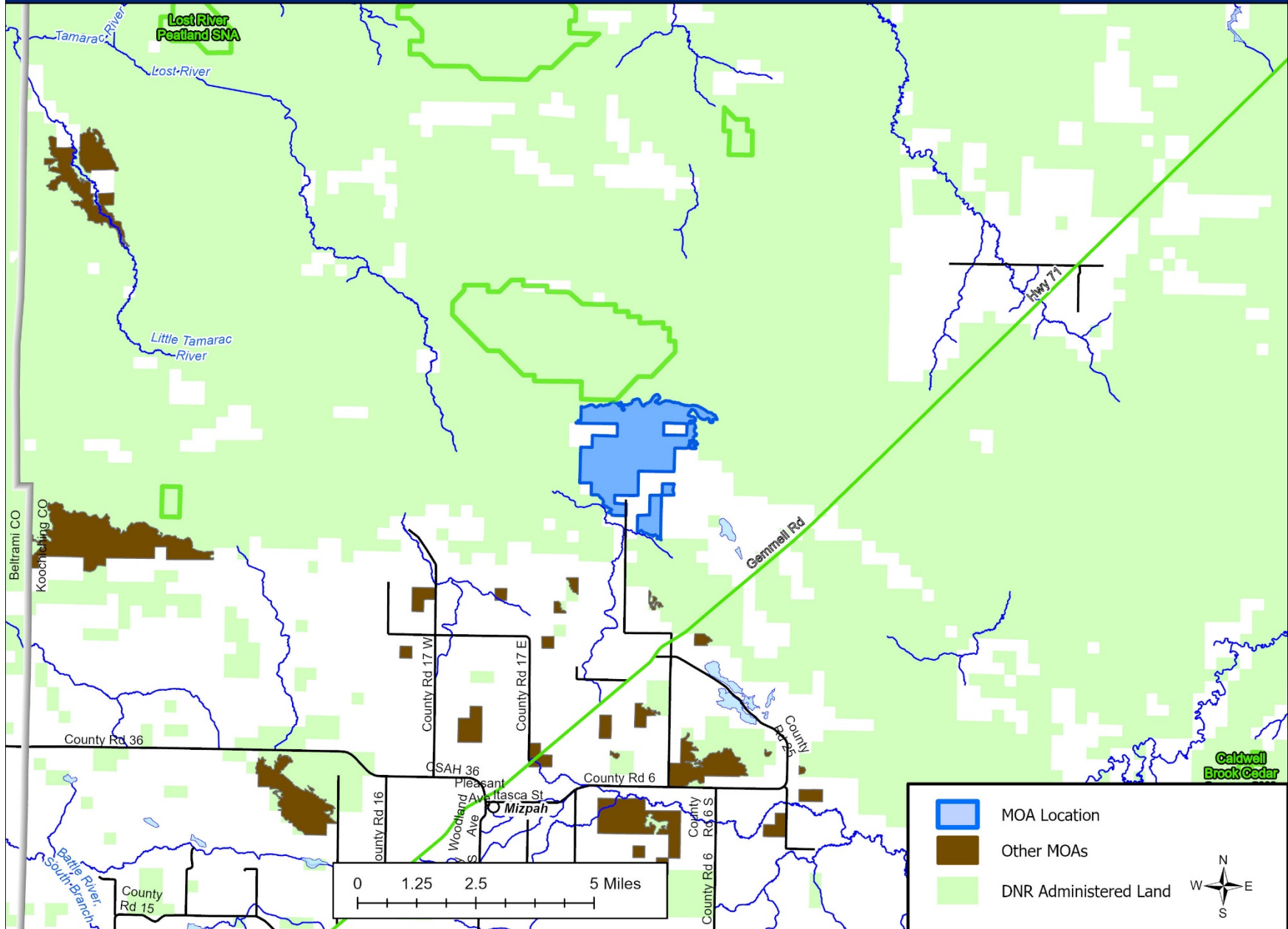
List of stands by Stand ID from FIM

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| t15227w1050006 | t15327w1280186 | t15327w1300150 | t15327w1310277 | t15327w1320247 |
| t15227w1050007 | t15327w1280199 | t15327w1300151 | t15327w1310280 | t15327w1320255 |
| t15227w1050008 | t15327w1280206 | t15327w1300159 | t15327w1310294 | t15327w1320260 |
| t15227w1050031 | t15327w1280218 | t15327w1300164 | t15327w1310295 | t15327w1320261 |
| t15227w1050045 | t15327w1280220 | t15327w1300177 | t15327w1310297 | t15327w1320263 |
| t15227w1050048 | t15327w1280324 | t15327w1300190 | t15327w1310302 | t15327w1320274 |
| t15227w1050051 | t15327w1280351 | t15327w1300203 | t15327w1310312 | t15327w1320291 |
| t15227w1050052 | t15327w1290142 | t15327w1300204 | t15327w1310330 | t15327w1320293 |
| t15227w1050055 | t15327w1290148 | t15327w1300205 | t15327w1310339 | t15327w1320307 |
| t15227w1050059 | t15327w1290149 | t15327w1300360 | t15327w1310349 | t15327w1320331 |
| t15227w1050060 | t15327w1290165 | t15327w1300367 | t15327w1310355 | t15327w1320332 |
| t15227w1050066 | t15327w1290166 | t15327w1310210 | t15327w1310356 | t15327w1320333 |
| t15227w1050067 | t15327w1290168 | t15327w1310213 | t15327w1310357 | t15327w1320334 |
| t15227w1050075 | t15327w1290172 | t15327w1310221 | t15327w1310363 | t15327w1320335 |
| t15227w1060003 | t15327w1290173 | t15327w1310224 | t15327w1320225 | t15327w1320336 |
| t15227w1060016 | t15327w1290180 | t15327w1310228 | t15327w1320226 | t15327w1320346 |
| t15227w1060030 | t15327w1290182 | t15327w1310237 | t15327w1320227 | t15327w1320347 |
| t15227w1060033 | t15327w1290191 | t15327w1310240 | t15327w1320238 | t15327w1320348 |
| t15227w1060039 | t15327w1290201 | t15327w1310254 | t15327w1320241 | t15327w1320364 |
| t15227w1060046 | t15327w1290202 | t15327w1310262 | t15327w1320245 | |
| t15327w1280146 | t15327w1290352 | t15327w1310276 | t15327w1320246 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Kooch 2 Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T152N, R29W, Sec 3,4,5,6,7,8,9,10 |
| NPC System | Beltrami Pine Islands Peatlands and Beach Ridges |
| Acres by Land Status (approx.) | 1,610 acres total; all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area is comprised of about 1,610 acres of state land (within an area of about 2,150 acres). It has a diverse mix of productive and stagnant lowland conifers, upland conifers, aspen, ash and lowland brush. |

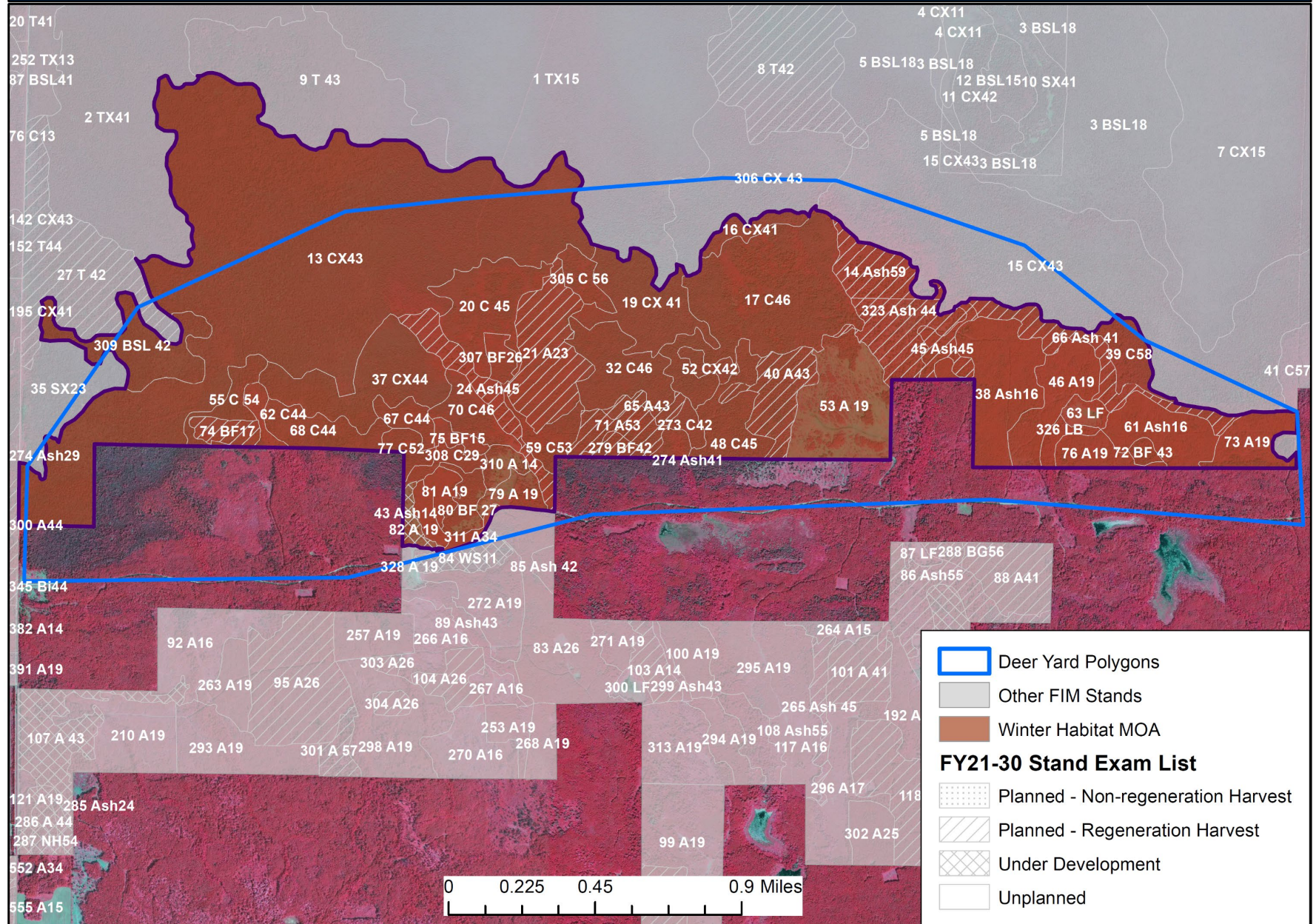
| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy |

| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <p>closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time.</p> <p>Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand.</p> <p>Look for opportunity to coordinate with other agencies or private landowners.</p> |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | <p>For red pine and white spruce plantation thinnings, consider variable density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership.</p> |
| Future Planning Considerations (optional) | <p>Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account.</p> |

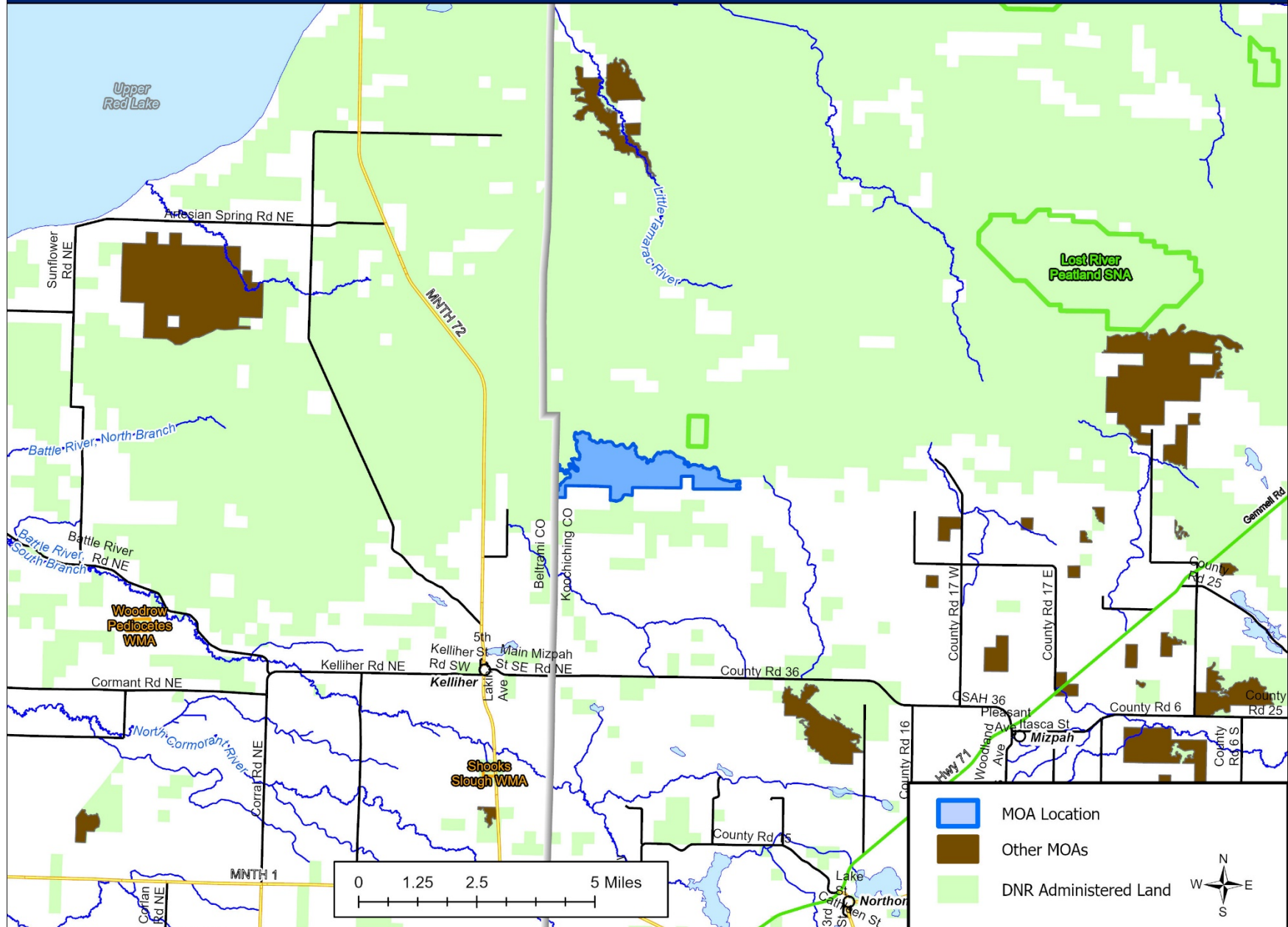
List of stands by Stand ID from FIM

| | | |
|----------------|----------------|----------------|
| t15229w1040014 | t15229w1080065 | t15229w1090045 |
| t15229w1040016 | t15229w1080067 | t15229w1090048 |
| t15229w1050305 | t15229w1080070 | t15229w1090052 |
| t15229w1060013 | t15229w1080071 | t15229w1090053 |
| t15229w1070055 | t15229w1080075 | t15229w1090273 |
| t15229w1070062 | t15229w1080077 | t15229w1090274 |
| t15229w1070068 | t15229w1080079 | t15229w1090323 |
| t15229w1070074 | t15229w1080080 | t15229w1100038 |
| t15229w1070309 | t15229w1080081 | t15229w1100039 |
| t15229w1080019 | t15229w1080082 | t15229w1100046 |
| t15229w1080020 | t15229w1080279 | t15229w1100061 |
| t15229w1080021 | t15229w1080307 | t15229w1100063 |
| t15229w1080024 | t15229w1080308 | t15229w1100066 |
| t15229w1080032 | t15229w1080310 | t15229w1100072 |
| t15229w1080037 | t15229w1080311 | t15229w1100073 |
| t15229w1080043 | t15229w1090017 | t15229w1100076 |
| t15229w1080059 | t15229w1090040 | t15229w1100326 |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Myrtle Lake Deer Winter Habitat |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T64N R24W Secs 35-36; T63N R24W Sec 2 |
| NPC Systems | Wet Forest, Mesic Hardwood |
| Acres by Land Status | 511 acres; all School Trust land and FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | An area of mostly upland white cedar, with lesser amounts of lowland cedar, ash, birch and aspen as well. The large upland cedar stand received some management in 2006, but retained a scattered to partial overstory. Located east of Myrtle Lake Peatland SNA on the Koochiching State Forest. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse, which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy |

| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <p>closure) and conifer inclusions will be encouraged across approximately one half of the MOA at any one time.</p> <p>Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand.</p> <p>Look for opportunity to coordinate with other agencies or private landowners.</p> |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | <p>There is an old gravel pit in the northeast part of stand 285 in Sect. 36 of 64-24, watch for invasive species.</p> |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Monitor stands with higher amounts of black ash for possible forest health concerns, and consider approaches to increase within stand compositional diversity to promote within-stand resilience. |

List of stands by Stand ID from FIM

t06324w1020003

t06324w1020026

t06424w1350108

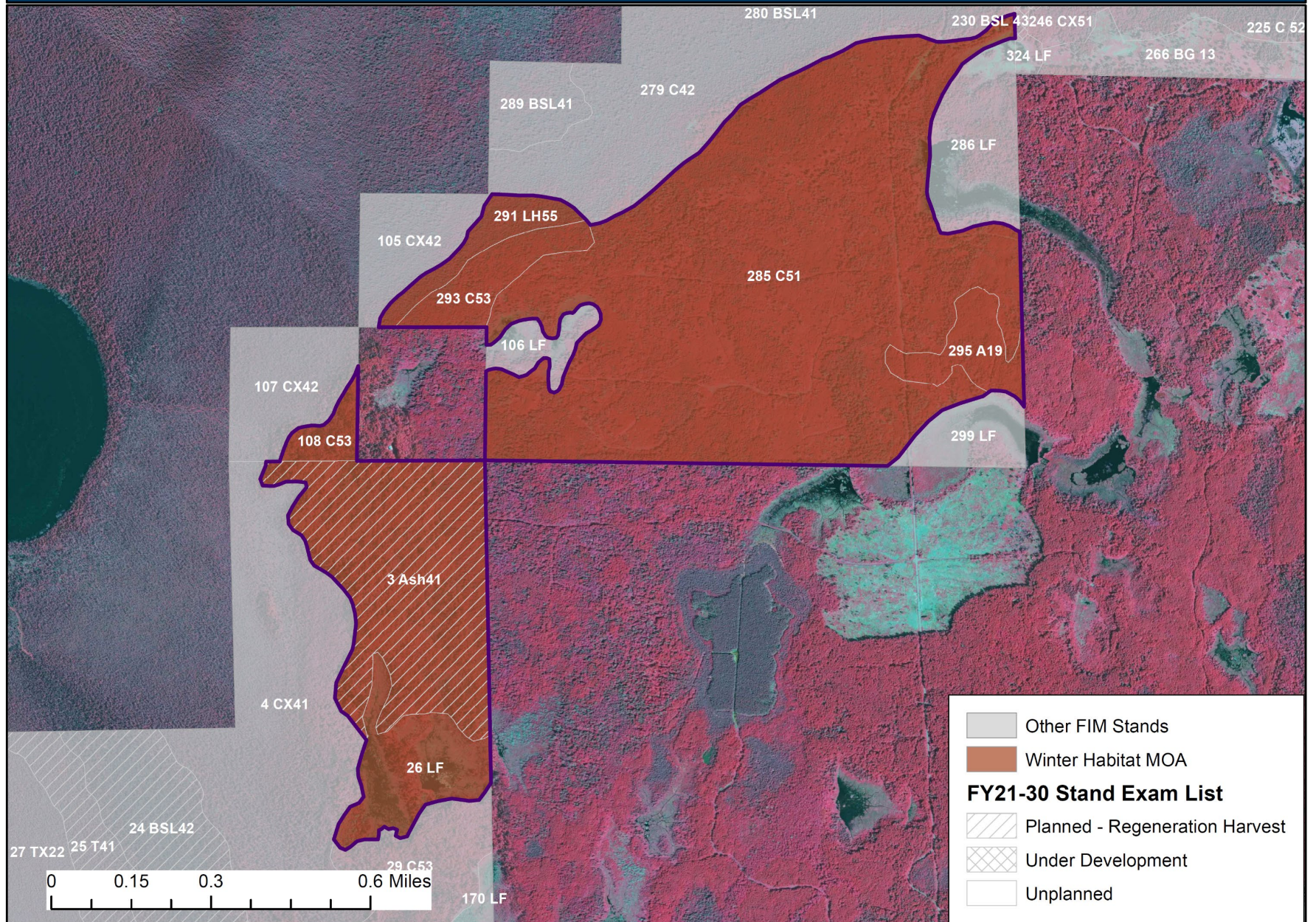
t06424w1350293

t06424w1360285

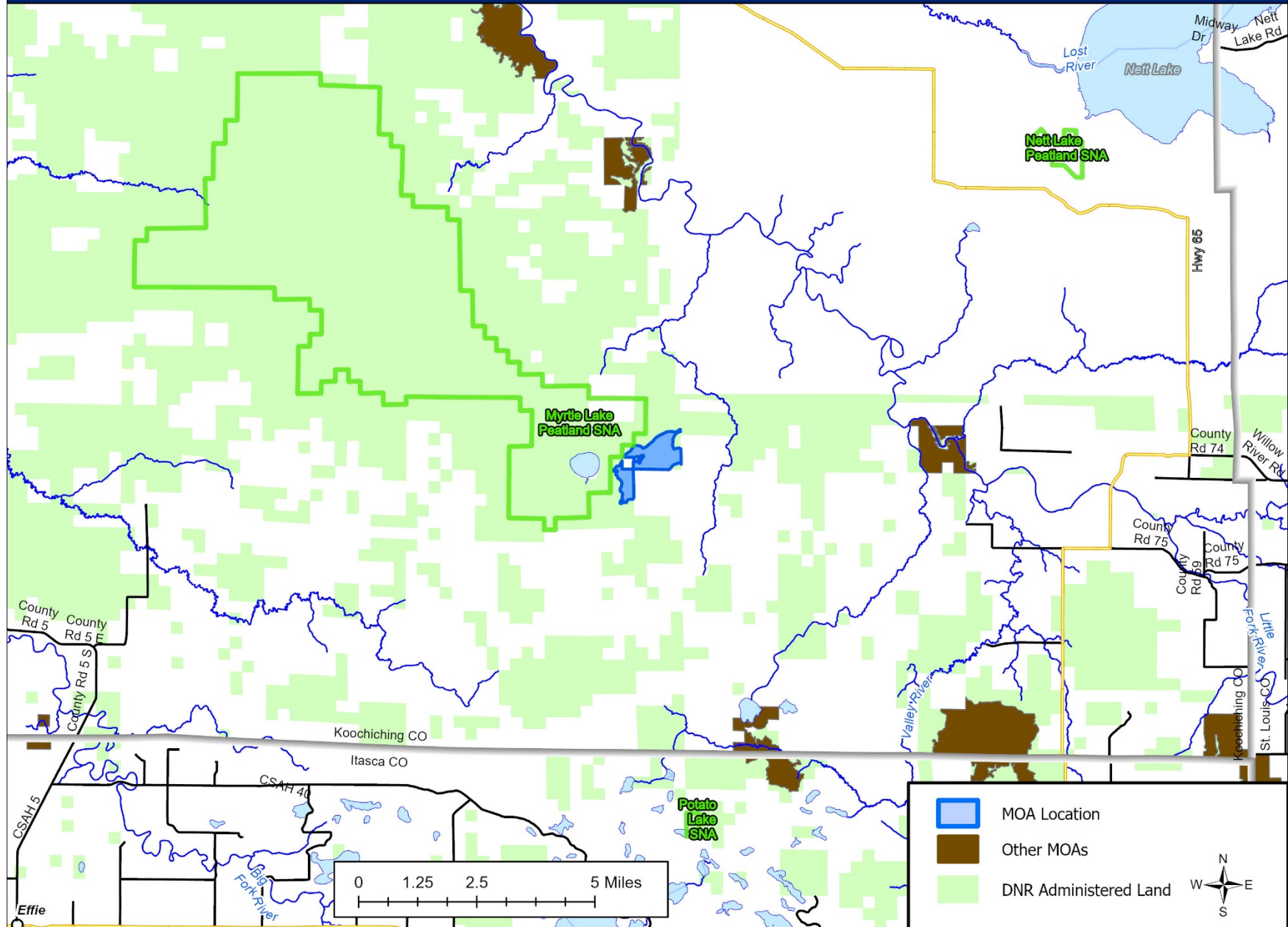
t06424w1360291

t06424w1360295

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Pomroy Winter Habitat Cover Management Opportunity Area |
| MOA Type | Winter Habitat |
| Location (Eco. Section, TRS) | NMOP; T150N, R26W, Sec 2,3,9,10,11,14,15,16,17 |
| NPC System | Effie Till Plain |
| Acres by Land Status (approx.) | 2,200 acres total; all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area comprises about 2,200 acres of state land (within an area of about 4,130 acres). It has a diverse mix of productive and stagnant lowland conifers, aspen, ash and lowland brush. |

| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Within Winter Habitat Cover Areas it is desirable to manage timber resources to provide natural (non-plantation) conifer stands, according to the appropriate NPCs, with 40% to 70% winter conifer canopy closure for winter habitat cover across greater than 50% of the area. Avoid harvesting northern white cedar and avoid frequent conifer thinning treatments to preserve canopy closure. It is also important to provide browse which can be accomplished through small harvest blocks in deciduous/mixed types or via small (1 acre) dedicated browse regeneration areas scattered throughout the wintering complex. |
| Strategies to Achieve 10-year Intent | Manage for continuous browse through small harvest blocks (<40 acre) in hardwood stands to maximize edge habitat. NPC appropriate conifer components, distribution, and structure will be maintained or increased within upland hardwood stands. Dense conifer stands (40-70% canopy closure) and conifer inclusions will be encouraged across approximately one-half of the MOA at any one time. |


| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <p>Maintain species and structural diversity throughout stands and look for opportunities to increase the conifer component. For pine and white spruce thinnings, consider variable density thinning while maintaining a mixed stand.</p> <p>Look for opportunity to coordinate with other agencies or private landowners.</p> |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or increase the diversity of species, ages, and structure within stands |
| Direction or Consideration for Specific Stands (optional) | <p>For red pine and white spruce plantation thinnings, consider variable density thinning and increasing vegetative structural and species diversity. Stand considerations will be based on its conditions and in context with surrounding stands on any ownership.</p> |
| Future Planning Considerations (optional) | <p>Select stands for harvest that minimize harvest block size, ideally 40 acres or less, to maximize the availability of edge habitats via the juxtaposition of stands of different age classes. Harvesting larger natural stands can provide similar habitat as long as there is a significant amount edge created via timber sale design. Treatment of smaller patches (e.g. shrubs for browse) may require use of expedited Conservation Partnership Legacy funds, or funds from the Deer Management Account or Deer/Bear Account.</p> |

List of stands by Stand ID from FIM

| | | | |
|----------------|----------------|----------------|----------------|
| t15026w1020017 | t15026w1020543 | t15026w1100282 | t15026w1140138 |
| t15026w1020018 | t15026w1020544 | t15026w1100283 | t15026w1140140 |
| t15026w1020019 | t15026w1020545 | t15026w1100286 | t15026w1140141 |
| t15026w1020020 | t15026w1090284 | t15026w1100287 | t15026w1140146 |
| t15026w1020056 | t15026w1100091 | t15026w1100290 | t15026w1140148 |
| t15026w1020524 | t15026w1100092 | t15026w1100291 | t15026w1140322 |
| t15026w1020525 | t15026w1100094 | t15026w1100293 | t15026w1140324 |
| t15026w1020526 | t15026w1100095 | t15026w1100294 | t15026w1140325 |
| t15026w1020527 | t15026w1100096 | t15026w1100295 | t15026w1140326 |
| t15026w1020529 | t15026w1100098 | t15026w1100299 | t15026w1140327 |
| t15026w1020530 | t15026w1100102 | t15026w1100547 | t15026w1140328 |
| t15026w1020531 | t15026w1100106 | t15026w1100560 | t15026w1140334 |
| t15026w1020532 | t15026w1100107 | t15026w1100562 | t15026w1140338 |
| t15026w1020533 | t15026w1100108 | t15026w1100563 | t15026w1140339 |
| t15026w1020535 | t15026w1100111 | t15026w1100564 | t15026w1140342 |
| t15026w1020536 | t15026w1100113 | t15026w1130330 | t15026w1140354 |
| t15026w1020538 | t15026w1100278 | t15026w1140128 | t15026w1140359 |
| t15026w1020539 | t15026w1100279 | t15026w1140130 | t15026w1140364 |
| t15026w1020541 | t15026w1100280 | t15026w1140132 | t15026w1140369 |
| t15026w1020542 | t15026w1100281 | t15026w1140136 | t15026w1140371 |

| | | | |
|----------------|----------------|----------------|----------------|
| t15026w1140374 | t15026w1150566 | t15026w1150646 | t15026w1160346 |
| t15026w1140378 | t15026w1150567 | t15026w1150657 | t15026w1160347 |
| t15026w1150122 | t15026w1150568 | t15026w1160115 | t15026w1160350 |
| t15026w1150127 | t15026w1150569 | t15026w1160119 | t15026w1160353 |
| t15026w1150321 | t15026w1150570 | t15026w1160143 | t15026w1160356 |
| t15026w1150366 | t15026w1150571 | t15026w1160305 | t15026w1160370 |
| t15026w1150490 | t15026w1150575 | t15026w1160317 | t15026w1160572 |
| t15026w1150491 | t15026w1150576 | t15026w1160318 | t15026w1160574 |
| t15026w1150492 | t15026w1150578 | t15026w1160319 | t15026w1160577 |
| t15026w1150493 | t15026w1150580 | t15026w1160320 | t15026w1160662 |
| t15026w1150496 | t15026w1150583 | t15026w1160323 | |
| t15026w1150497 | t15026w1150584 | t15026w1160335 | |
| t15026w1150498 | t15026w1150585 | t15026w1160336 | |


LOCAL MOA MAP

 Deer Yard Polygons


 Other FIM Stands

 Winter Habitat MOA

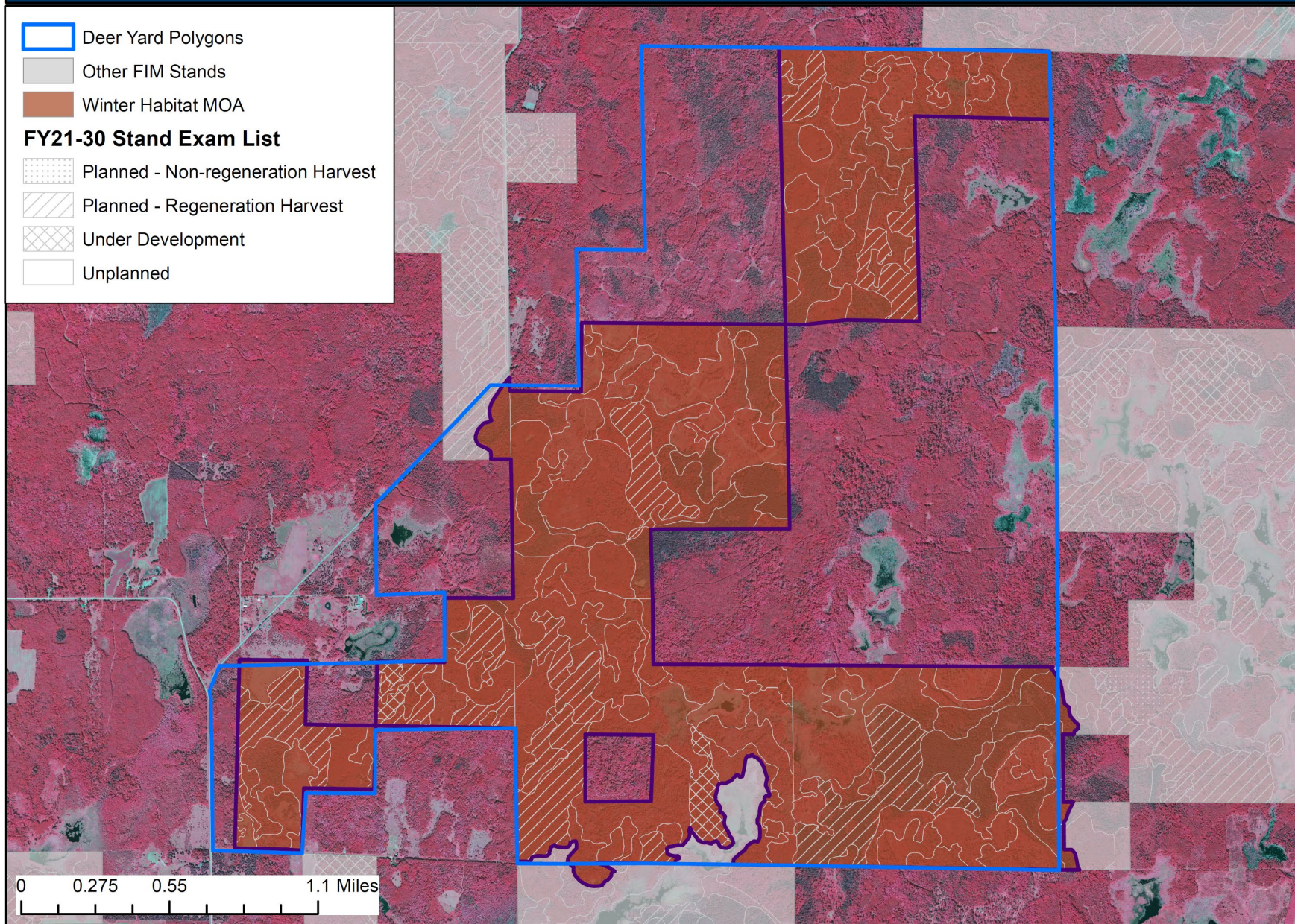
FY21-30 Stand Exam List

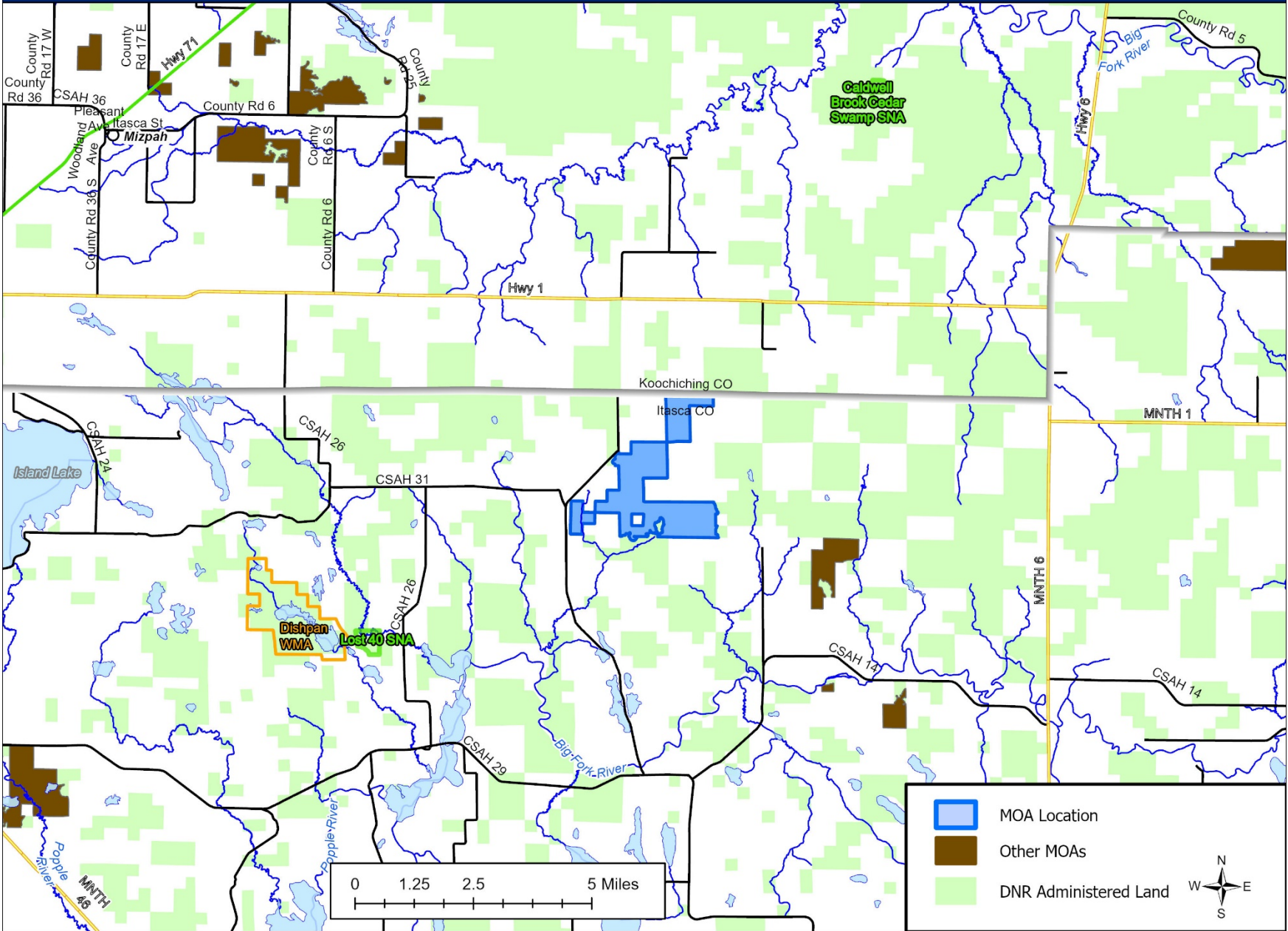
 Planned - Non-regeneration Harvest

 Planned - Regeneration Harvest

 Under Development

 Unplanned



[illegible]

SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Northern Forest Owl |
| MOA Type | Owl Management Area |
| Location (Eco. Section, TRS) | NMOP; T163N, R39W, Secs 5,6; T163N, R40W, Secs 1-3, 11, 23; T164N, R39W, Secs 30-32; T164N, R40W, Secs 25, 26, 35, 36 (Centered on T163 R40) |
| NPC System | Fire Dependent community (FDn33b); Forested Peatland communities (FPn63c, FPn71, FPn71a, FPn73a, FPn81a); Mesic Hardwood communities (MHn44, MHn44c); Open Peatland communities (OPn91, OPn91a, OPn91b1, OPn93a); Wet Forest communities (WFn53b, WFn64c, WFn74a) |
| Acres by Land Status (approx.) | 4,620 managed acres total, all administered by the Division of Forestry (3,650 ConCon, 670 School Trust, 300 Volstead) |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | <p>This area surrounds the previously designated Great Gray Owl Reserve which was an interdisciplinary plan approved and applied for over 30 years. The reserve received heavy insect damage in recent years and no longer provides the habitat, especially nesting habitat, as originally intended. Plus FIM data indicates many of the black spruce and tamarack stands are now <75yrs old.</p> <p>The Northern Forest Owl MOA is dominated by lowland conifer species such as tamarack, black spruce, and northern white cedar but also has isolated pockets of hardwoods such as aspen, ash and birch.</p> <p>Tamarack has and continues to be the most common cover type and species in the MOA. Older age classes (100 years and older) and size classes (10+ dbh) of tamarack were common in the early 2000's in the Northern Forest Owl MOA, prior to an outbreak of eastern larch beetle. Starting in the mid 2000's, over the next decade, eastern larch beetle (ELB) killed almost all of the larger diameter (<i>trees greater than 8"dbh</i>)</p> |

MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION

Current Conditions (cont.)

tamarack throughout the MOA. The largest trees were the first to be affected and today most of these larger tamarack snags have blown over or exist as broken snag trees. Overall tamarack stands generally have an abundance of standing dead trees (5"-8" snags) and varying quantities of younger regeneration present. Regeneration will vary throughout, and younger tamarack, black spruce and cedar tend to be present in various densities. The ELC has shifted the age and size structure, in almost all of these stands to smaller size classes and younger age trees. In many cases, a natural transition to later successional species like cedar and spruce is occurring.

Black spruce cover types are also prevalent. Stands vary from largely intact older trees in the NW part of the unit centered around the SNA to heavily managed strip cuts in the SE portion of the MOA. A variety of age classes and size class of spruce exist within the MOA.

Cedar, aspen, ash and birch are also common species and cover types in the MOA. Forest management activities have generally been heavily concentrated in the aspen-birch cover types to little or no management in cedar and ash.

The central area of the MOA is comprised of older trees with many openings while the rest of the MOA includes more mixed ages which are necessary for forage habitat. The SW portion of the MOA periphery, where there is no timber resource, has received significant brush shearing management in recent years.

The historical significance, long-term use, and concentration of great gray owls in this location was documented by Roberts (1932, *Birds of Minnesota*, vol. 1) and Nero (1980, *The Great Gray Owl: Phantom of the Northern Forest*, p. 114), including recognition as one of the first locations where great gray owls were known to nest in the United States, going back to the 1930s. Several nests have occurred in this area. Other avian species of conservation and biodiversity interest that inhabit this area are northern hawk owls, black-backed and three-toed woodpeckers, gray jays, boreal chickadees, and Connecticut warblers (Eckert, 1994, *A Birder's Guide to Minnesota*). Sharptailed grouse, sandhill cranes, and rough-legged hawks inhabit open habitats found along the fringes of the MOA. The large block of lowland conifers that characterizes the site's vegetation provides important foraging, breeding, resting, and escape cover for wide-ranging mammals such as black bears, gray wolves, fisher, and marten. The travel corridors of mature conifer forest that currently exist provide connectivity of habitat for a variety of forest-dwelling wildlife species.

FUTURE DIRECTION

10-Year Management Intent

Reestablish and maintain Great Gray Owl and associated forest interior species habitat. Reestablish large expanses of closed canopy conifers with bigger, older trees where suitable and successful regeneration of tamarack in disturbed and canopy-killed areas. Create diverse habitat structures for

| FUTURE DIRECTION | |
|--|--|
| 10-Year Management Intent (cont.) | forage, nesting, cover and protection. Use the Great Gray Owl as an umbrella species for the wide range of species of conservation concern and their habitats to measure success. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Where possible, harvest using natural cover type/native plant community boundaries. Creating narrow uneven-edged corridors (<650ftm wide) for owl foraging is encouraged. • Explore with an interdisciplinary team approach to tamarack regeneration to successfully move the tamarack towards providing sustainable forest habitat needs (being lost due to tamarack kill). Seek CPL or other complimentary funding to accomplish tamarack restoration activities. • Clear or manage portions of brushland areas within the peripheral area to provide openings for foraging for owl and other species. • Reserve clusters of snags and seed trees; retain large and wolfy trees. The exception is with Tamarack salvage where we retain live seed trees. • Create irregular edges for perch sites and reduce line-of-sight for competing species. • Survey stands selected for treatment adjacent to stands which have historically been used by nesting owls for potential current nesting activity (March, April, or May by EWR, FAW, or other approved personnel) if appropriate nesting habitat is present. • Protect all stick nests with an approximately 150ft radius buffer; known great gray owl nests with a 330ft radius buffer. Work to increase stand age/size structure so nesting trees (>10in dbh) and dense, closed canopy are available. • Re-inventory based upon effects of ELB. Update stand boundaries, consolidating across section lines, ownership boundaries, and stands being effectively the same age/site index etc. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Protect, maintain, or enhance endangered, threatened, and special concern species and their habitats in the Section. • Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Harvest operations should be limited to frozen ground to limit impact to breeding birds and prevent peat compaction. • Assure that management activity results in irregular edges or follows cover type boundaries. • Rotate large expanses of closed canopy conditions over time by maintaining healthy stands and a diverse age structure. • Manage via long and narrow cutting blocks within stands. |

| FUTURE DIRECTION | |
|--|---|
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • Reestablish large expanses of dense, closed canopy stands, particularly tamarack and black spruce, adjacent to open, boggy areas. • Perch trees in or adjacent to open areas. • Increase/maintain larger sized trees (>10 inches dbh). • Consider the entire management opportunity area matrix when making management decisions. • Stand use is likely long-term. Stands in Aitkin Co are known to be used by breeding pairs over the course of two or more decades (see North and Maroney, 2018, The Loon 90:88-91). |

There are 362 FIM stands total.

List of stands with historic owl nests

t16340w1010039

t16340w1020033

t16340w1030024

t16340w1110117

t16340w1110134 – currently selected stand by Area for 2030

t16439w1310094

t16439w1310120 – currently selected stand by Area for 2026

t16440w1250084 – currently selected stand by model and Area for 2020 (it was unsold in 2019)

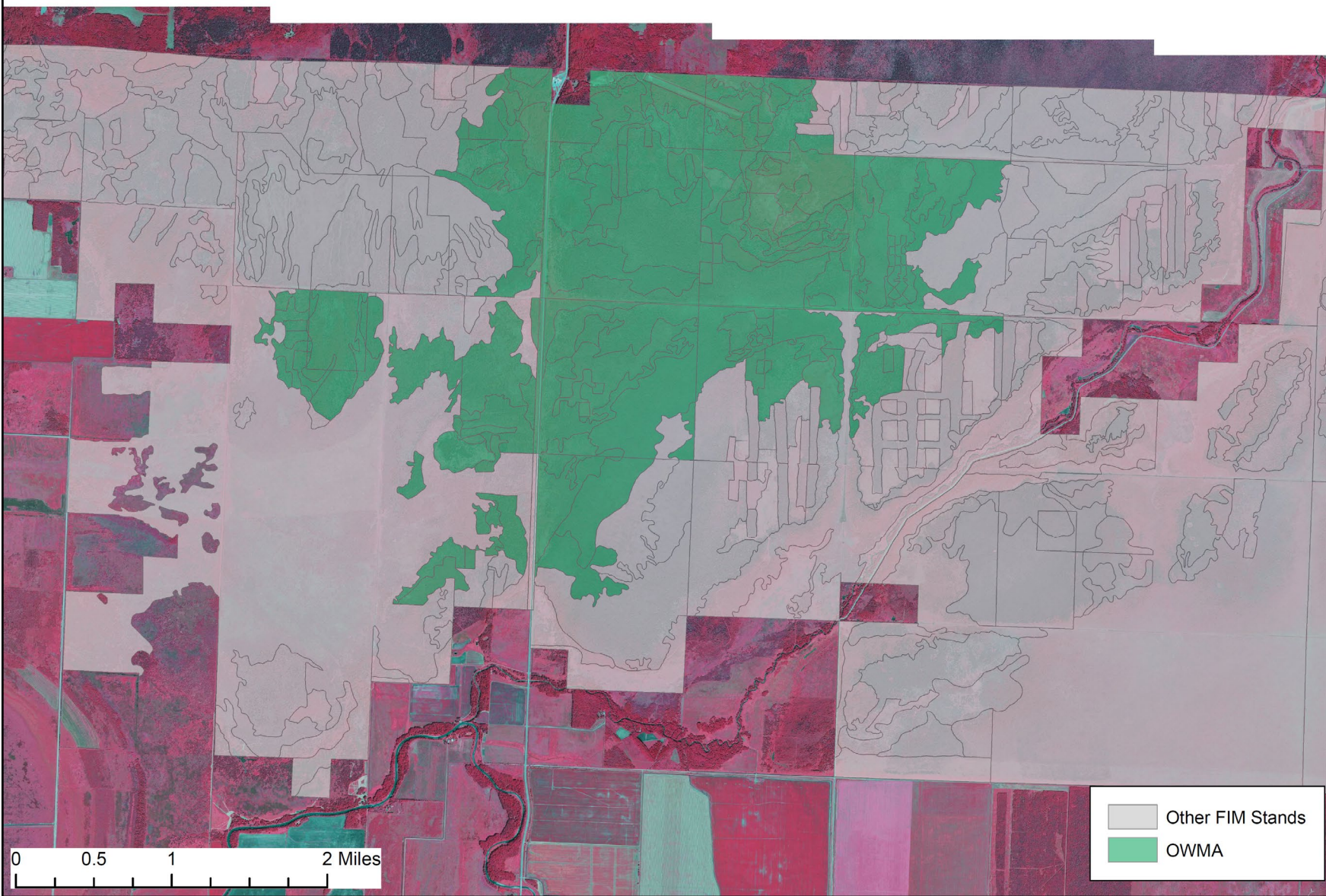
t16440w1350270

t16440w1360202

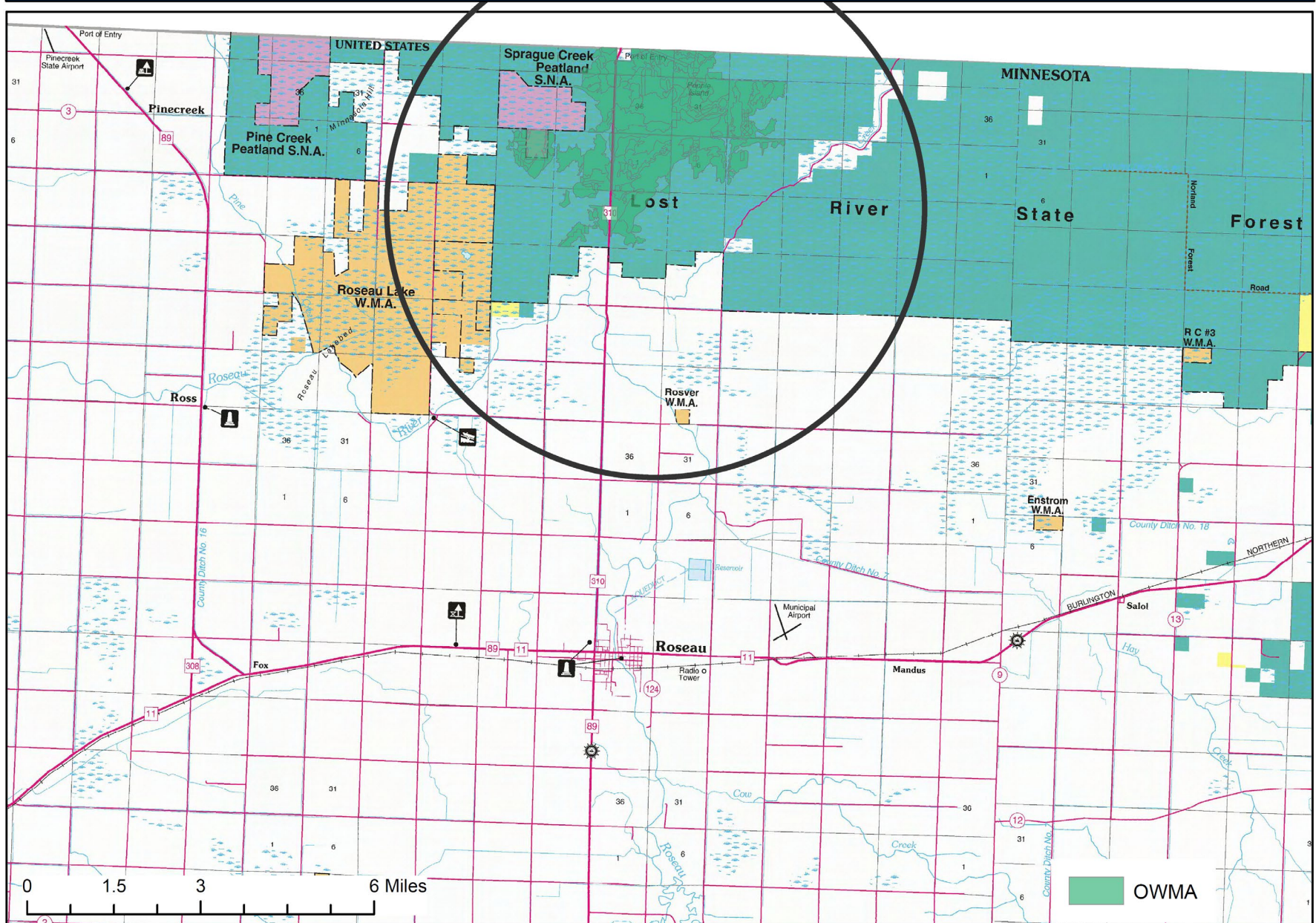
t16440w1360214

t16440w1360268

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Bramble OFMC |
| MOA Type | Old Forest Management Complex |
| Location (Eco. Section, TRS) | NMOP; T62N, R22W, Secs 5, 6; T63N, R22W, Secs 29-32; T63N, R23W, Secs 36 |
| NPC System | Effie Till Plain |
| Acres by Land Status | 1,644 acres total, all school trust lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This is primarily a lowland conifer complex of old forests with some pockets of upland hardwoods mixed in. The three old growth stands are upland cedar dating to ca. 1846-1888, with intervening stagnant lowland cedar stands of much older age. Much of the OFMC area is candidate Lowland Conifer Old Growth. |

| FUTURE DIRECTION | |
|----------------------------------|---|
| 10-Year Management Intent | <p>The intent of OFMCs is to enhance the conservation value of designated old-growth and spatially extend their resource values. OFMCs serve policy, management, and ecological purposes. They include three different elements: 1) designated old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics.</p> <ul style="list-style-type: none"> The intent of this OFMC is to maintain and improve the older forest characteristic over time, and to extend buffering capacity of the area around old growth. This OFMC will provide older forest habitat for plant and animal species and extend travel corridors and connectivity between contiguous forest areas. |

| | |
|--|---|
| 10-Year Management Intent (cont.) | <ul style="list-style-type: none"> Harvest within the OFMC will promote older growth stage components and biological legacies. This OFMC provides educational, recreation and forest research opportunities. The management plan for the old growth stands is passive management. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> Identify NPCs and seek opportunities to retain older forest features of those NPCs Allow for natural regeneration and conversion of non-forest stands to forest within OFMC Average stand age will maintain or increase during planning period. Retain standing coarse woody debris (snags of various decay classes) Retain down coarse woody debris of various decay classes Identified insect and disease concerns should be addressed in management coordination Retain older trees (wolfy aspen, aging birch, mature conifers and hardwoods) while following STH regimes Retain low-value trees for structural variation and contribution to woody debris within STH regimes |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. Represent all native plant community class growth stages on state lands to the extent possible. Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> The management plan for old growth stands t06222w1060046, t06222w1060050, and t06222w1060052 is passive management. Cedar stand t0622w1060026 (est. ca. 1870) should be evaluated for inclusion as old growth (if it does not become LCOG) as it would connect the other three stands. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> Look for opportunities to swap stands selected by models for harvest (if this LCOG candidate complex does not get designated as LCOG) Re-evaluate OFMC boundary and need pending LCOG decision |

List of FIM Stands:

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| t06222w1050027 | t06322w1300564 | t06322w1310582 | t06323w1360381 | t06323w1360418 |
| t06222w1050032 | t06322w1310343 | t06322w1310597 | t06323w1360382 | |
| t06222w1050057 | t06322w1310361 | t06322w1320583 | t06323w1360394 | |
| t06222w1060026 | t06322w1310368 | t06322w1320601 | t06323w1360397 | |
| t06222w1060048 | t06322w1310380 | t06322w1320611 | t06323w1360404 | |
| t06222w1060049 | t06322w1310381 | t06322w1320612 | t06323w1360406 | |
| t06222w1060061 | t06322w1310392 | t06322w1320614 | t06323w1360413 | |
| t06322w1290580 | t06322w1310396 | t06322w1320633 | t06323w1360415 | |

Bramble OFMC

LANDSCAPE MOA MAP

This map illustrates the landscape context of the Moose River Watershed MOA. The MOA is highlighted in light blue, while other MOAs are shown in dark brown. Light green areas represent DNR Administered Land. The map includes labels for various roads (e.g., Highway 65, County Rd 74, Willow River Rd), water bodies (e.g., Deer Lake, Valley River, Bear River), and specific areas like Myrtle Lake Peatland SNA and Potato Lake SNA. A scale bar indicates distances up to 5 miles, and a north arrow is present in the bottom right corner.

SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Brown's Bog East Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around old growth OG11-03, AL-NP-018, AL-NP-051) |
| Location (Eco. Section, TRS) | T159N, R34W, Sections 9, 10, 11, 14, 15, 16, 17, 19, 20, 21, 22, 23 |
| NPC System | FPn63, FPn63c, FPn71, FPN81, APn90a, FDn12, FDn32, FDn33, FDn43, MHn44, WFn53 |
| Acres by Land Status (approx.) | Con Con (1,035 ac) and LUP (210 ac) Total: 1,245 |
| Current Conditions | <p>This is a large complex of forest types that buffer and connect existing old growth stands and future old growth. (AL-NP-51, AL-NP-18, OG 11-03) It is comprised of stands of red pine, jack pine, white pine, and white spruce. The Faunce-Butterfield road bisects the OFMC. This area also contains known instances of species of special concern. Including creeping juniper (<i>Juniperus horizontalis</i>) and Least moonwort (<i>Botrychium simplex</i>).</p> |
| FUTURE DIRECTION | |
| 10-Year Management Intent | <ul style="list-style-type: none">• Develop a mixture of upland and lowland conifers in close proximity for pine marten and fisher habitat.• Encourage development of components of older growth stages.• Create diverse habitat structures for forage, nesting, cover and protection.• Maintain existing access routes. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Consider white pine under plantings to increase heterogeneity when suitable for NPC, especially in and around red pine stands.• Favor jack pine and red pine instead of aspen or balsam fir.• Monitor road and trails for invasive species.• Where state listed species are found, site level management should address habitat considerations and needs. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • The management plan for the old growth stands is passive management. • Do not harvest white cedar stands. • Stand t15934w1140219 (balsam poplar) has jack pine present in the understory; may provide opportunities to implement strategies for conversion. • Stand t15934w1140220 (balsam poplar). Consider conversion if conifers are present within the understory. • A long term research project exists in Red pine stands t15934w1160231, t15934w1150257, t15934w1150228, t15934w1151146, t15934w1150234, t15934w1100192. Manage in accordance with ongoing research. |
| Future Planning Considerations | <ul style="list-style-type: none"> • Balance selection and treatment of conifer stands across planning cycles |

Old growth stands**AL-NP-018**

t15934w1150295

t15934w1151134

t15934w1150296

t15934w1150313

OG11-03

t15934w1140223

AL-NP-051

t15934w1160268

t15934w1160237

t15934w1161137

OFMC Stands

t15934w1101230

t15934w1150338

t15934w1150291

t15934w1151132

t15934w1140318

t15934w1150322

t15934w1140928

t15934w1150292

t15934w1140220

t15934w1140235

t15934w1140258

t15934w1140216

t15934w1140218

t15934w1140219

t15934w1140930

t15934w1140250

t15934w1151189

t15934w1140240

t15934w1100186

t15934w1151133

t15934w1160221

t15934w1161277

t15934w1160201

t15934w1161200

t15934w1090183

t15934w1161286

t15934w1160279

t15934w1161135

t15934w1160282

t15934w1100184

t15934w1150289

t15934w1160231

t15934w1150257

t15934w1100192

t15934w1090112

t15934w1160254

t15934w1160203

t15934w1160280

t15934w1160290

t15934w1170264

t15934w1161201

t15934w1160202

t15934w1090160

t15934w1090160

t15934w1161274

t15934w1160200

t15934w1170249

t15934w1100187

t15934w1170269

t15934w1160248

t15934w1160238

t15934w1090181

t15934w1160205

t15934w1160230

t15934w1151146

t15934w1101230

t15934w1101230

t15934w1140219

t15934w1100186

t15934w1100184

t15934w1160231

t15934w1150257

t15934w1100192

t15934w1150234

t15934w1090160

t15934w1150209

t15934w1100187

t15934w1150228

t15934w1151142

t15934w1151146

Stands that only contain SMZ

t15934w1140688

t15934w1150332

t15934w1220700

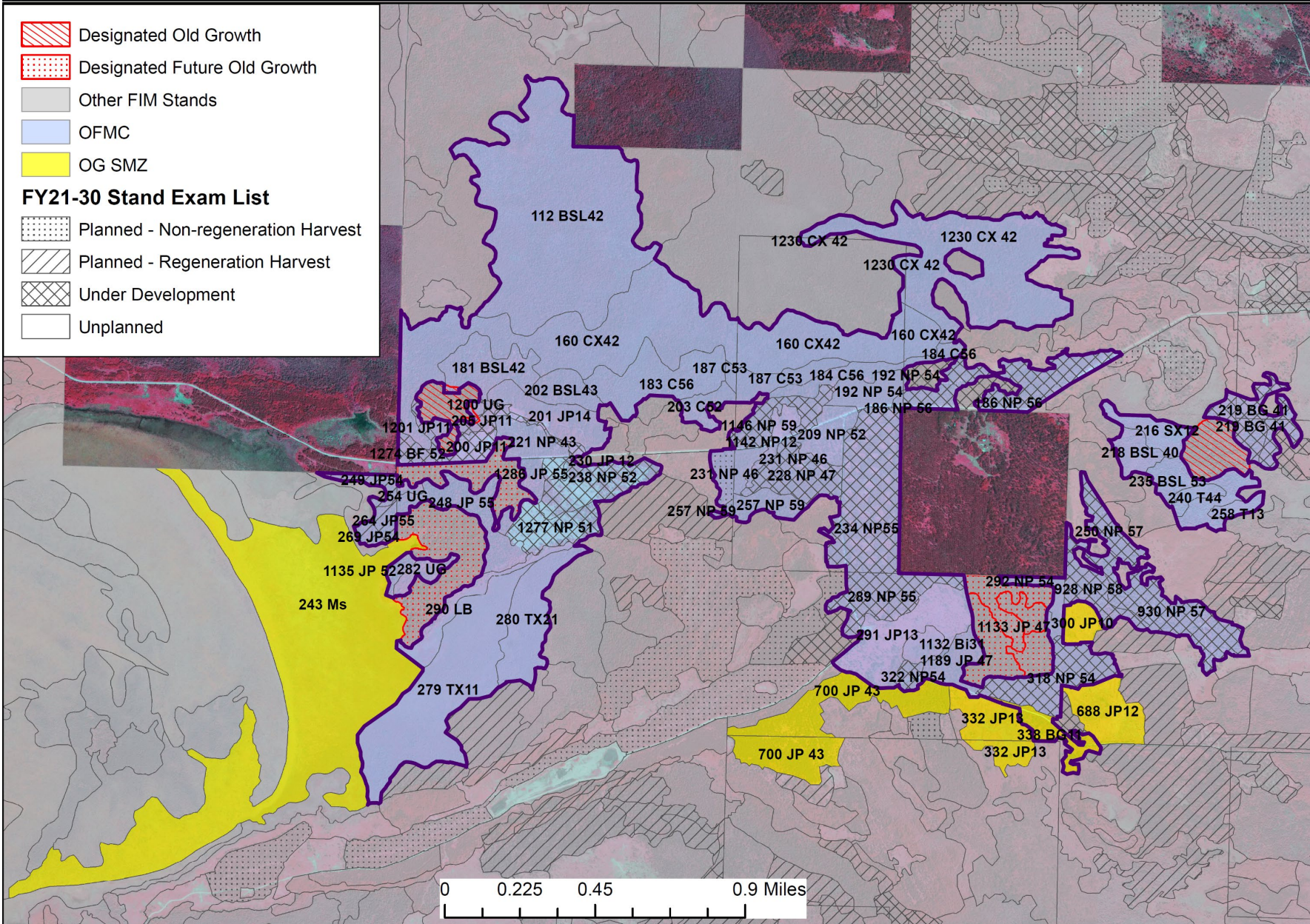
t15934w1140300

t15934w1170243

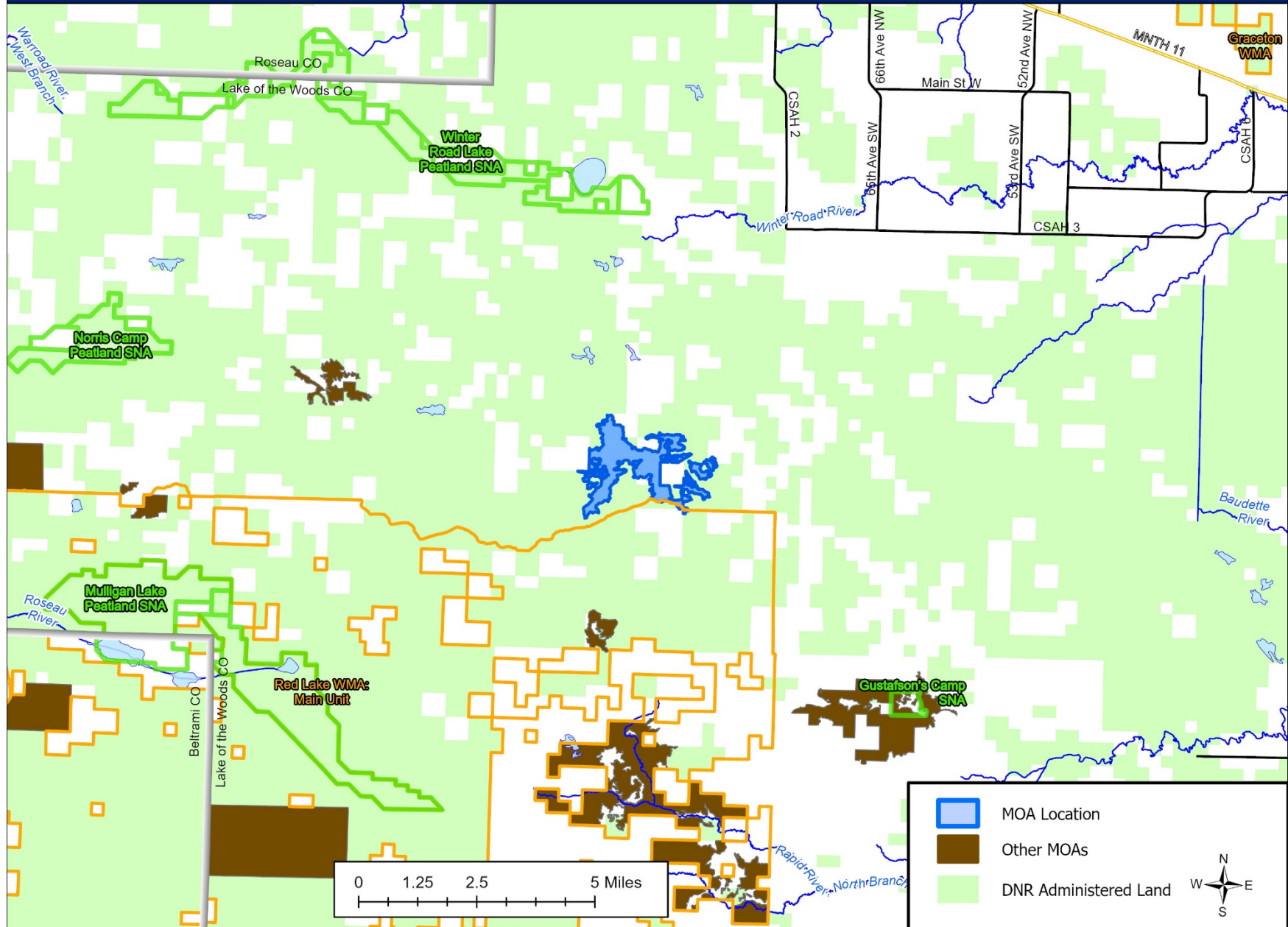
t15934w1150332

t15934w122070

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area



NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Gustafson's Camp |
| MOA Type | Old Forest Management Complex (around OG AL-WP-2; AL-WP-3; OG11-11) |
| Location (Eco. Section, TRS) | NMOP; T158N, R33W, Secs 3-10,16,17 |
| NPC System | MHn44, FPn63, WMn82 |
| Acres (Total and by Land Status) | 1,537 acres total: 1,418 LUP, 119 ConCon |
| Current Conditions | Stands of primarily older growth lowland conifer or younger growth aspen with secondary components that make them suitable for management toward older growth types. The OFMC contains significant cedar, white pine, spruce, and other longer-lived types. The stands are located along and between two existing old growth complexes (Lowland Hardwoods and White Pine OG types). Area used in winter by great gray owls, barred owls, spruce grouse, pine marten and fisher. Gustafson's Camp SNA is within this OFMC. |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages in even- and uneven-age managed cover types. • Provide connectivity between existing old growth complexes to serve as a corridor for wildlife species that favor older growth stage characteristics such as American marten and fisher. • Create diverse habitat structures for forage, nesting, cover and protection. • Retain the ability to harvest timber to promote the goals outlined in this MOA. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Retain existing or increase longer-lived species in even-aged stands via leave trees, legacy patches, and encouraging regeneration of longer-lived species (e.g., white pine and white cedar). • Use reserves to increase connectivity among adjacent stands. • Consider under planting or seeding to improve regeneration when appropriate. • Intermediate treatments to replicate natural disturbance regimes may be done to increase within stand diversity and structure. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations | |

List of stands by Stand ID from FIM

Old growth stands

AL-WP-2

t15833w1040066

OG11-11

t15833w1050088

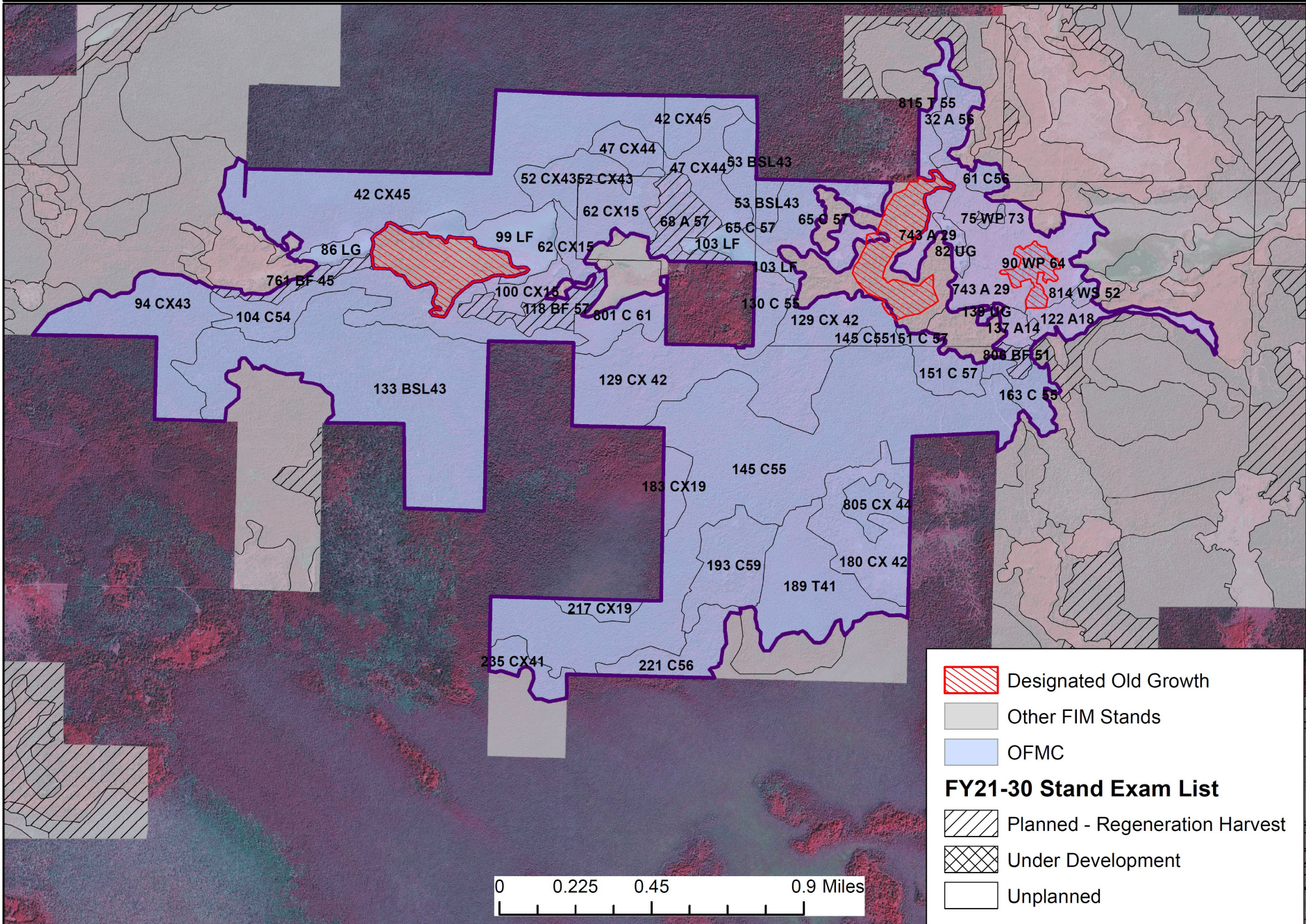
Needs Evaluation for OG Status

t15833w1030090

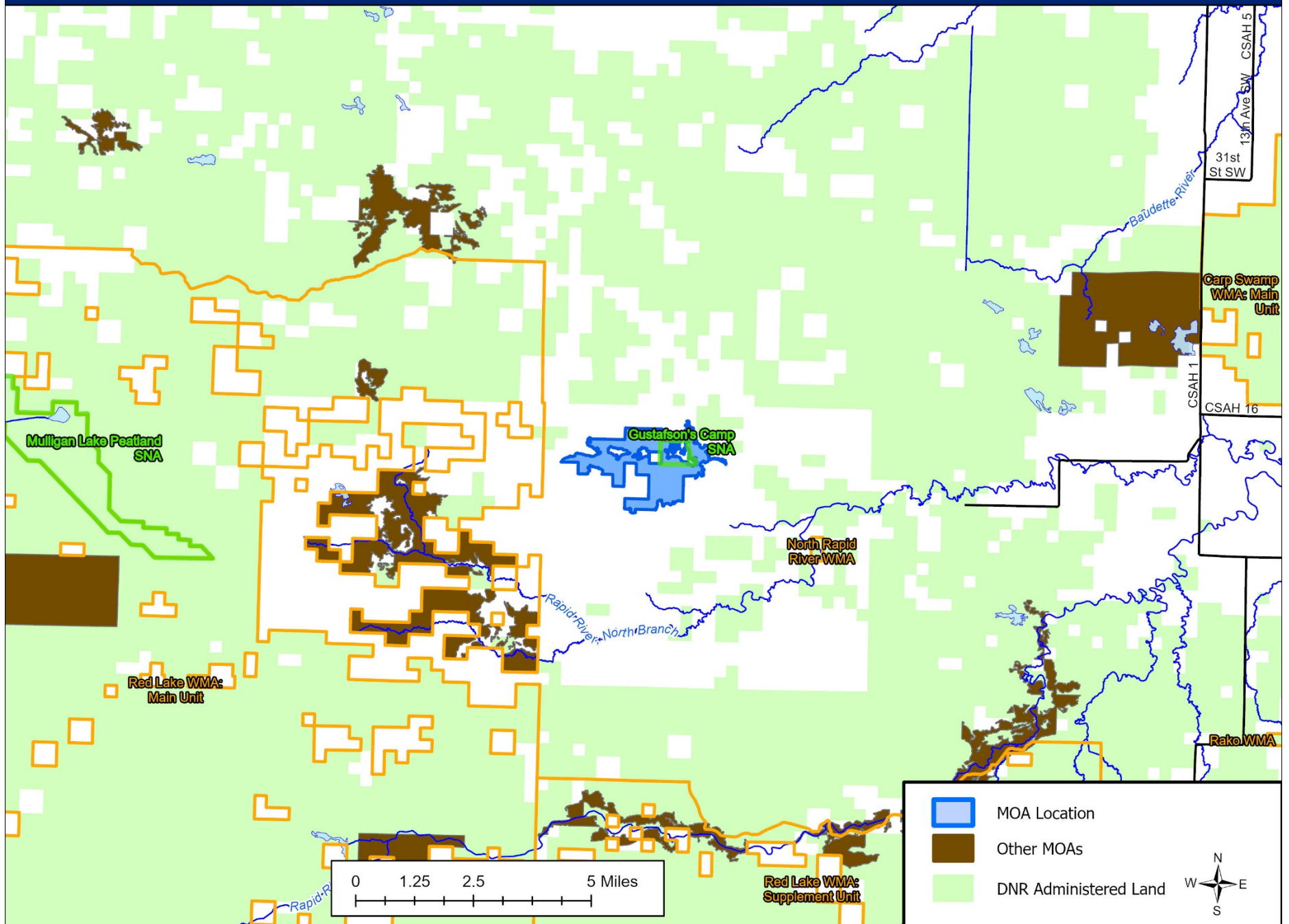
OFMC Stands

| | | |
|----------------|----------------|----------------|
| | t15833w1040065 | t15833w1040062 |
| | t15833w1040065 | t15833w1030743 |
| t15833w1050052 | t15833w1090129 | t15833w1030743 |
| t15833w1090103 | t15833w1090129 | t15833w1160221 |
| t15833w1040068 | t15833w1100139 | t15833w1160217 |
| t15833w1040062 | t15833w1050052 | t15833w1080118 |
| t15833w1040053 | t15833w1090103 | t15833w1040053 |
| t15833w1040047 | t15833w1100806 | t15833w1030061 |
| t15833w1050042 | t15833w1090183 | t15833w1090145 |
| t15833w1090193 | t15833w1030815 | t15833w1030082 |
| t15833w1090189 | t15833w1090180 | t15833w1090130 |
| t15833w1050086 | t15833w1100814 | t15833w1080099 |
| t15833w1030075 | t15833w1170235 | t15833w1040047 |
| t15833w1080104 | t15833w1030032 | t15833w1050042 |
| t15833w1100122 | t15833w1070094 | t15833w1100151 |
| t15833w1090805 | t15833w1090801 | t15833w1100151 |
| t15833w1080761 | t15833w1030090 | t15833w1100137 |
| t15833w1080133 | t15833w1100163 | t15833w1090145 |
| t15833w1080100 | t15833w1040062 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Highway 65 |
| MOA Type | Old Forest Management Complex (around old growth SW-97) |
| Location (Eco. Section, TRS) | T65 N., R24 W., Sec. 4 |
| NPC System | FDn12, FDn12b, MHn44, FDn43c |
| Acres by Land Status (approx.) | 202 acres, all School Trust lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | <p>This OFMC centers around six old growth stands of red pine. The old growth is distributed into two separate groups of three stands each, separated by less than 330 feet. Most of the old growth stands are a mix of red pine, jack pine, and white pine, with some white spruce in one. Hwy 65 runs along the north edge of old growth stands t06524w1040069 and t06524w1040075 for 1730 feet.</p> <p>Old growth stands appear to continue on to Koochiching County lands.</p> |

| FUTURE DIRECTION | |
|---------------------------|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> During management activities, using school trust regimes on school trust lands: <ul style="list-style-type: none"> Maintain tree cover connectivity between the two groups of old growth forest stands. Encourage development of components of older growth stages in even- and uneven-aged types. Create diverse habitat structures for forage, nesting, cover and protection. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Coordinate management with Koochiching County. • Monitor for invasive species; manage according to guidelines. • Evaluate the condition class of S2 ranked NPCs within the OFMC. • Allow for natural regeneration and conversion of non-forest stands within OFMC to forest. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Field visit a forest access route through OG stand t06524w1040105 to determine if it should be relocated south of the stand or retained. • Evaluate the boundary between stands t06524w1040134 and t06524w1040124 for accuracy and corrected if necessary. • Allow natural conversion of stands t06524w1040864 and t06524w1040871 from upland grass to forest cover. • Manage t06524w1040014 for increasing dominance of red pine and white pine. |
| Future Planning Considerations | |

Old growth stands

SW-97

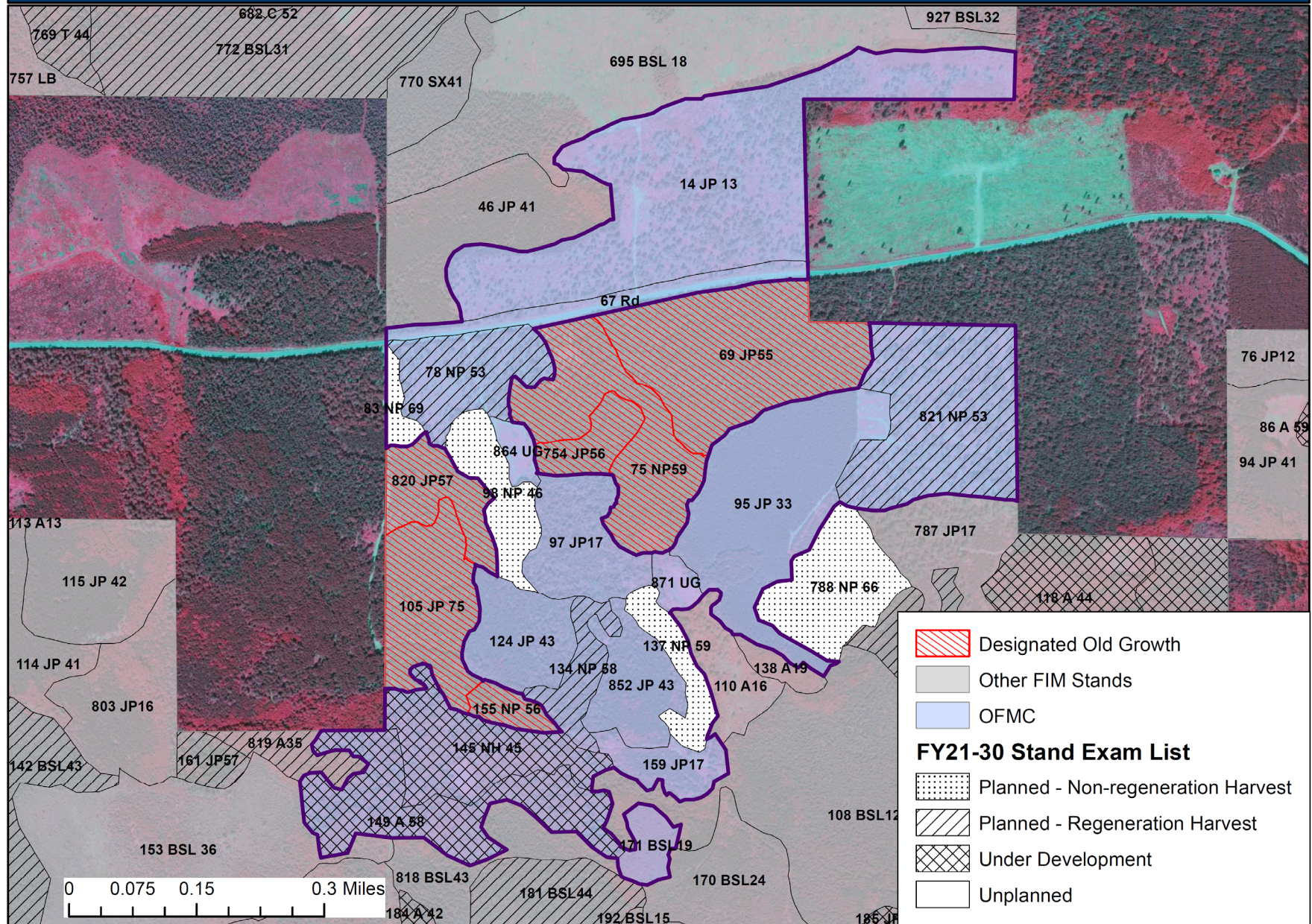
t06524w1040155
t06524w1040754
t06524w1040820
t06524w1040075
t06524w1040069
t06524w1040105

OFMC Stands

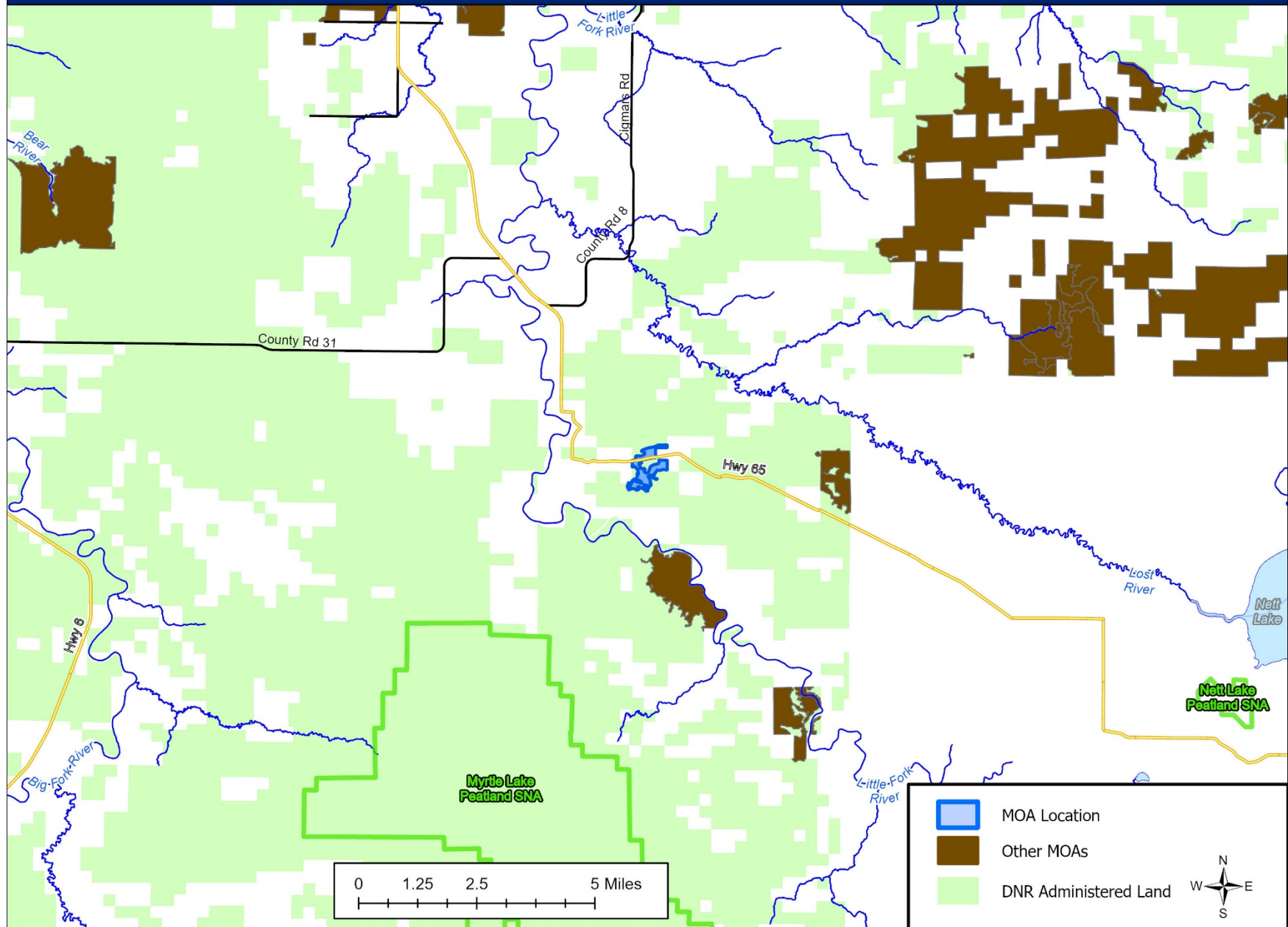
t06524w1040124
t06524w1040137
t06524w1040852
t06524w1040014
t06524w1040083
t06524w1040159
t06524w1040067
t06524w1040067
t06524w1040098

t06524w1040097
t06524w1040821
t06524w1040078
t06524w1040145
t06524w1040149
t06524w1040134
t06524w1040171
t06524w1040095
t06524w1040864

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Highway 217 |
| MOA Type | Old Forest Management Complex (around old growth OG12-107) |
| Location (Eco. Section, TRS) | T68N, R24W, Sec. 1, 2, 3, 10, 11 |
| NPC System | MHn44c, WFn55, WFn53, WFn53b, APn80 |
| Acres by Land Status (approx.) | 854 acres, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This OFMC centers on a 152.4 acre stand of old growth ash established ca. 1843. Other species in the ash stand include aspen and white cedar. A powerline corridor runs along 1,525 feet of the old growth stand. Immediately to the north of the old growth stand is a large complex of white cedar (mostly stagnant), established ca. 1824 to 1856. South of the old growth stand are several aspen stands, at least four of which are in the SMZ and over mature. There is a small aspen stand on the north side of the old growth, sandwiched between the OG and old white cedar within the OFMC. Most stands adjacent to the OFMC have been recently harvested. |

| FUTURE DIRECTION | |
|----------------------------------|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages in uneven-aged types. • Convert aspen adjacent to the old growth stand into uneven-aged multi-species stands • Passive management within the OG stand. • Create diverse habitat structures for forage, nesting, cover and protection. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> Aspen leave trees in stands adjacent to OFMC stands should be left adjacent to the OFMC where they will provide the maximum benefit for cavity-nesting/denning species. Follow SMZ guidelines for 330' buffer. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. Represent all native plant community class growth stages on state lands to the extent possible. Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> Develop a specific harvest plan for aspen stands t06824w1110898, t06824w1020894, t06824w1110827, and t06824w1110826 so that they can be regenerated over the next 2 decades while still meeting SMZ guidelines. Consider aspen stand t06824w1020135 for opportunities to consolidate reserves within to promote longer-lived species (e.g., oak, white cedar). Work with the power line operator to assure brush control is not accomplished by aerial spraying. The stand boundary lines separating stagnant cedar stands t06824w1110169, t06824w1020872, t06824w1030818, t06824w1100897, and t06824w1100166 should be dissolved and the area treated as a single stand. The stand boundary lines separating stagnant cedar stands t06824w1020875 and t06824w1010890 should be dissolved and the area treated as a single stand. Maintain corridor through tamarack stand t06824w1020807 from river to rest of OFMC. |
| Future Planning Considerations | |

List of stands by Stand ID from FIM

Old growth stands

OG12-107

t06824w1101130

OFMC Stands

t06824w1101102

t06824w1101103

t06824w1110898

t06824w1110826

t06824w1111107

t06824w1111106

t06824w1110827

t06824w1100908

t06824w1110828

t06824w1110904

t06824w1020894

t06824w1100897

t06824w1020872

t06824w1110169

t06824w1020875

t06824w1100171

t06824w1110825

t06824w1030818

t06824w1010890

t06824w1020892

t06824w1020135

t06824w1020883

t06824w1020807

t06824w1100166

t06824w1100168


Stands that only contain SMZ

t06824w1110910

t06824w1110909

t06824w1100912

LOCAL MOA MAP

 Designated Old Growth


 Other FIM Stands

 OFMC

 OG SMZ

 RGMA

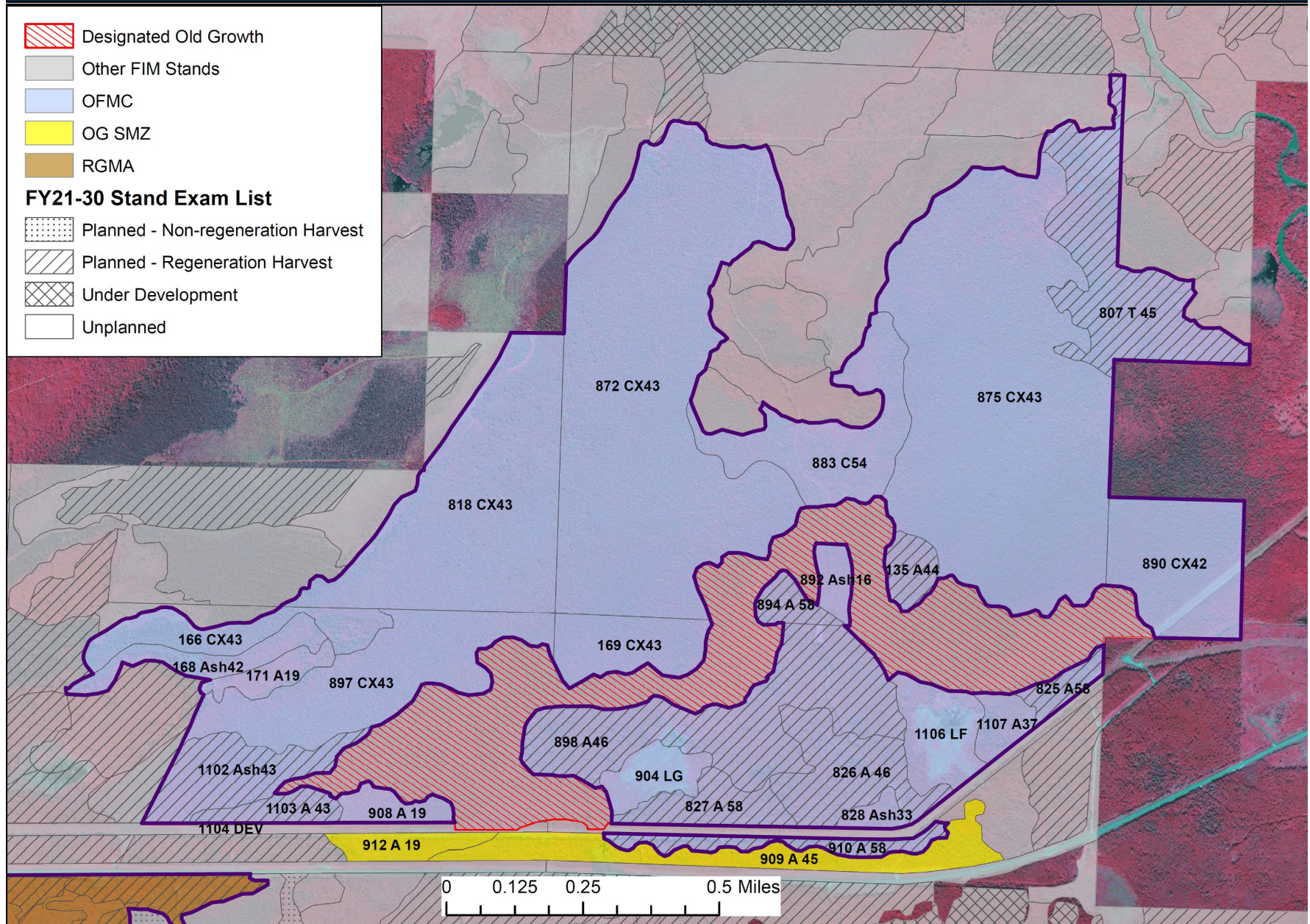
FY21-30 Stand Exam List

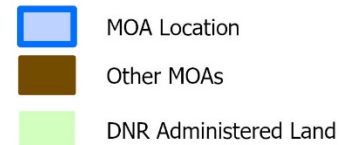
 Planned - Non-regeneration Harvest

 Planned - Regeneration Harvest

 Under Development

 Unplanned





SFRMP Management Opportunity Area

NMOP SFRMP

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Littlefork River North Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (see list of OG stands below) |
| Location (Eco. Section, TRS) | T65N, R24W, Sec. 36; T64N, R24W, Sec. 2. |
| NPC System | MHn44 |
| Acres by Land Status (approx.) | 504 acres, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This extraordinary OFMC centers around nine stands of old growth white pine, white cedar, and ash. Data in FIM from these stands was collected in 1994. Centrally-located white pine stands t06524w1360780 and t06524w1360707 date to 1734 and 1739 respectively. These stands have DBH of 27-30 inches. To the south, old growth white pine stands t06524w1360739 and t06424w1020316 (balsam fir cover type designated for WP component) date to 1832, with DBH of 21 and 26 inches. To the north, the old growth white cedar stand t06524w1360657 dates to 1841. Along the river are three old growth white cedar stands and one old growth ash stand that date between 1833 and 1876. The majority of stands in the OFMC are either white cedar stands dating to between 1790 and 1860 or aspen, balsam fir, or BAM stands with significant white pine components with DBH from 19 to 26 inches. There are three stands with SMZs limited to 330 feet; ash stand t06524w1360716 dates to 1862, and BAM stand t06524w1360656 contains white pine of 19-inch DBH. All stands lacking white cedar or white pine components (2 aspen, 1 BAM) were harvested between 2007 and 2013. |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages in even- and uneven-aged types • The management plan for the old growth stands is passive management. • Create diverse habitat structures for forage, nesting, cover and protection. Reserve white pine and white cedar within stands. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Allow stands with a white pine component to become white pine stands. • If more stands were selected than necessary to meet STHA goals, consider prioritizing these stands to meet other non-timber goals. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Evaluate ash stand t06524w1360716 for old growth potential. • Visit stands with white pine components and evaluate for suitability for passive or active conversion to white pine cover types. • Evaluate potentially primary old growth stand t06524w1360750 and others for old growth forest status. • Direction for school trust stands: <ul style="list-style-type: none"> ○ Stands t06524w1360737 and t06524w1360750 within the OFMC will be replaced with stands t06926w1070137, t06924w1310312, and t06923w1320397. ○ On-site visits will be completed as scheduled in FY29 for stands t06524w1360663 and t06524w1360684, as they don't have the same known, ecological features as the others. If viable for sale, forestry staff will develop a harvest prescription to support the goals of the MOA. |
| Future Planning Considerations | <ul style="list-style-type: none"> • Seek opportunities to purchase entire OFMC from School Trust. • Identify opportunities to generate revenue for Trust from providing ecosystem services. |

Stand List from FIM

Old growth stands

OG12-109

t06524w1360717
t06524w1360735
t06524w1360696
LFV-TEMP-29
t06524w1360780

T-7

t06424w1020316
t06524w1360739

T-9

t06524w1360707

OG12-110

t06524w1360657

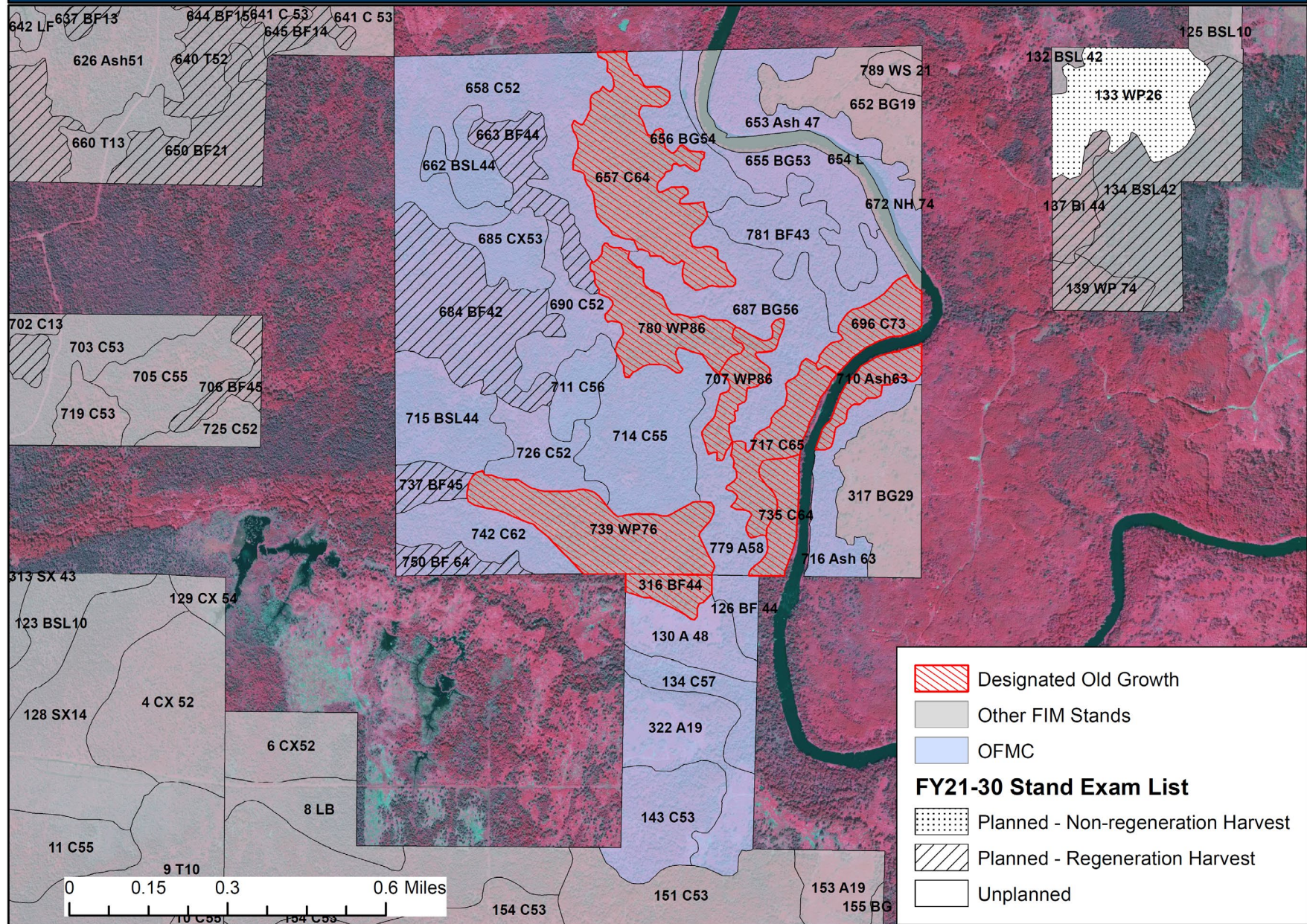
OG12-34

t06524w1360710

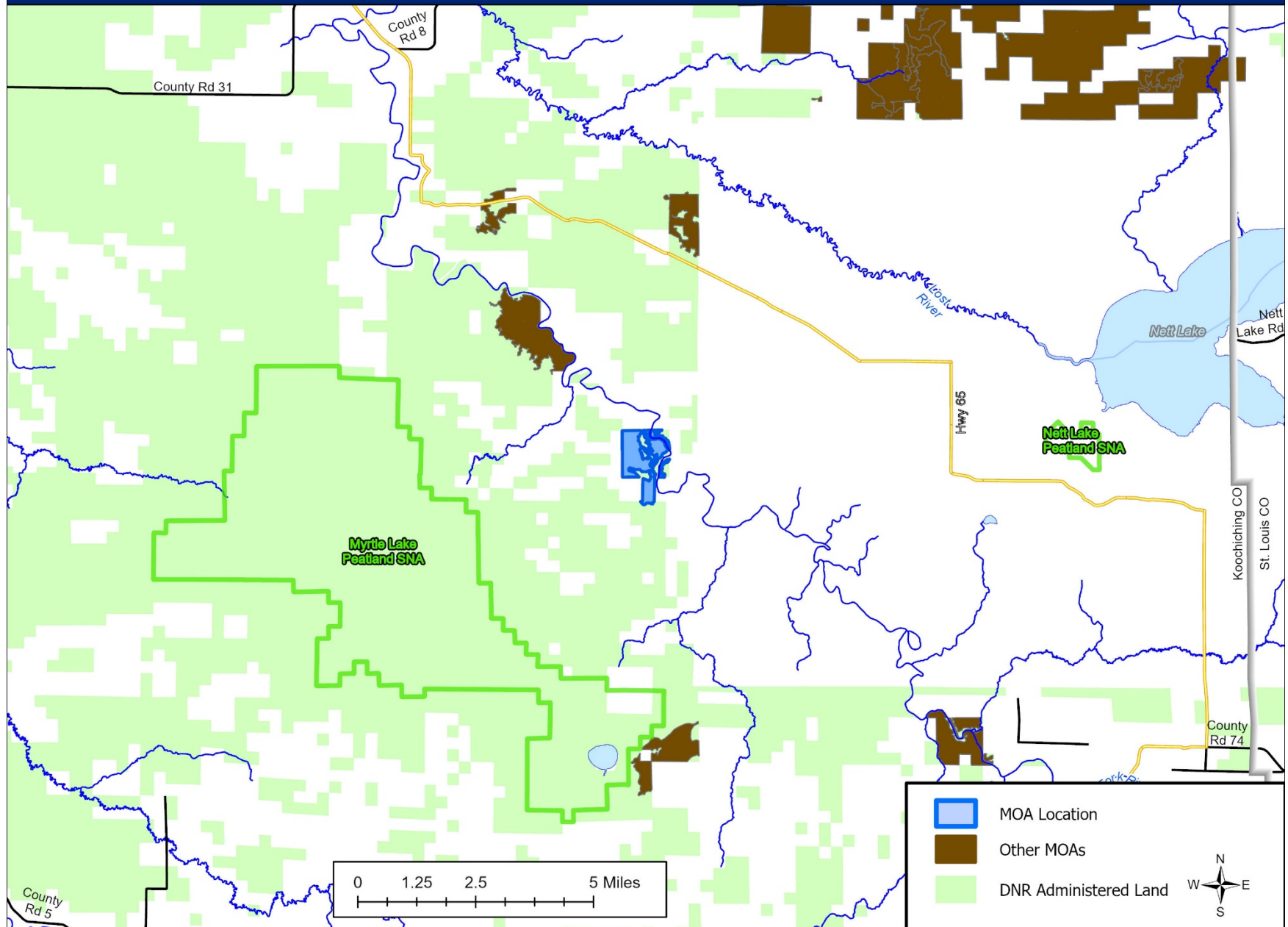
OFMC Stands

t06524w1360716
t06424w1360317
t06524w1360655
t06524w1360685
t06524w1360750
t06424w1020130
t06524w1360714
t06424w1020322
t06524w1360663
t06524w1360781
t06524w1360653
t06524w1360684
t06524w1360742
t06524w1360715
t06524w1360737
t06524w1360658
t06524w1360656
t06524w1360662
t06524w1360726
t06424w1020143
t06424w1020134
t06524w1360687
t06424w1020126
t06524w1360672
t06524w1360690
t06524w1360779
t06524w1360711

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Littlefork River South Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around OG12-74, OG12-77) |
| Location (Eco. Section, TRS) | T64 N, R23 W. Sections 25, 26, 35, 36; T64 N, R22 W., Section 31. |
| NPC System | Unknown |
| Acres by Land Status (approx.) | 566 acres, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Old Forest Management Complex centers around three riparian old growth white cedar stands that date to 1804-1884, and a mixed conifer (balsam fir) stand est. ca. 1913. The old growth stands total 78 acres. Most of the stands in the OFMC are aspen, and many have been harvested recently, but many have white spruce and balsam fir components. Riparian stands tend to be old cedar or old lowland hardwoods. This complex contains stands on both sides of the Littlefork River. |

| FUTURE DIRECTION | |
|---------------------------|--|
| 10-Year Management Intent | <p>The intent of OFMCs is to enhance the conservation value of designated old-growth and spatially extend their resource values. OFMCs serve policy, management, and ecological purposes. They include three different elements: 1) designated old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics.</p> <ul style="list-style-type: none">• The intent of this OFMC is to maintain and improve the older forest characteristic over time, and to extend buffering capacity of the area around old growth.• This OFMC will provide older forest habitat for plant and animal species and extend travel corridors and connectivity between contiguous forest areas. |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent (cont.) | <ul style="list-style-type: none"> • Harvest within the OFMC will promote older growth stage components and biological legacies. • This OFMC provides educational, recreation and forest research opportunities. • The management plan for the old growth stands is passive management. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Identify NPCs and seek opportunities to retain older forest features of those NPCs • Allow for natural regeneration and conversion of non-forest stands to forest within OFMC • Average stand age will maintain or increase during planning period. • Retain standing coarse woody debris (snags of various decay classes) • Retain down coarse woody debris of various decay classes • Identified I&D concerns should be addressed in management coordination • Retain older trees (wolfy aspen, aging birch, mature conifers and hardwoods) while following STH regimes • Retain low-value trees for structural variation and contribution to woody debris within STH regimes |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations | |

List of stands by Stand ID from FIM

Old growth stands

OG12-77

t06423w1360260

t06423w1360261

t06423w1360256

OG12-74

t06423w1360296

OFMC Stands

t06423w1360257

t06423w1360276

t06423w1360258

t06422w1310063

t06423w1360304

t06423w1360277

t06423w1360298

t06423w1360306

t06423w1360280

t06423w1360403

t06423w1260240

t06423w1360284

t06423w1360292

t06423w1360286

t06423w1360263

t06422w1310056

t06423w1360294

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t06423w1250239

t06423w1360259

t06423w1360278

t06423w1360405

t06423w1260243

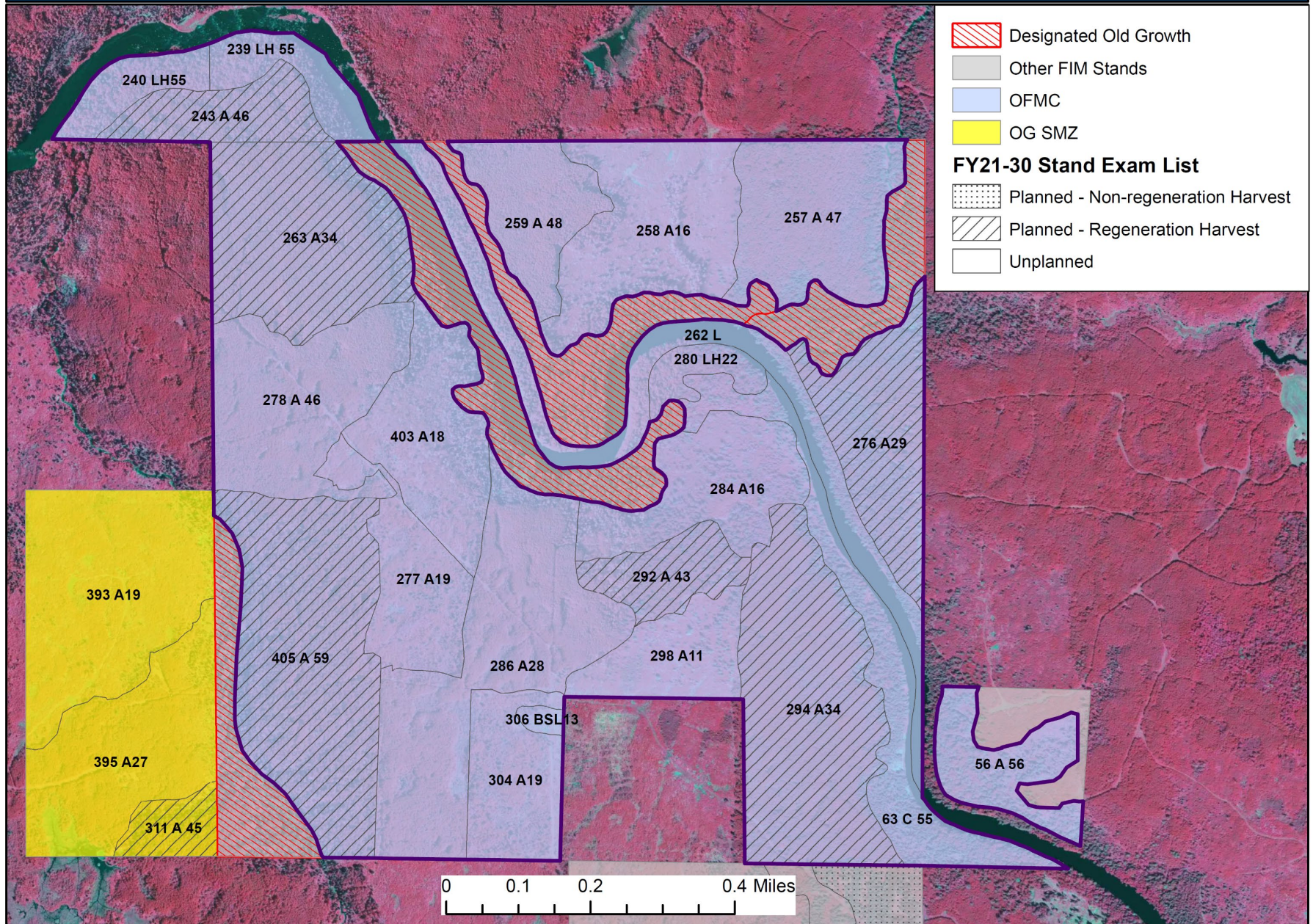
Stands that only contain SMZ

t06423w1350395

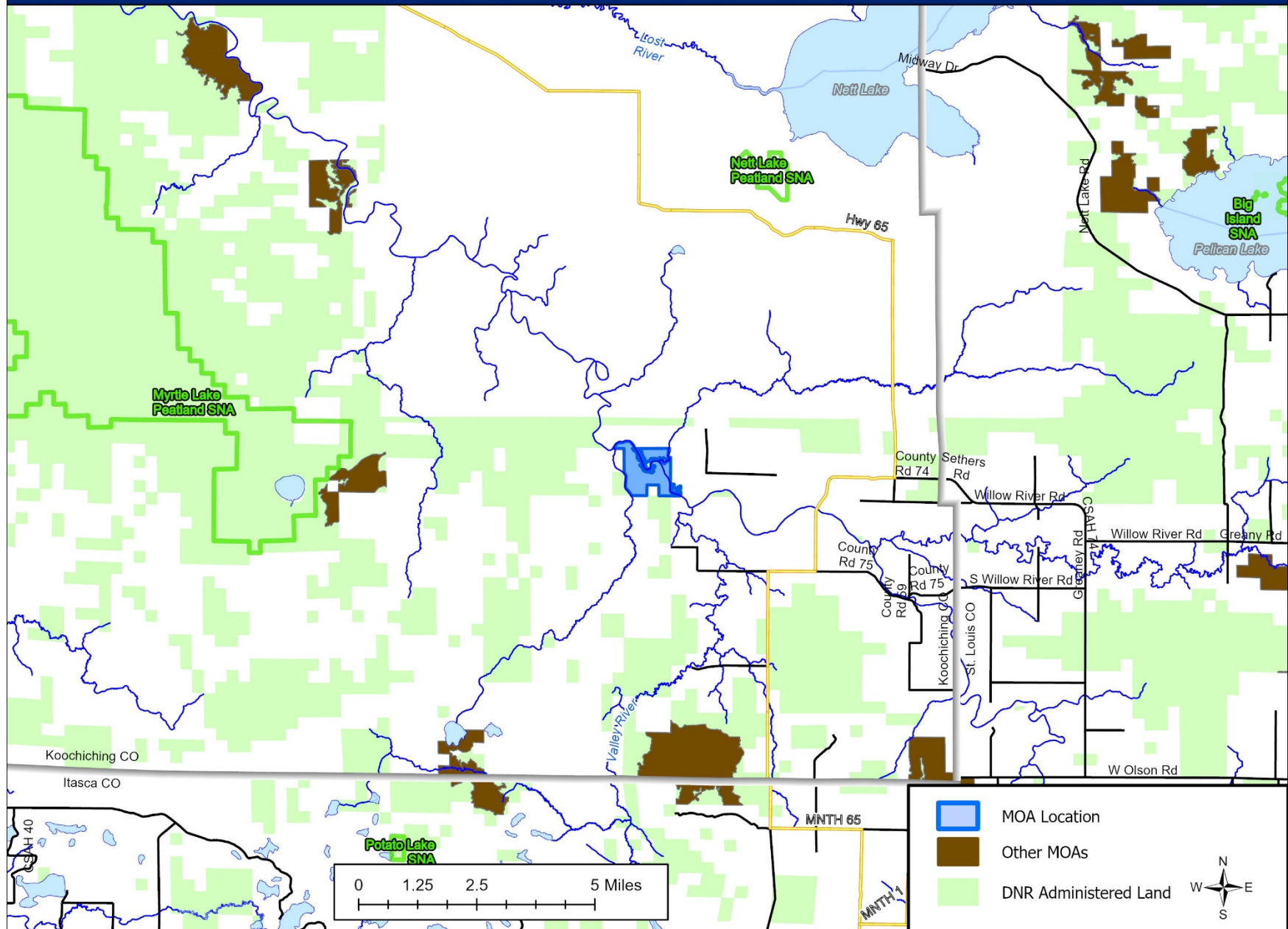
t06423w1350393

t06423w1350311

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Little Tamarack River |
| MOA Type | Old Forest Management Complex (around OG2-27) |
| Location (Eco. Section, TRS) | T154 N, R29 W, Sec 29, 30, 31, 32: T153 N, R29 W, Sec. 4, 5 |
| NPC System | WFn55, WFn55c, MHn44, MHn44c |
| Acres by Land Status (approx.) | 79 acres Con Con, 231 acquired, 596 acres School Trust. 907 total acres |
| School trust lands within this MOA | <p>The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i>, including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i>. The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy.</p> |
| Current Conditions | <p>This OFMC centers around eight old growth stands forming a lowland hardwood complex along the Little Tamarack River. The northern most seven stands of OG are contiguous, established between 1897 (primarily) to 1924. They are dominated by ash and aspen, with components of paper birch, Balm of Gilead, balsam fir, and sugar maple.</p> <p>The southern stand of OG is isolated from the rest by a private parcel; it dates to 1864 and is dominated by basswood, with ash, aspen, and red maple.</p> <p>The OFMC is comprised of a wide variety of cover types including aspen, ash, cedar (some very old, some stagnant), jack pine, and tamarack. The boundary of the Old Crossing Treaty runs through this OFMC and can be seen as a diagonal line running southwest to northeast. The SMZs on stands to the southeast of the old crossing treaty line are primarily limited to 330 ft within the OFMC, and are mostly School Trust lands. The majority of the whole-stand SMZ are located northwest of the Old Crossing Treaty line.</p> |

| FUTURE DIRECTION | |
|--|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Maintain a corridor for wildlife movements, especially along the riparian corridor. • Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages in even- and uneven-aged types • Maintain connectivity between old growth and old forest stand |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Evaluate aspen stands t15329w1040444 or t15329w1050046 for active or passive cover type conversion goals. Consider delaying one of these two stands to minimize disturbance in riparian corridor. Aspen Stand t15429w1320897 should function as a corridor between the tamarack, cedar and old growth stand. |

List of stands by Stand ID from FIM

Old growth stands

OG2-27

t15429w1320845
t15429w1320859
t15429w1320854
t15429w1320932
t15429w1320806
t15429w1320804
t15429w1290752
t15429w1320858

OFMC Stands

t15329w1040444
t15429w1320895
t15429w1290755
t15429w1320842
t15329w1040447
t15429w1320879

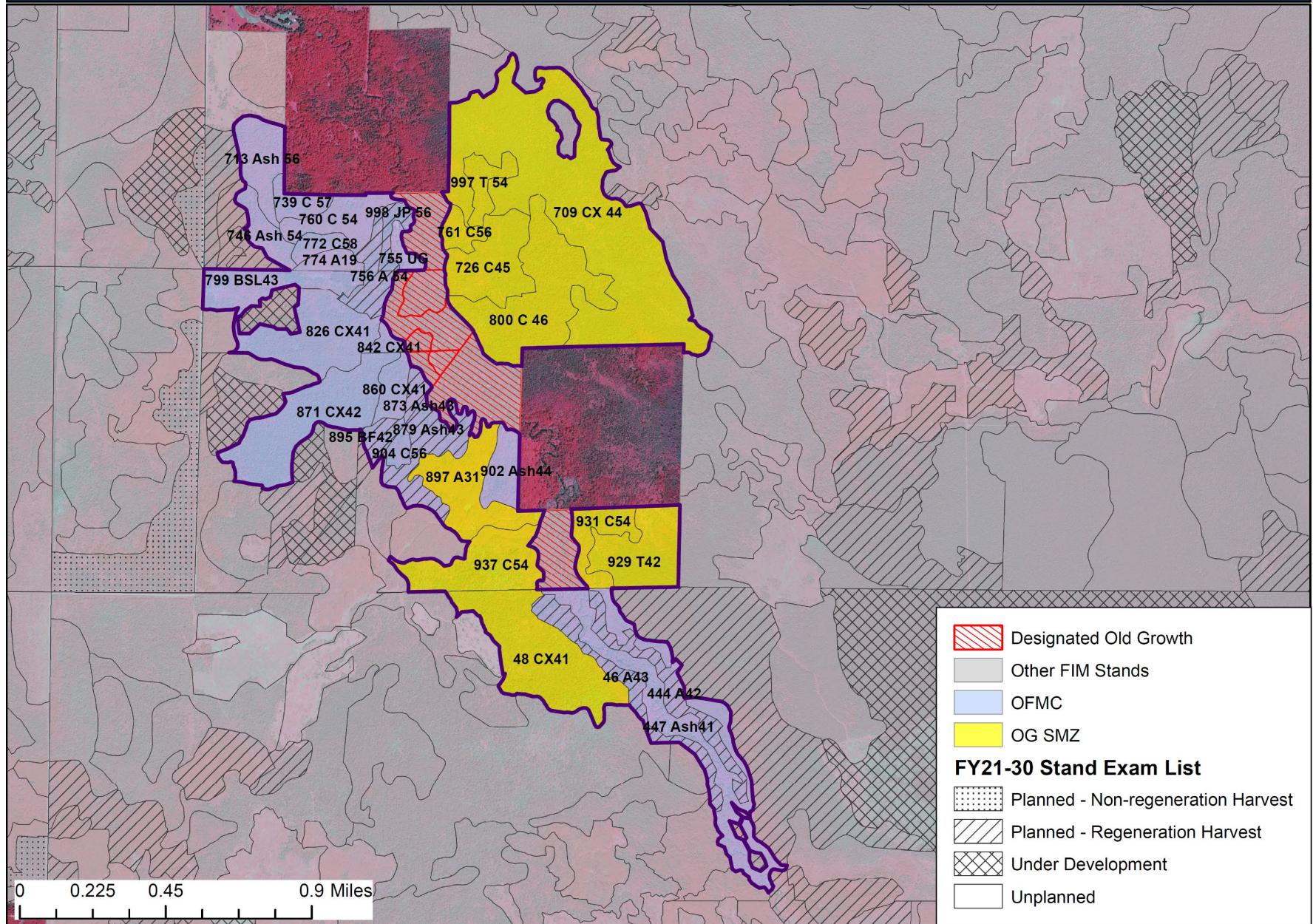
t15429w1300746
t15429w1300772
t15429w1300739
t15429w1300760
t15429w1290756
t15429w1300713
t15329w1050046
t15429w1320904
t15429w1320902
t15429w1310826
t15429w1320873
t15429w1310871
t15429w1290998
t15429w1300774
t15429w1310799
t15429w1320860

t15429w1320937
t15429w1320937
t15429w1320937
t15429w1320937
t15429w1320937
t15429w1320937
t15429w1320937
t15429w1320937

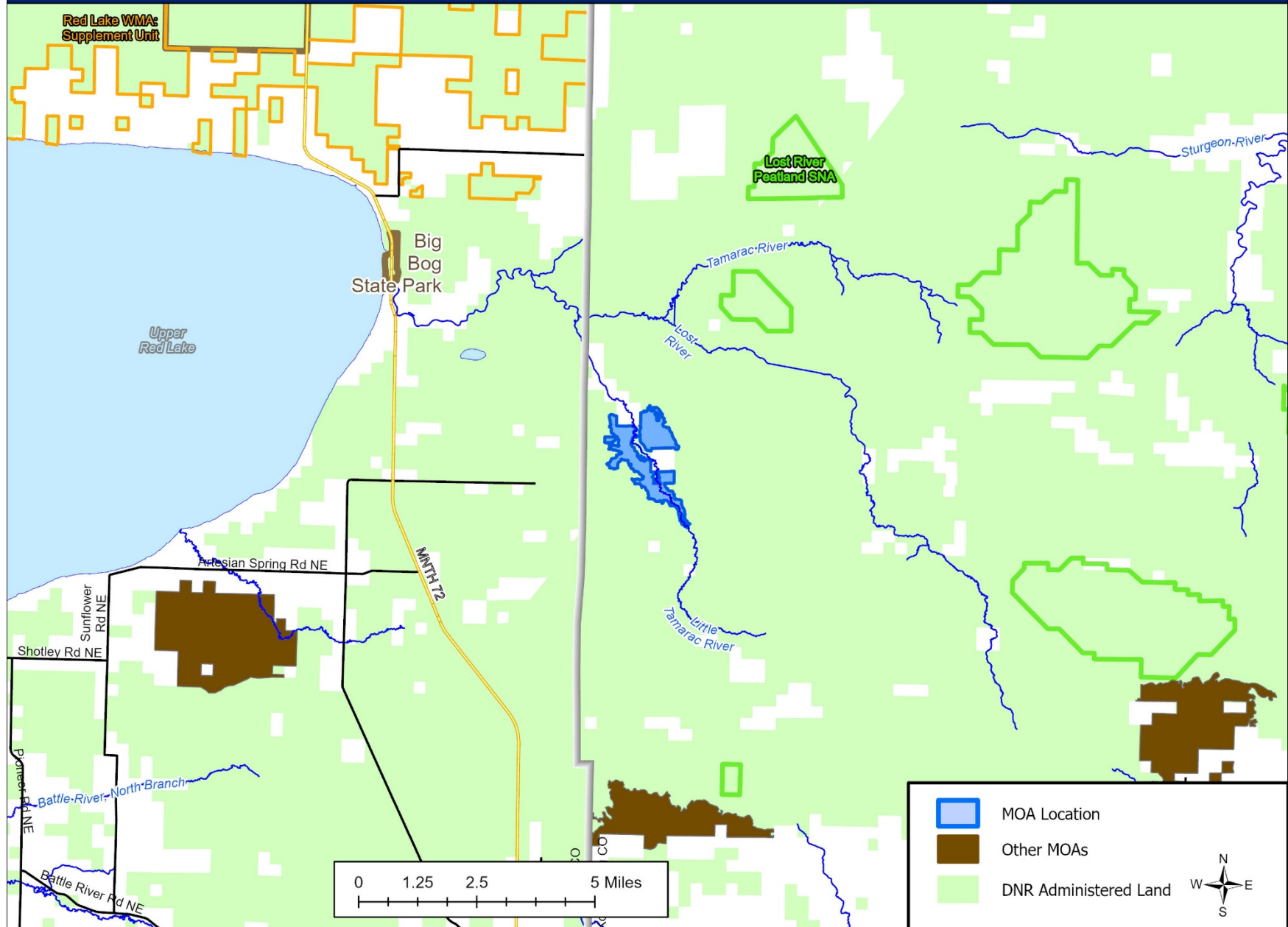
Stands that only contain SMZ

t15429w1320937
t15429w1320937

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Nass Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around old growth SW-155) |
| Location (Eco. Section, TRS) | T63 N, R22 W, Section 36; T 62 N, R. 22 W, Section 1 |
| NPC System | Unknown |
| Acres by Land Status (approx.) | 611 acres, all School Trust |
| School trust lands within this MOA | <p>The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i>, including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i>. The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy.</p> |
| Current Conditions | <p>This OFMC centers around an elongated narrow old growth white pine stand, established circa 1921. The old growth stand is surrounded almost entirely by a single 55.5-acre mixed-species stand dominated by aspen, established circa 1964. About 1/8th of the perimeter of the OG is part of an aspen stand harvested in 2006.</p> <p>Other components of the OFMC include old cedar stands in excess of 100-180 years, ash stands in excess of 100 years. Between 2006-2014, 302.5 acres of aspen and Balm of Gilead has been harvested (83.5% of the aspen/BAM cover type), leaving stand t06322w1360378 in the SMZ and OFMC stands t06322w1360427 and t06322w1360395 unharvested. (Note: stands t06322w1360427, t06322w1360395 tagged "under development" in FIM.) In the same timeperiod, 315.5 acres of all other cover types (39% of the entire OFMC) were harvested. The older aspen and scattered leave tree clumps provide important nesting habitat for woodpeckers and winter foraging habitat for ruffed grouse. The Celina Ruffed Grouse Management Area abuts the OFMC on the east; the adjoining cover type in the OFMC is cedar.</p> |

| FUTURE DIRECTION | |
|--|--|
| 10-Year Management Intent | <p>The intent of OFMCs is to enhance the conservation value of designated old-growth and spatially extend their resource values. OFMCs serve policy, management, and ecological purposes. They include three different elements: 1) designated old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics.</p> <ul style="list-style-type: none"> • The intent of this OFMC is to maintain and improve the older forest characteristic over time, and to extend buffering capacity of the area around old growth. • This OFMC will provide older forest habitat for plant and animal species and extend travel corridors and connectivity between contiguous forest areas. • Harvest within the OFMC will promote older growth stage components and biological legacies. • The management plan for the old growth stands is passive management. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Identify NPCs and seek opportunities to retain older forest features of those NPCs • Allow for natural regeneration and conversion of non-forest stands to forest within OFMC • Average stand age will maintain or increase during planning period. • Retain standing coarse woody debris (snags of various decay classes) • Retain down coarse woody debris of various decay classes • Identified I&D concerns should be addressed in management coordination • Retain older trees (wolfy aspen, aging birch, mature conifers and hardwoods) while following STH regimes • Retain low-value trees for structural variation and contribution to woody debris within STH regimes |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Aspen stand t06322w1360378 should be field visited by an interdisciplinary team to devise a management strategy to meet minimum SMZ policy. |
| Future Planning Considerations | |

List of stands by Stand ID from FIM

Old growth stands

SW-155

t06322w1360371

OFMC Stands

t06322w1360345

t06322w1360657

t06222w1010231

t06222w1010003

t06322w1360656

t06322w1360360

t06222w1010051

t06322w1360423

t06222w1010071

t06322w1360341

t06222w1010053

t06322w1360427

t06322w1360391

t06322w1360395

t06322w1360425

t06322w1360426

t06322w1360376

t06222w1010043

t06322w1360344

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t06322w1360354

t06322w1360374

t06322w1360342

t06322w1360679

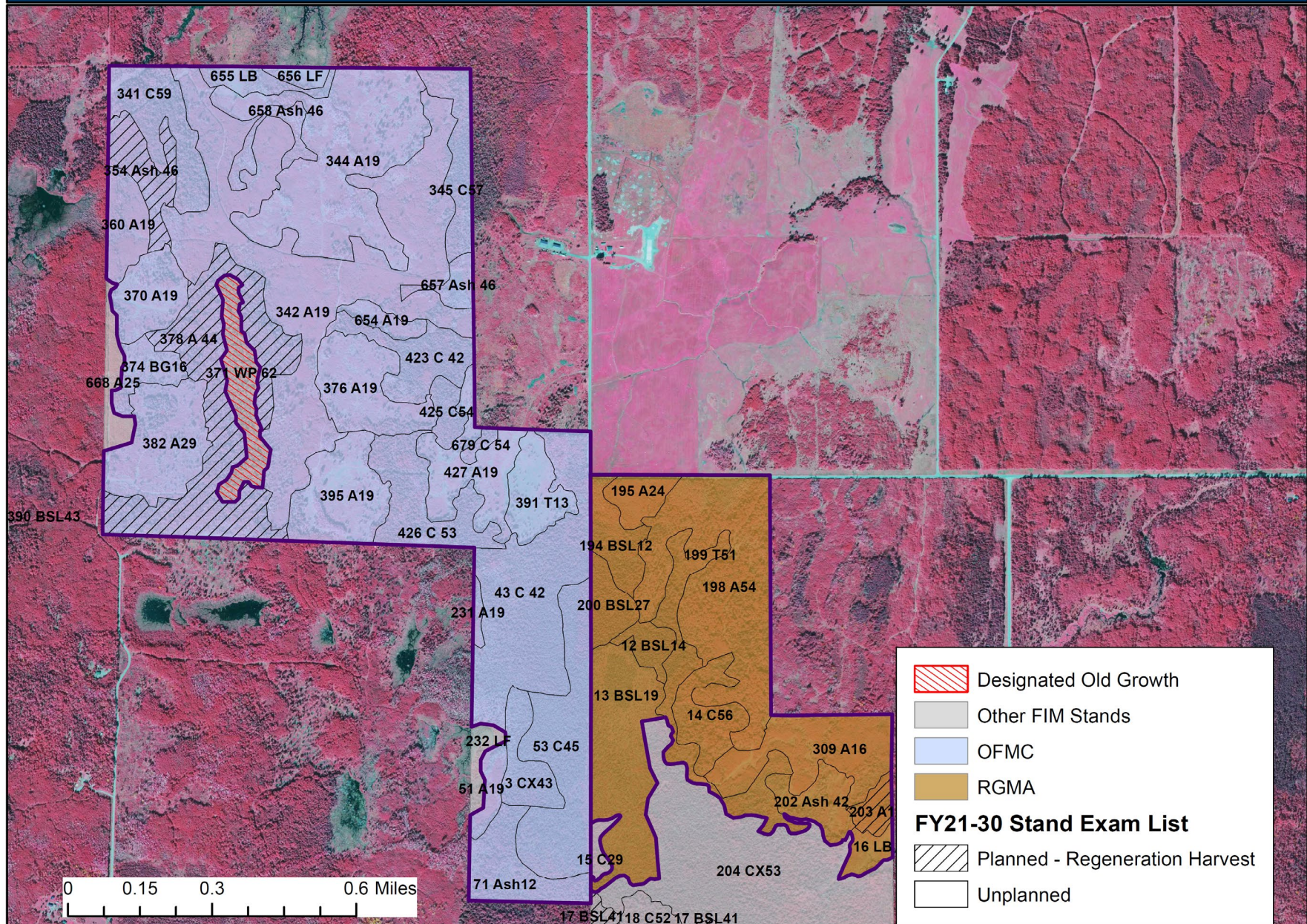
t06322w1360382

t06322w1360370

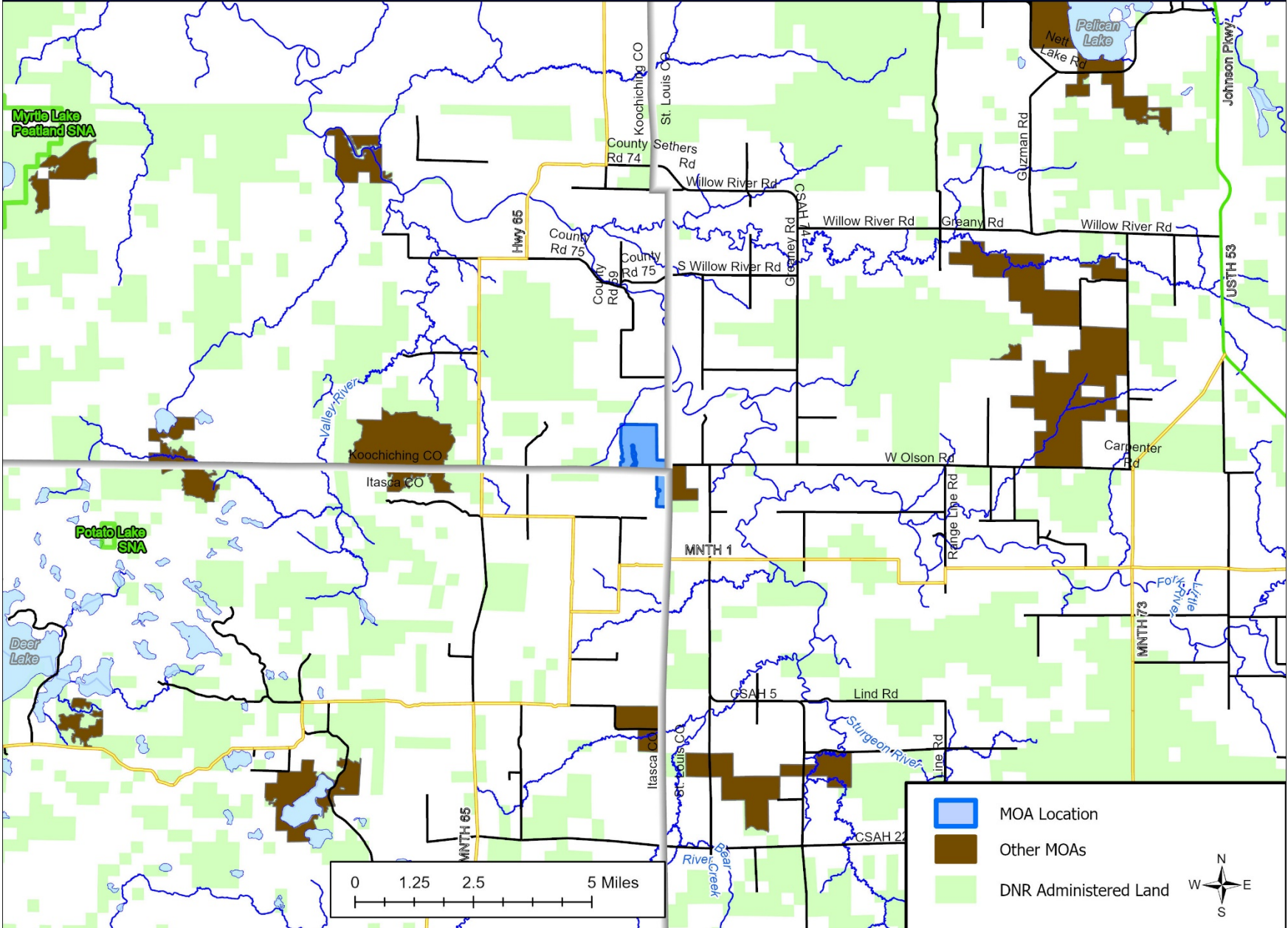
t06322w1360654

t06322w1360378

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Nett Lake Boundary North 1 Old Growth and OFMC (Nett Lake North Boundary East OFMC and Cedar Pole Deer Yard) |
| MOA Type | Old Forest Management Complex (around SW-156) |
| Location (Eco. Section, TRS) | T. 66 N., R. 22 W., Section 23 |
| NPC System | WFN53b, FDn43, FDn32, WFn53 |
| Acres by Land Status | 193 acres School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This OFMC centers on an old growth white pine stand, est. ca. 1895. The average dbh in the OG was 18 inches in 1982. Some stands bordering the old growth stand have white pine with 20-25-inch dbh (as of 2009). Other stands in the OFMC are primarily old cedar and old black spruce. This OFMC is part of a larger deer yard complex. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | <ul style="list-style-type: none">• Encourage development of components of older growth stages in even- and uneven-aged types• Increase the average age and size of white pine and white cedar in the OFMC.• The management plan for the old growth stands is passive management.• Encourage diverse habitat structures for forage, nesting, cover and protection.• Retain components of older growth stages where possible. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Look for ways to increase the average age and size of white pine and white cedar within treatment areas.• Discriminate against non-native tree species if present. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <p>Verify occurrence of Scots pine in stand t06622w1230195; adjust FIM accordingly. Work to remove Scots pine while retaining large diameter white and red pine. If selected stands exceed SMZ policy, this is the preferred stand to treat.</p> |
| Future Planning Considerations | |

List of stands by Stand ID from FIM

Old growth stands

SW-156

t06622w1230183

OFMC Stands

t06622w1230188

t06622w1230326

t06622w1230182

t06622w1230179

t06622w1230153

t06622w1230172

t06622w1230203

t06622w1230327




t06622w1230185

t06622w1230219




t06622w1230195

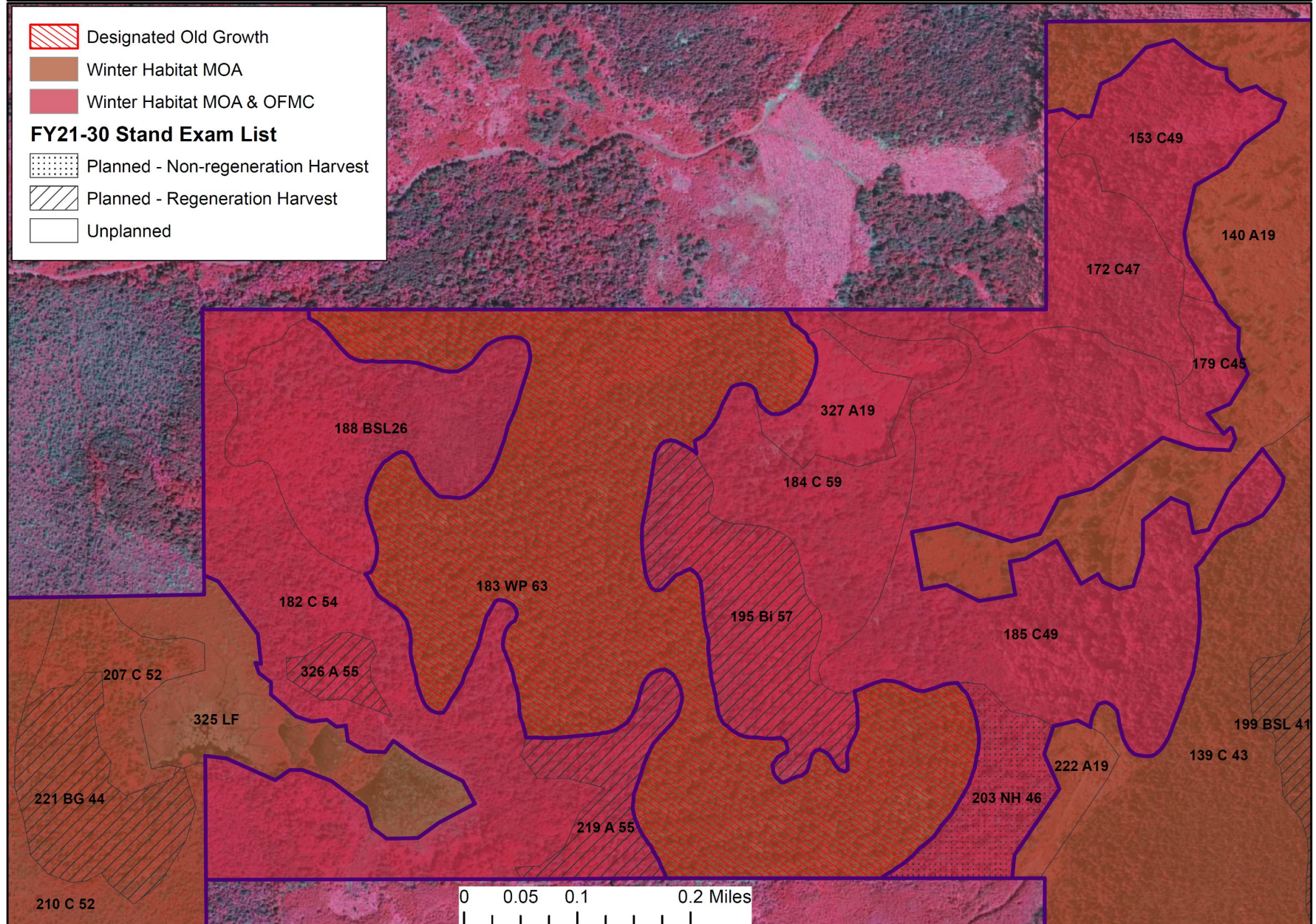
t06622w1230184

LOCAL MOA MAP

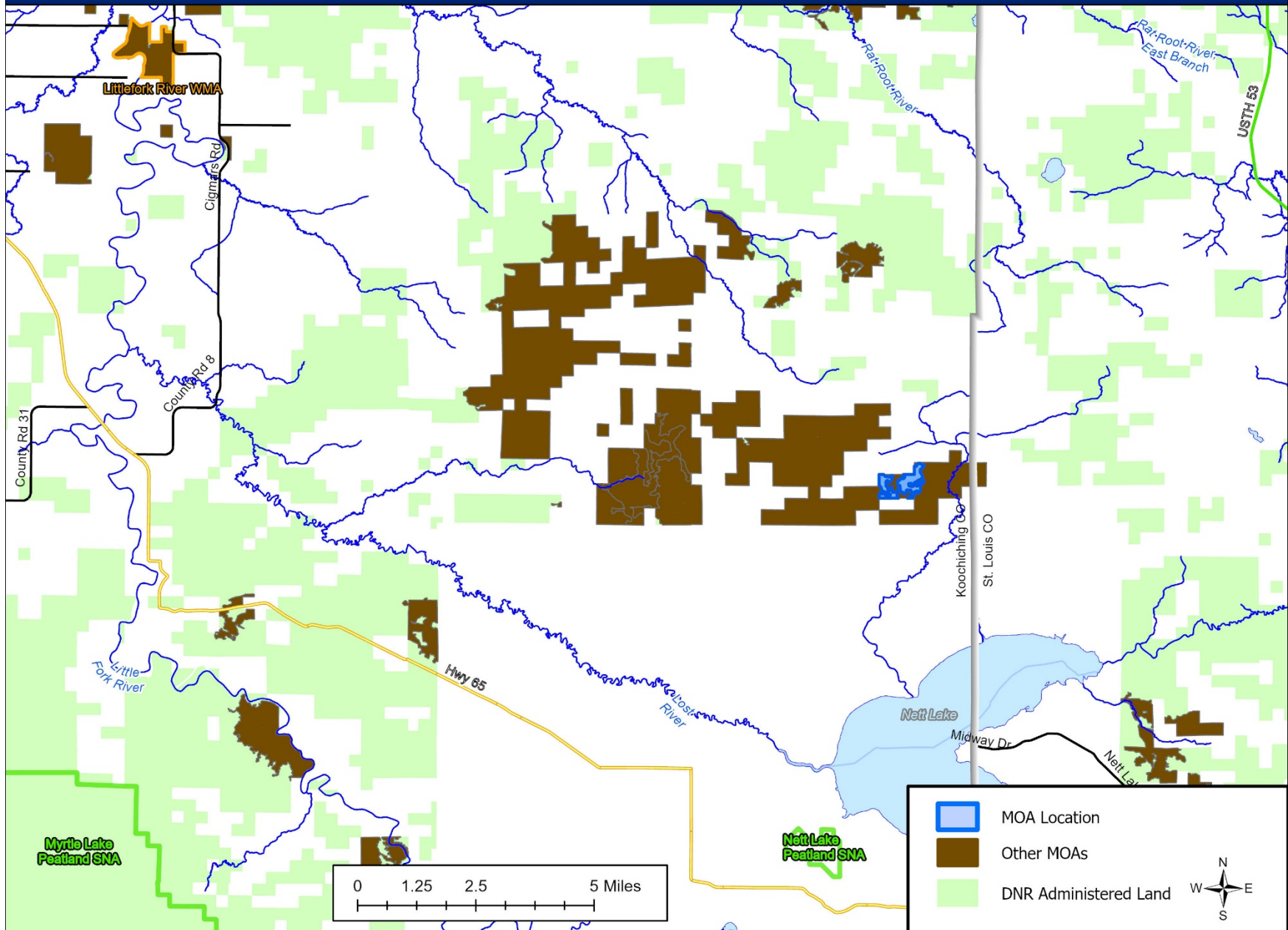
-  Designated Old Growth
-  Winter Habitat MOA
-  Winter Habitat MOA & OFMC

FY21-30 Stand Exam List

-  Planned - Non-regeneration Harvest
-  Planned - Regeneration Harvest
-  Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Nett Lake Boundary North 2 Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around OG2-19 and SW-100) |
| Location (Eco. Section, TRS) | T. 66 N., R. 23 W., Sections 12, 14, 23, 24, and 26 |
| NPC System | Unknown |
| Acres by Land Status (approx.) | 586 acres School Trust, 192 acres ConCon; 778 acres total |
| School trust lands within this MOA | <p>The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i>, including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i>. The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy.</p> |
| Current Conditions | <p>This OFMC centers around two old growth complexes. The north complex contains three cedar stands that date to 1851 and all are on non-Trust land. They are surrounded primarily by cedar with establishment dates ranging from 1832-1861, one stand of black spruce dating to 1830, and one stand of ash dating to 1856.</p> <p>The south complex contains two stands designated for red pine OG. One 4-acre red pine stand dating to 1853, and a jack pine stand dating to 1921. A common feature of both stands are a white pine component with 15-inch DBH. Most of the surrounding stands are old cedar or old black spruce.</p> <p>Part of Cedar Pole Deer Yard.</p> |

| FUTURE DIRECTION | |
|---------------------------|--|
| 10-Year Management Intent | <ul style="list-style-type: none">• Encourage development of components of older growth stages in even- and uneven-aged types• The management plan for the old growth stands is passive management• Create diverse habitat structures for forage, nesting, cover and protection. |

| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Seek multi-age management opportunities - white pine, white cedar, red pine • Retain components of older growth stages. • Manage red and white pine to increase the average DBH and age will increase over the current condition. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Assess aspen stand t06623w1260422 for meeting conversion goals. • Combine white cedar stands that are divided into different stands by section lines into single stands. • Evaluate all stands within this OFMC (including the OG) for their NPC and condition class. |
| Future Planning Considerations | |

Attach a list of stands by Stand ID from FIM

Old growth stands

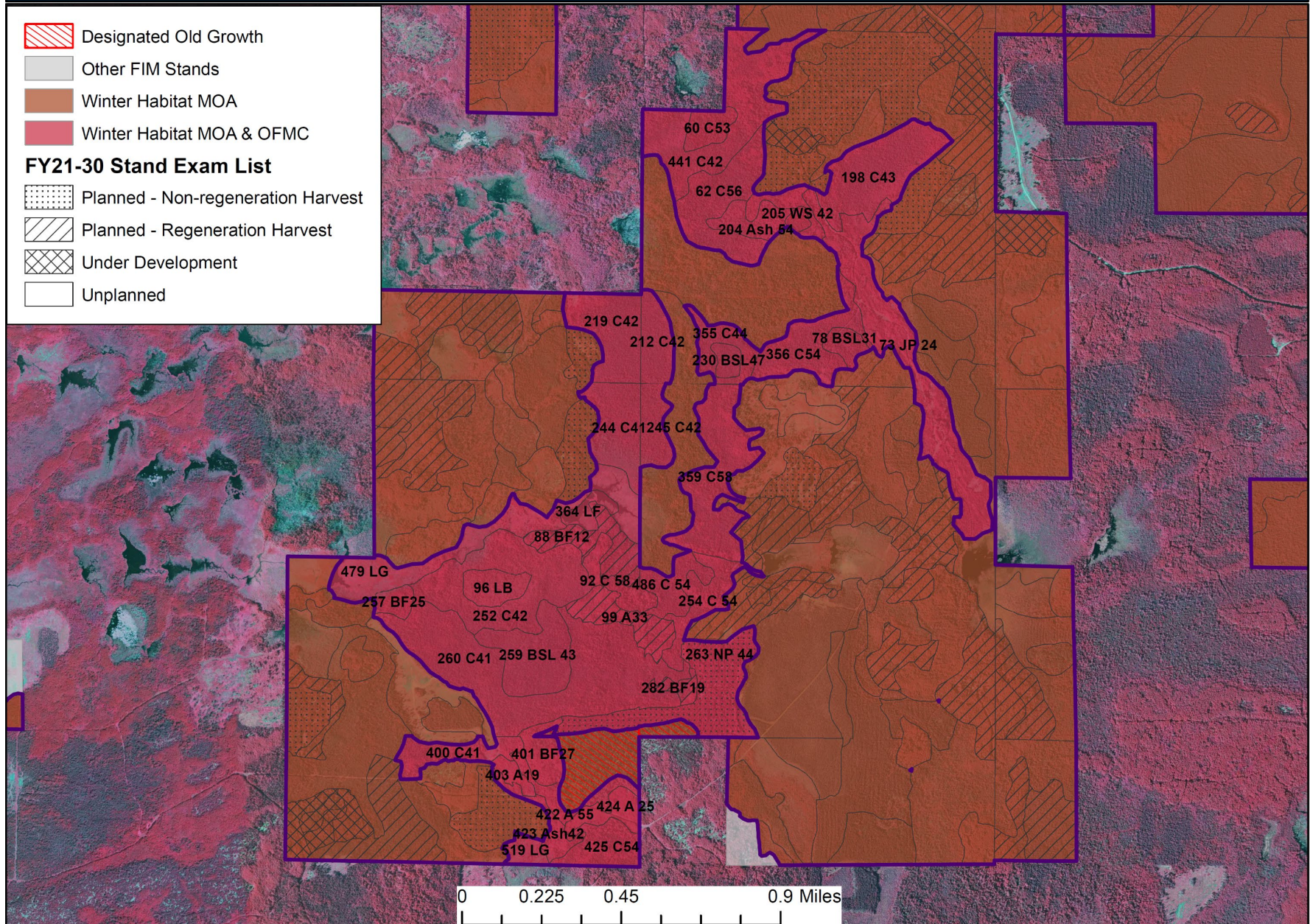
| | | |
|----------------|----------------|----------------|
| SW-100 | t06623w1230259 | t06623w1240254 |
| t06623w1260402 | t06623w1240486 | t06623w1260424 |
| t06623w1240291 | t06623w1130204 | t06623w1130212 |
| | t06623w1130230 | t06623w1260422 |
| OFMC Stands | t06623w1130441 | t06623w1240359 |
| | t06623w1230364 | t06623w1230096 |
| t06623w1130198 | t06623w1130062 | t06622w1240161 |
| t06623w1230092 | t06623w1140219 | t06622w1230183 |
| t06623w1230244 | t06623w1230257 | |
| t06623w1230088 | t06623w1260403 | |
| t06623w1130073 | t06623w1130205 | |
| t06623w1130078 | t06623w1230099 | |
| t06623w1260400 | t06623w1230252 | |
| t06623w1260401 | t06623w1130060 | |
| t06623w1260423 | t06623w1130355 | |
| t06623w1230260 | t06623w1240282 | |
| t06623w1260519 | t06623w1260425 | |
| t06623w1240263 | t06623w1230479 | |
| t06623w1240245 | t06623w1130356 | |

LOCAL MOA MAP

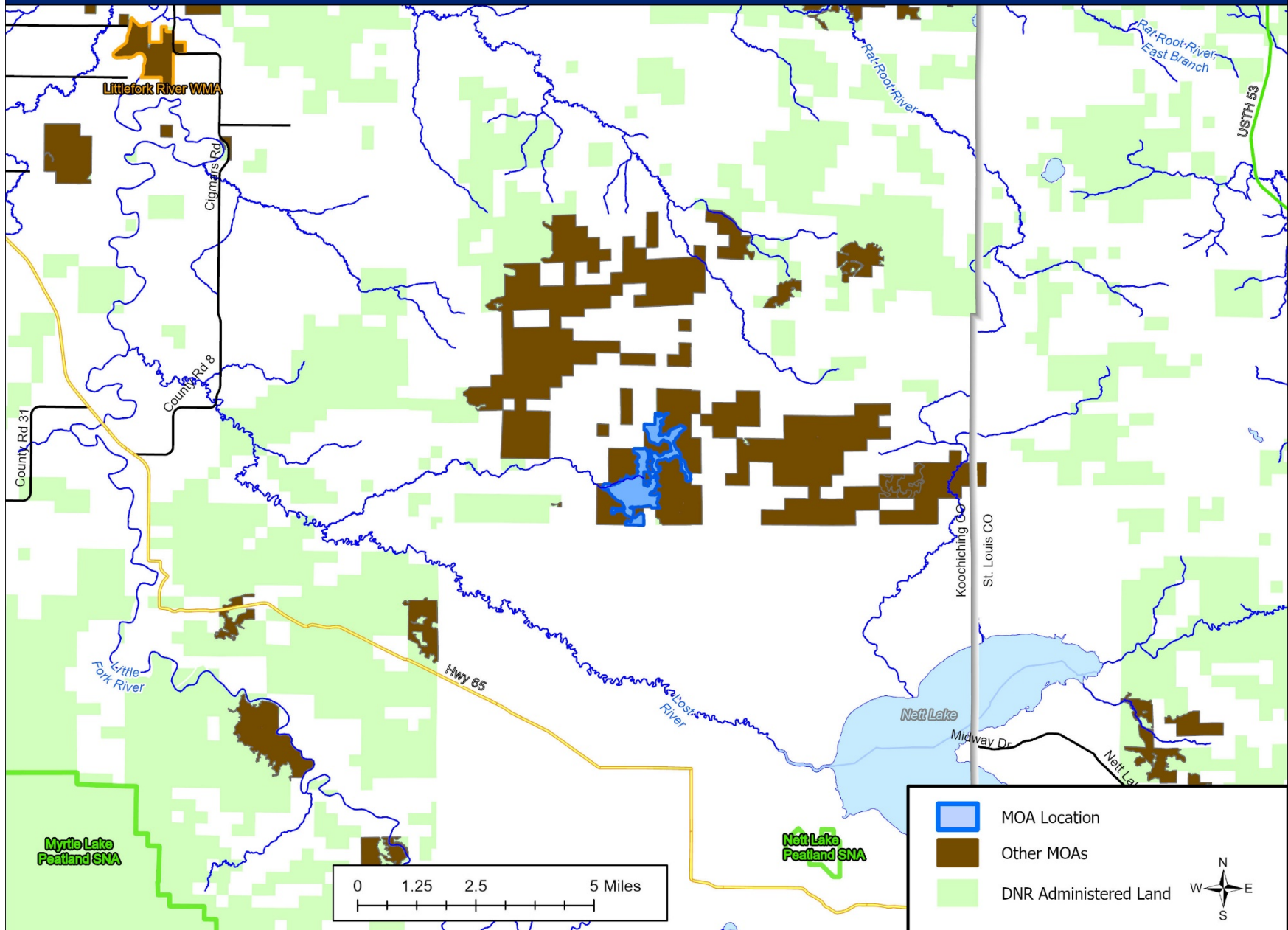
-  Designated Old Growth
-  Other FIM Stands
-  Winter Habitat MOA
-  Winter Habitat MOA & OFMC

FY21-30 Stand Exam List

-  Planned - Non-regeneration Harvest
-  Planned - Regeneration Harvest
-  Under Development
-  Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Nett Lake Boundary West Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around old growth SW-95, SW-101, SW-103) |
| Location (Eco. Section, TRS) | T. 65 N, R. 23 W, Sections 6, 7 |
| NPC System | FDn32, FDn33a, FDn43b, FPN63, WFn53 |
| Acres by Land Status (approx.) | 380 acres, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This OFMC centers around five old growth red pine stands that form three clusters (SW-95, SW-101, SW-103). Some large diameter white pine occur in the old growth stands as well as in some of the stands in the OFMC. The stands comprising the OFMC and SMZ are diverse in species composition and ages. |

| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages in even- and uneven-aged types • Increase average age and size of white and red pine in OFMC. • The management plan for the old growth stands is passive management. • Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Protect and promote advanced conifer regeneration during management. • Consider applying uneven-aged management to stands typically treated with even-aged management. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Evaluate all stands within this OFMC (including the OG) for their NPC to type level and determine their condition class. • Reserve white and red pine as part of the leave tree requirement in non-pine stands selected for treatment (e.g., t06523w1060053) |
| Future Planning Considerations | |

Attach a list of stands by Stand ID from FIM

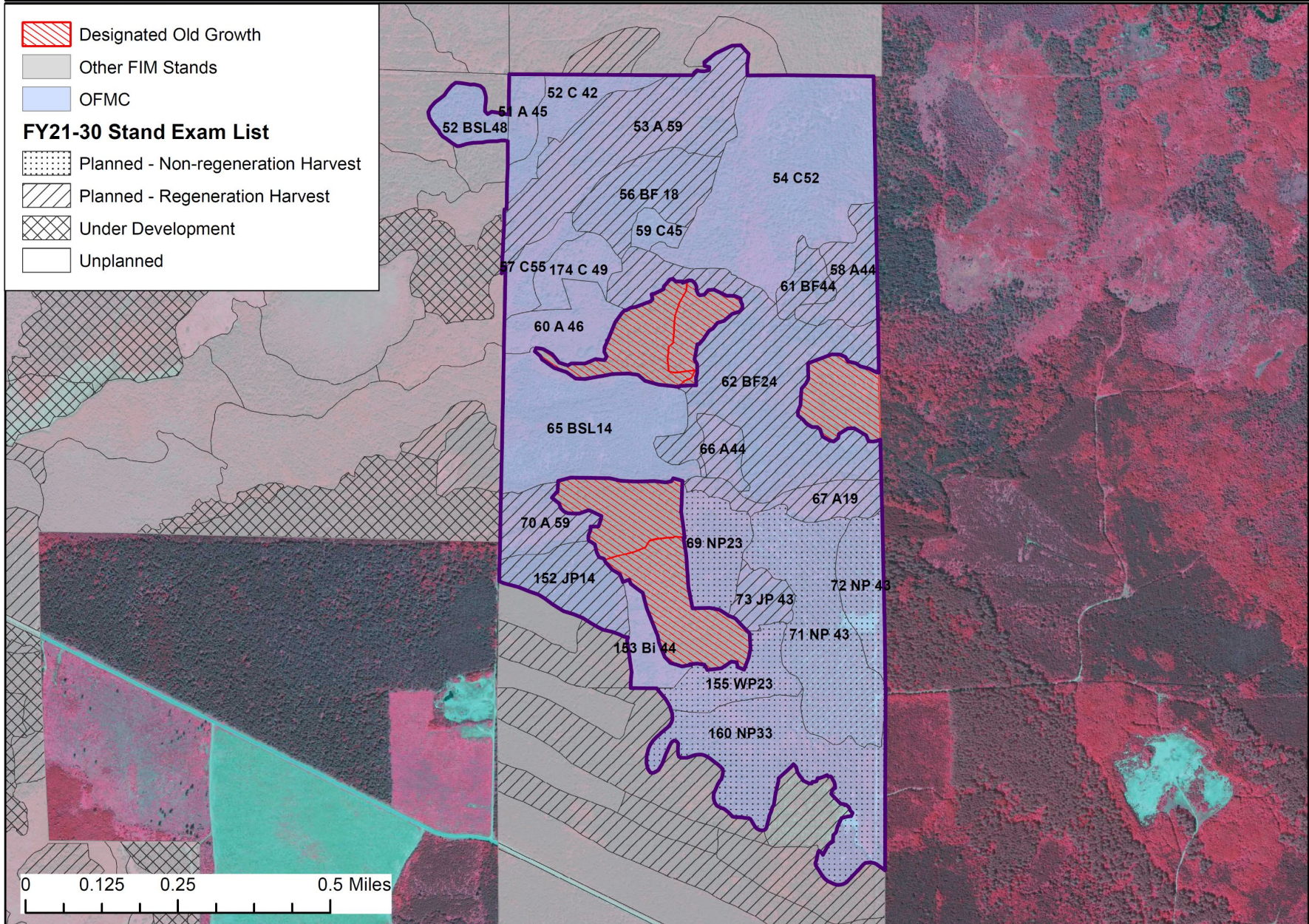
Old growth stands

| | |
|-----------------------|----------------|
| SW-101 | t06523w1060065 |
| t06523w1060007 | t06523w1060059 |
| | t06523w1060066 |
| SW-103 t06523w1060064 | t06523w1060062 |
| t06523w1060063 | t06523w1060155 |
| | t06523w1060072 |
| SW-95 | t06523w1060056 |
| t06523w1060068 | t06523w1060067 |
| t06523w1060151 | |

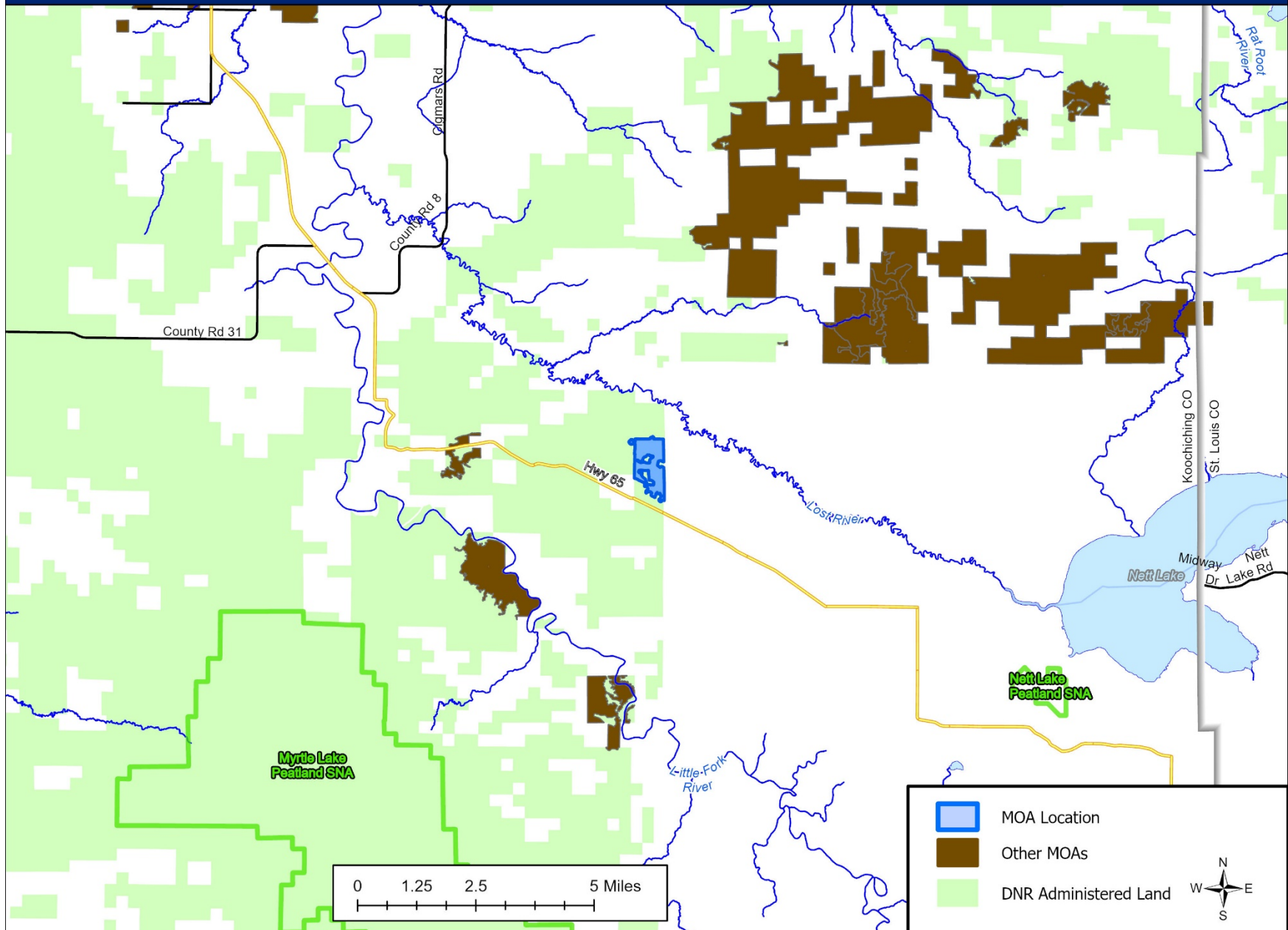
OFMC Stands

t06523w1060054
t06523w1060070
t06523w1060051
t06523w1060052
t06523w1070160
t06523w1060057
t06523w1060174
t06523w1060060
t06523w1060058
t06523w1060069
t06523w1060071
t06523w1060152
t06524w1010052
t06523w1060073
t06523w1060061
t06523w1060153
t06523w1060053

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Norris Camp South Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around AL-NP-15) |
| Location (Eco. Section, TRS) | T159N R35W Sections 3, 4, 5 |
| NPC System | FDn12 FPn63 FPn73a WFn53 FPn73 MRn83 WMn82 FDn32, FDn43 |
| Acres by Land Status (approx.) | 141 acres ConCon, 193 acres LUP; 338 acres total |
| Current Conditions | <p>This OFMC centers on an old-growth red pine stand, established ca. 1887. This MOA is a mix of cover types, primarily even-aged cover types of aspen, jack pine and balsam fir on a variety of S2 plant communities – FDn12, FDn32, and FDn43. It is located southeast of the Norris Camp North OFMC, separated from it by lowland brush.</p> <p>The old growth stand has several inclusions – forest road, primitive campground (planned to be de-commissioned), picnic area, and buildings.</p> <p>Cedar stands are complimentary for fisher and marten habitat, and provide connections to the old growth stand. Stand t15935w1040166 - white cedar, and stand t15935w1040132 – white spruce, are unique and have complex structure. Currently, known rare features in the MOA include least moonwort (SPC), and northern long ear bat (FED).</p> |

| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage development of components of older growth stages • Maintain integrity of S1/S2 ranked NPCs. • Retain Old forest characteristics in stands with active management • The management plan for the old growth stand is passive management. • Create diverse habitat structures for forage, nesting, cover and protection. • Retain the ability to harvest timber to promote MOA objectives • Maintain jack pine acreage conifer species |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Determine condition class for S1/S2 NPCs. • Implement BMPs for northern long-eared bat on managed stands. • Retained Wildlife corridors between cedar stands and old growth stands. • Intermediate treatments to replicate natural disturbance regimes may be done to increase within stand diversity and structure • Favor pine in regeneration and reserves over balsam fir. |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Protect, maintain, or enhance endangered, threatened, and special concern species and their habitats in the Section. • Protect, maintain or enhance rare native plant communities in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Wildlife corridor is retained between cedar stands and old growth stand through aspen stand t15935w1040137. • Consider actively managing balsam fir stands on the north side of OFMC to enhance pine components in the NPC. |
| Future Planning Considerations | |

List of stands by Stand ID from FIM



Old growth stands

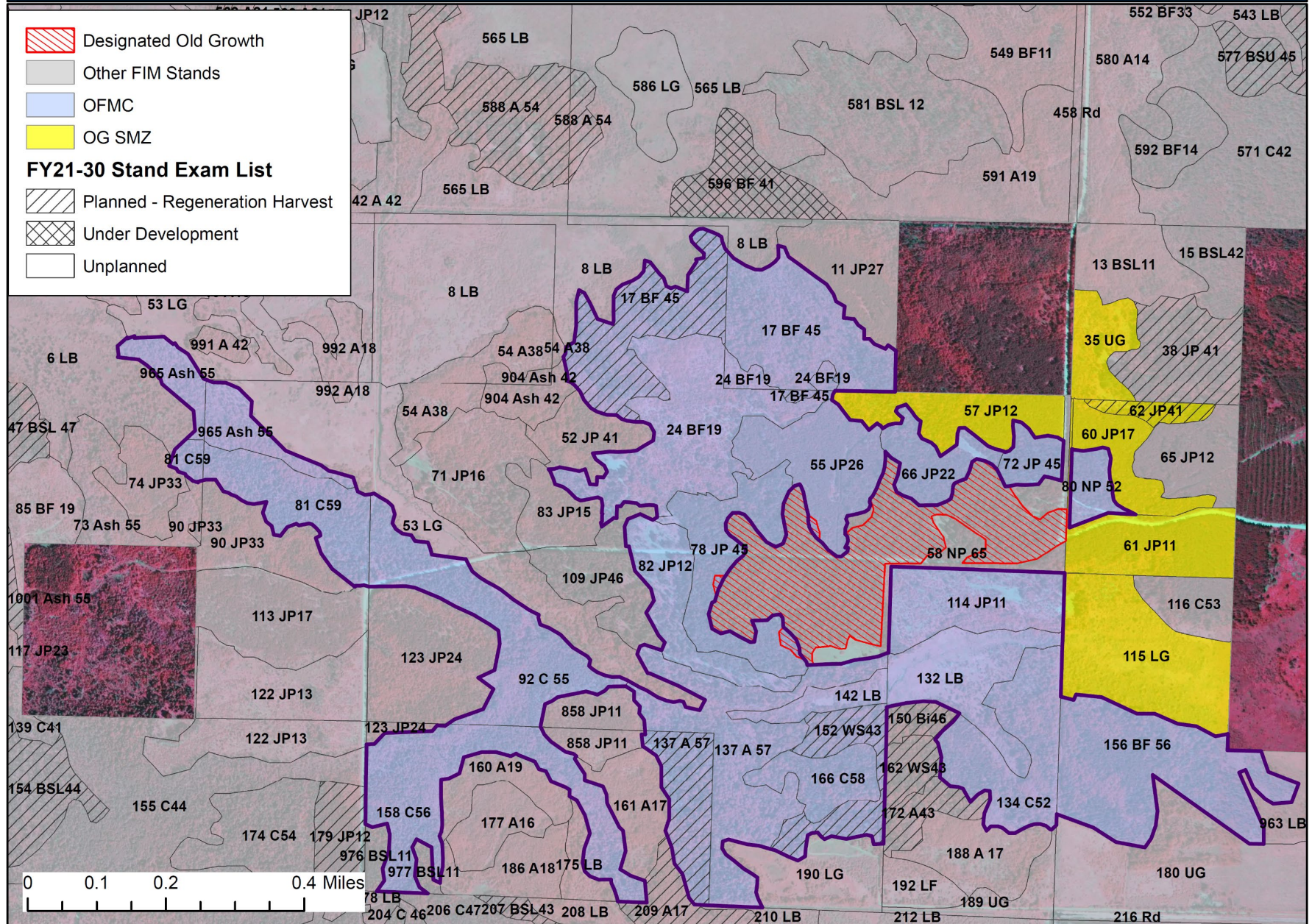
| | |
|----------------|----------------|
| AL-NP-015 | t15935w1040072 |
| t15935w1040058 | t15935w1040017 |
| | t15935w1040017 |
| OFMC Stands | t15935w1040152 |
| | t15935w1040024 |
| t15935w1040134 | t15935w1040166 |
| t15935w1030035 | t15935w1040137 |
| t15935w1030060 | t15935w1040082 |
| t15935w1030062 | t15935w1050081 |
| t15935w1030080 | t15935w1050965 |
| t15935w1040132 | t15935w1040078 |
| t15935w1030156 | t15935w1040055 |
| t15935w1040114 | t15935w1040092 |
| t15935w1030061 | t15935w1040142 |
| t15935w1040017 | |
| t15935w1040024 | |
| t15935w1040024 | |
| t15935w1040158 | |
| t15935w1040137 | |
| t15935w1050081 | |
| t15935w1050965 | |
| t15935w1040066 | |
| t15935w1040057 | |

LOCAL MOA MAP

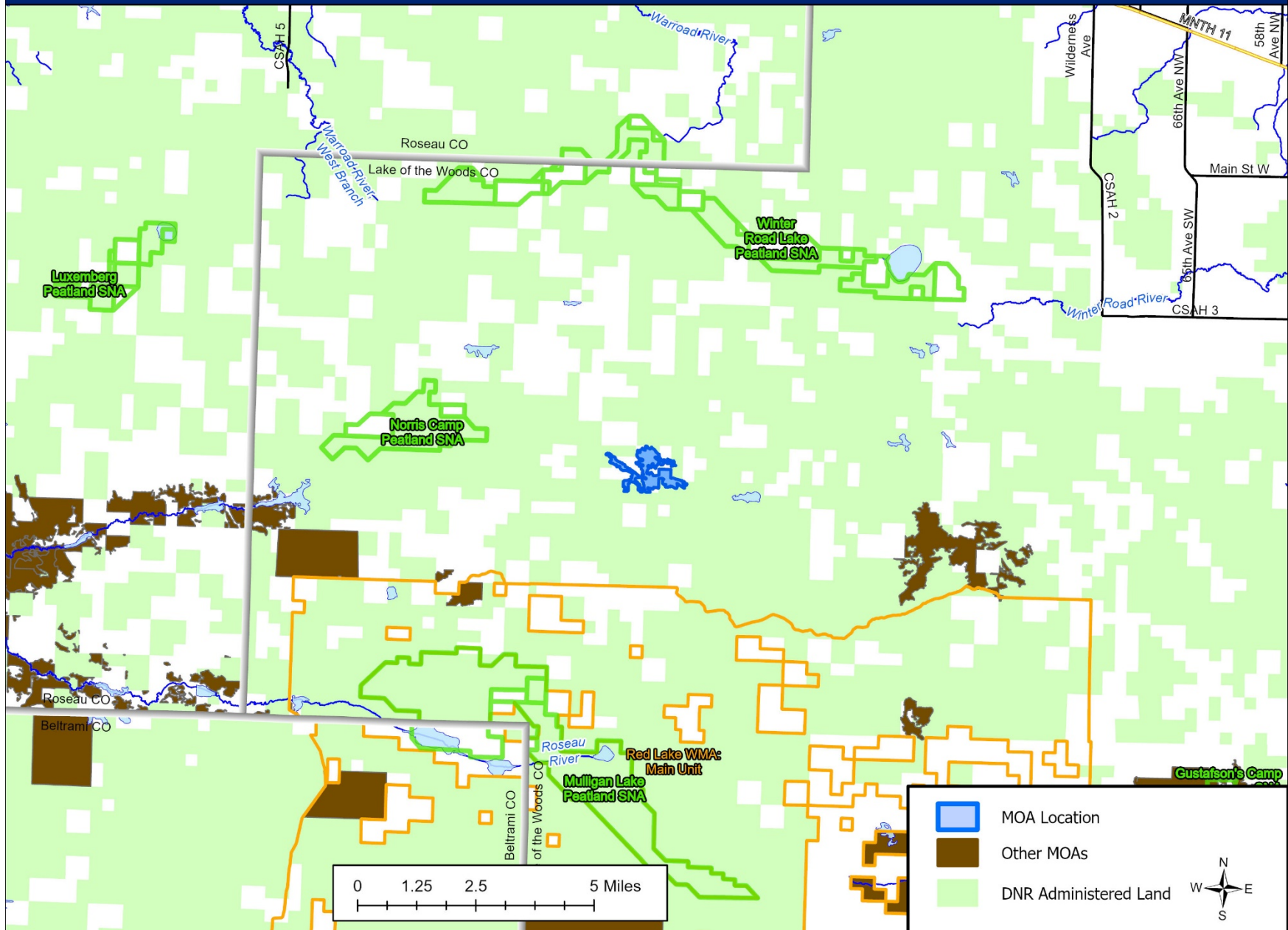
-  Designated Old Growth
-  Other FIM Stands
-  OFMC
-  OG SMZ

FY21-30 Stand Exam List

-  Planned - Regeneration Harvest
-  Under Development
-  Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Rapid River East Old Growth and OFMC |
| MOA Type | Old Forest Management Complex |
| Location (Eco. Section, TRS) | T157N, R32W; T157N, R33W; T158N, R32W (note: there are 27 sections within this OFMC, not listed here.) Within Red Lake WMA Supplemental Unit and the Beltrami Island State Forest. |
| NPC System | APn81, FFn57, FFn57a, FPn63, FPn73, FPn82, MHn44, MHn46, OPn81, OPn81a, WFn53, WFn64, WFn64a, WMn82 |
| Acres by Land Status (approx.) | LUP Land (376 acres), Consolidated Conservation land (2,700 acres) 3,077 acres total |
| Current Conditions | <p>This OFMC is primarily composed of Consolidated Conservation land falling within the Beltrami Island State Forest and Red Lake WMA Supplemental Unit. This OFMC also contains acres of federal lease lands managed for wildlife. The OFMC consists primarily of older growth types such as lowland conifer, ash, oak, and lowland hardwoods or younger growth types such as aspen that have secondary components that make them suitable for management towards older growth types. The OFMC is located along the Rapid River between two existing old growth complexes (ash to the west, ash and oak to the east). Significant bur oak and silver maple components have been identified in many of the stands within the OFMC. Bur oak and silver maple are uncommon within the NMOP planning area and are species that provide considerable wildlife benefits through mast and cavity production. There are seven old growth stands in the east end of the OFMC (t15732w1030318, t15732w1030091, t15732w10203308, t15732w1020637, t15732w1020009, t15732w1020010, and t15832w1350805). These stands are cover typed as ash, American elm, and bur oak, with some aspen and paper birch. They total 332 acres, and their dominant cover types were established from ca. 1878- ca. 1960. There are eight old growth stands in the west end of the OFMC (t15733w1210252, t15733w1160229, t15733w1170220, t15733w1200245, t15733w1200546, t15733w1170184, t15733w1200260, and t15733w1170189). Except for the latter two stands, these are all stands cover typed as American elm (with an 11" dbh in 1982) with ash as a second species, with most having an establishment date of ca. 1887 and some with an establishment date of ca. 1909. The latter two stands are younger and dominated by aspen, although one has American elm as the second species. Additional adjoining stands of the same establishment dates (1887, 1909) and species compositions are not currently designated old growth.</p> |

| FUTURE DIRECTION | |
|--|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> • Encourage the development of components of older growth stages within stands of even- and uneven-aged types • Promote diversity to enhance resilience to environmental disturbance e.g, EAB • Promote older growth stages in stands within the OFMC beyond old growth stands and SMZs • Maintain or increase connectivity between old growth habitat patches. • The management plan for the old growth stands is passive management. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Increase within-stand diversity ahead of potential emerald ash borer issues • Place reserve areas to maintain corridors between stands • Look for opportunities to Increase silver maple and bur oak when managing stands • Use reserves to the extent possible to retain corridors and connectivity between existing old growth complexes and to serve as a corridors for wildlife species that favor older growth stage characteristics. (Ex. fisher) • Convene Area Team and seek guidance form Regional Old Growth Committee on how to comply with SMZ policy regarding 25% rule. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • There may be opportunity to continue coordination with old growth and LCOG committees: <ul style="list-style-type: none"> ○ Redraw stand boundaries in the western OG complex (OG 11-02, OG 2-51) to remove the boundaries based upon section lines to reflect actual stand conditions. ○ Evaluate stands adjoining old growth in the western complex for potential old growth. |
| Future Planning Considerations | <ul style="list-style-type: none"> • Evaluate whether old complex at west end of OFMC should have additional stands added. |

List of stands by Stand ID from FIM

Old growth stands

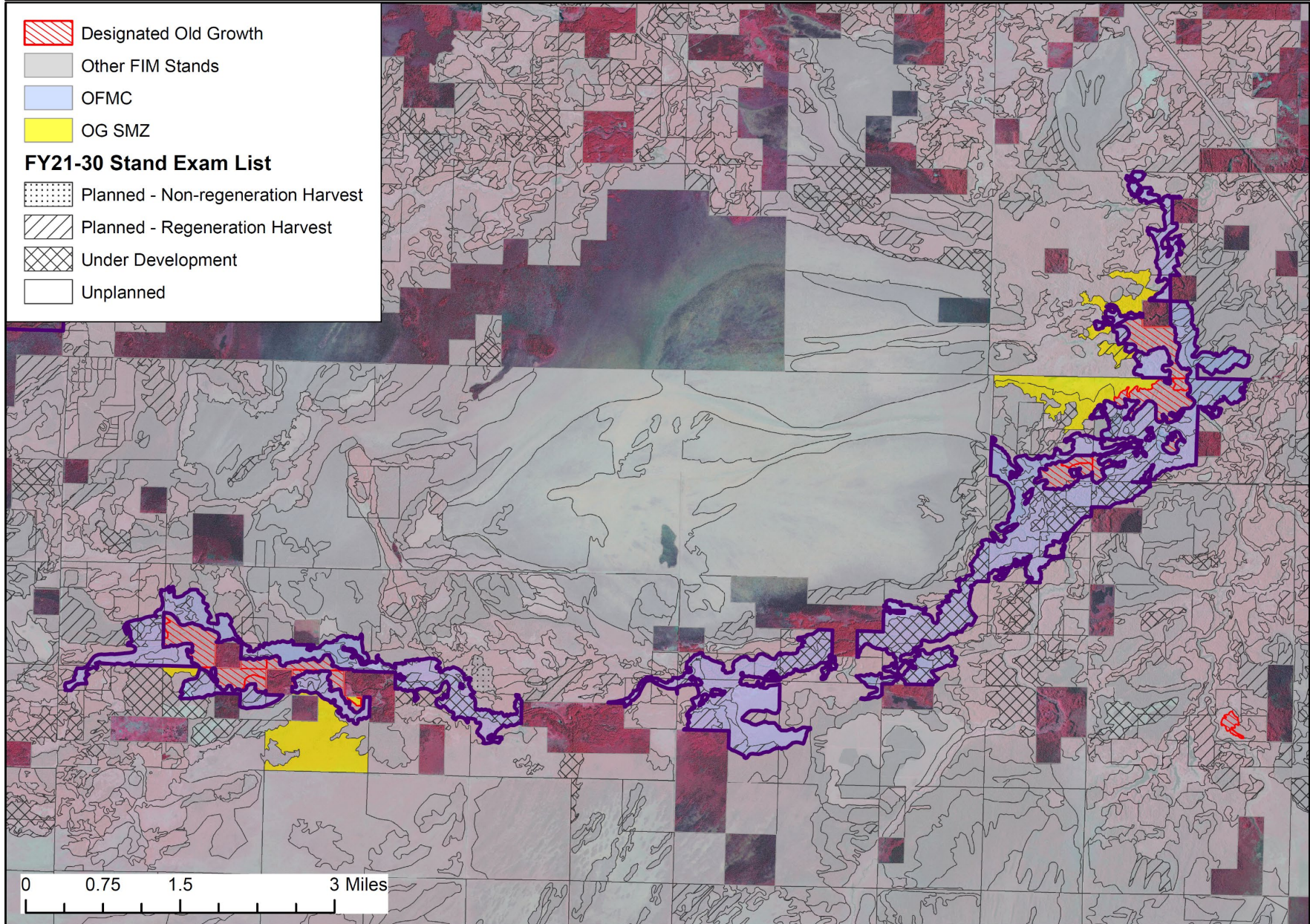
| | | | |
|--------------------|----------------|----------------|-------------------------|
| <u>AL-LH-392</u> | t15732w1010012 | t15732w1160553 | t15732w1170376 |
| t15732w1030318 | t15732w1010025 | t15732w1180694 | t15732w1180695 |
| | t15732w1020054 | t15732w1170408 | t15732w1200690 |
| <u>AL-LH-5</u> | t15732w1020676 | t15732w1170408 | t15732w1180631 |
| t15732w1020010 | t15732w1020635 | t15733w1230317 | t15732w1170385 |
| t15732w1020009 | t15732w1020055 | t15733w1240557 | t15732w1180630 |
| t15832w1350805 | t15732w1020031 | t15733w1240557 | t15732w1170621 |
| | t15732w1020034 | t15733w1150232 | t15732w1180694 |
| <u>AL-O-004</u> | t15732w1020048 | t15733w1220526 | t15732w1180390 |
| t15732w1020637 | t15732w1020307 | t15733w1210272 | t15732w1170408 |
| | t15732w1020306 | t15733w1170586 | t15732w1170393 |
| <u>AL-LH-6</u> | t15732w1020069 | t15733w1200244 | t15733w1240557 |
| t15732w1030091 | t15732w1020633 | t15733w1210264 | t15733w1200282 |
| t15732w1020308 | t15732w1020634 | t15733w1180227 | t15733w1210293 |
| | t15732w1110337 | t15733w1180216 | t15733w1180216 |
| <u>OG2-51</u> | t15732w1030632 | t15733w1180216 | t15733w1180199 |
| t15733w1200245 | t15732w1100338 | t15733w1160559 | t15733w1200587 |
| t15733w1200546 | t15732w1030102 | t15733w1170221 | t15733w1180190 |
| | t15732w1100335 | t15733w1170542 | t15733w1170167 |
| <u>OG11-02</u> | t15732w1100332 | t15733w1170187 | t15733w1200281 |
| t15733w1200260 | t15732w1030315 | t15733w1170223 | t15733w1180558 |
| t15733w1170220 | t15732w1030067 | t15733w1210248 | t15733w1180205 |
| t15733w1170184 | t15732w1110521 | t15733w1200587 | t15733w1150232 |
| t15733w1170189 | t15732w1020314 | t15733w1150588 | t15733w1150232 |
| t15733w1210252 | t15732w1020042 | t15733w1210544 | t15732w1160553 |
| t15733w1160229 | t15732w1030090 | t15733w1220560 | t15732w1100348 |
| | t15832w1350585 | t15733w1160210 | t15732w1100348 |
| <u>OFMC Stands</u> | t15832w1350291 | t15733w1210250 | t15732w1110521 |
| t15732w1020013 | t15832w1260863 | t15733w1170543 | t15732w1110521 |
| t15732w1100543 | t15732w1020317 | t15733w1160218 | |
| t15732w1100542 | t15732w1020312 | t15733w1180190 | <u>Stands that only</u> |
| t15732w1100340 | t15832w1350856 | t15733w1170167 | <u>contain SMZ</u> |
| t15732w1020326 | t15732w1090349 | t15733w1170181 | |
| t15732w1020076 | t15732w1190203 | t15733w1170541 | t15732w1030006 |
| t15732w1100339 | t15732w1200690 | t15733w1210278 | t15732w1030720 |
| t15832w1260706 | t15732w1200690 | t15733w1200243 | t15732w1030720 |
| t15732w1020099 | t15732w1190715 | t15733w1150241 | t15733w1210288 |
| t15732w1030316 | t15732w1190716 | t15733w1170173 | t15832w1350570 |
| t15832w1350286 | t15732w1180631 | t15732w1100543 | t15832w1350570 |
| t15832w1350561 | t15732w1160587 | t15732w1100542 | t15832w1350554 |
| t15832w1350292 | t15732w1160568 | t15732w1030068 | t15733w1210296 |
| t15732w1030087 | t15732w1190228 | t15732w1030632 | t15733w1200242 |
| t15832w1350576 | t15732w1190436 | t15732w1100338 | |
| t15832w1350575 | t15732w1190208 | t15732w1100338 | |
| t15832w1360586 | t15732w1190717 | t15732w1030102 | |
| t15832w1350588 | t15732w1190718 | t15732w1100335 | |
| t15732w1100117 | t15732w1160592 | t15732w1030067 | |
| t15832w1350556 | t15732w1180630 | t15732w1100532 | |
| t15732w1100348 | t15732w1180630 | t15732w1100344 | |

LOCAL MOA MAP

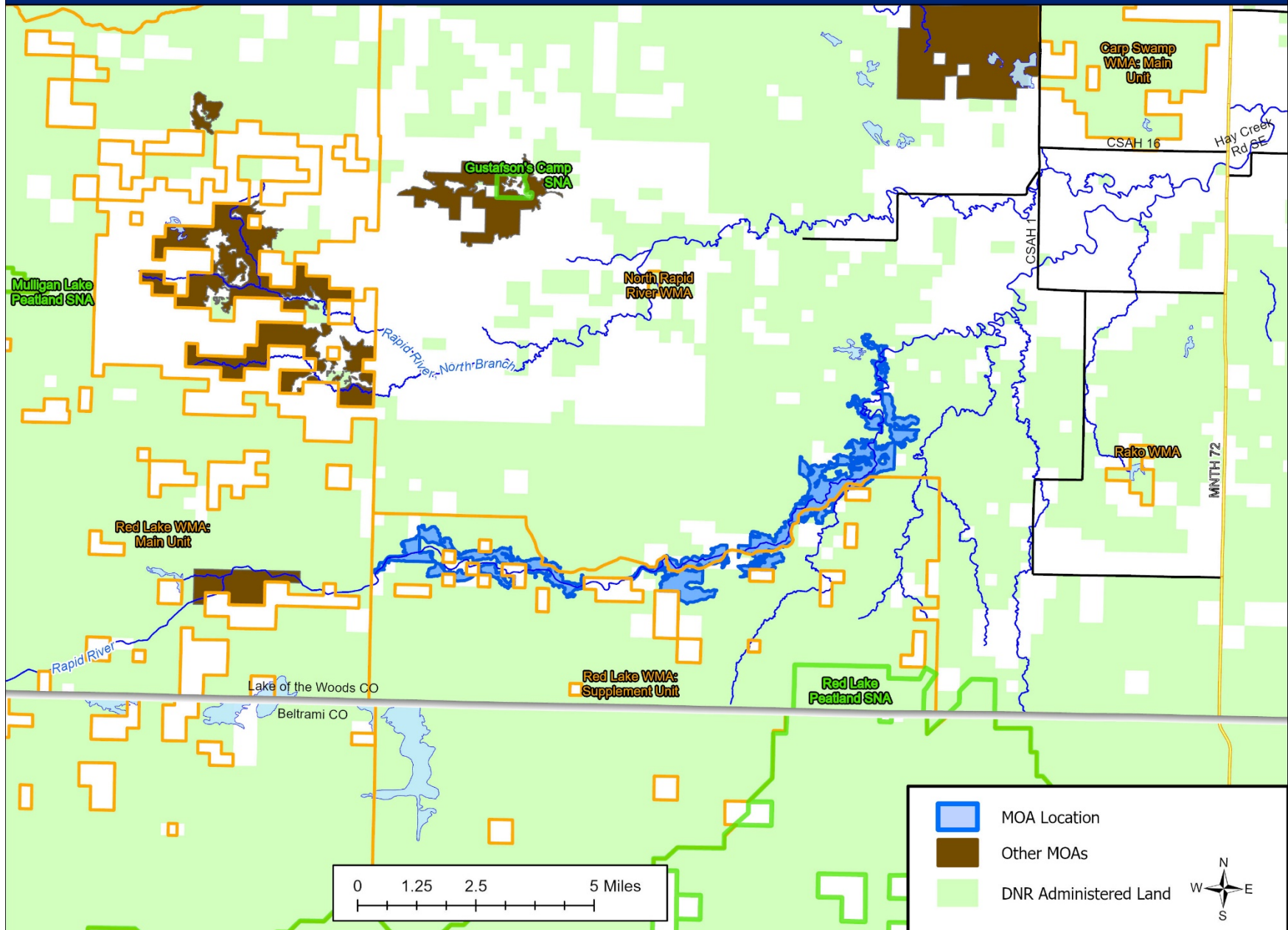
-  Designated Old Growth
-  Other FIM Stands
-  OFMC
-  OG SMZ

FY21-30 Stand Exam List

-  Planned - Non-regeneration Harvest
-  Planned - Regeneration Harvest
-  Under Development
-  Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Rapid River West Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around AL-WS-010) |
| Location (Eco. Section, TRS) | T159 R34 Section s33 |
| NPC System | Unknown |
| Acres by Land Status (approx.) | 122 acres ConCon, 70 acres LUP; 192 acres total |
| Current Conditions | <p>This OFMC centers around two old growth white spruce stands, not balsam poplar as FIM indicates. The stands originated ca 1920. The two old growth stands are surrounded by aspen and upland and lowland conifer types.</p> <p>The OFMC abuts and overlaps (by 116 acres) a proposed LCOG designation of 1861 acres.</p> |

| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <ul style="list-style-type: none">• Encourage development of components of older growth stages in even- and uneven-aged types.• The management plan for the old growth stands is passive management.• Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Retain old forest characteristics in stands with active management.• Create and retain cavity trees and wildlife travel corridors within the OFMC. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Ensure older forest stands and older forest characteristics within stands are distributed across the landscape.• Represent all native plant community class growth stages on state lands to the extent possible.• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |

| FUTURE DIRECTION | |
|---|--|
| Future Planning Considerations (optional) | |

List of stands by Stand ID from FIM

Old growth stands

AL-WS-010

t15934w1330597

t15934w1330595

OFMC Stands

t15934w1331138

t15934w1330599

t15934w1330645

t15934w1330588

t15934w1330568

t15934w1330582

t15934w1330574

t15934w1330592

t15934w1330589

t15934w1330593

t15934w1330631

t15934w1330588

t15934w1330568

t15934w1330582

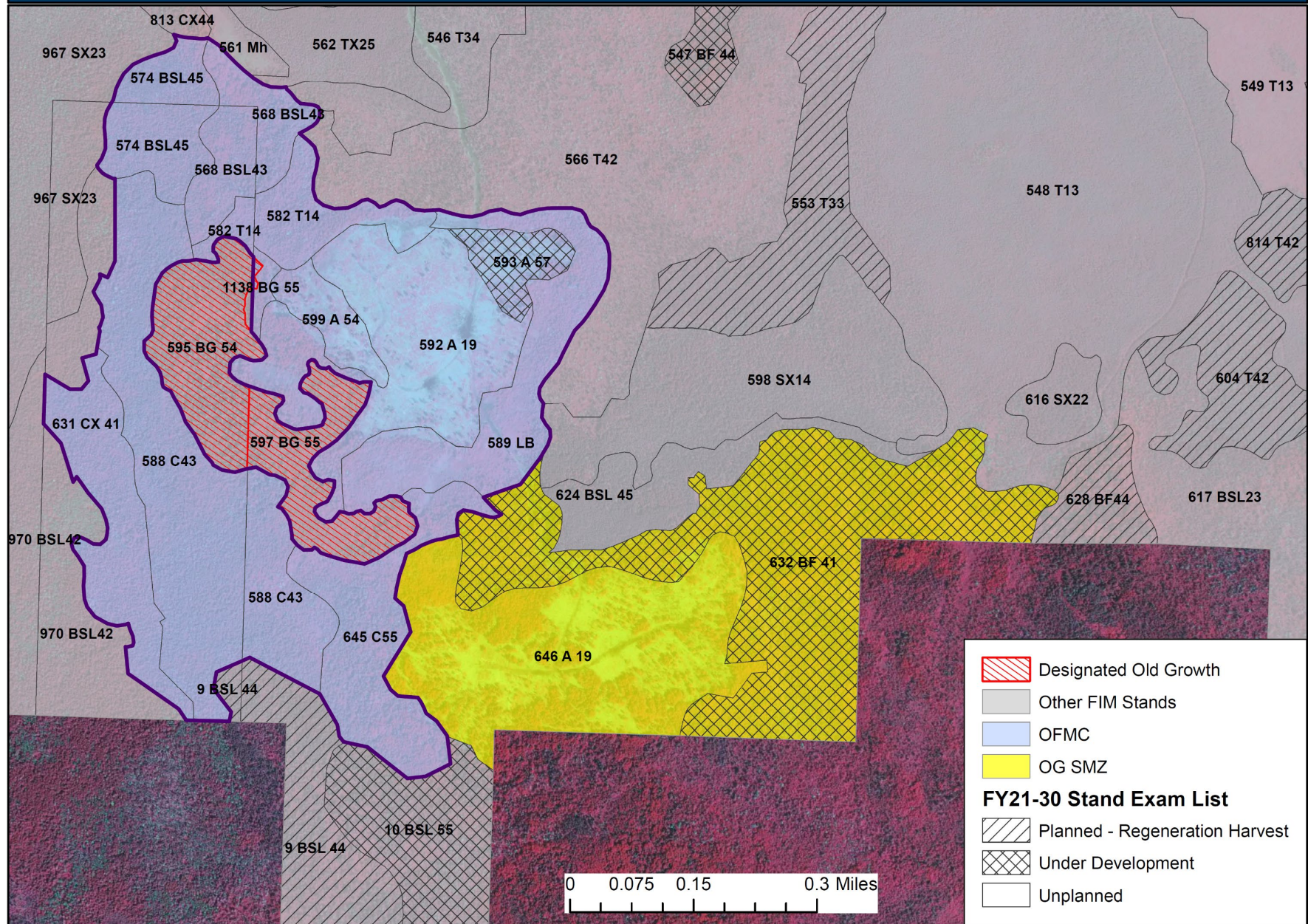
t15934w1330574

Stands that only contain SMZ

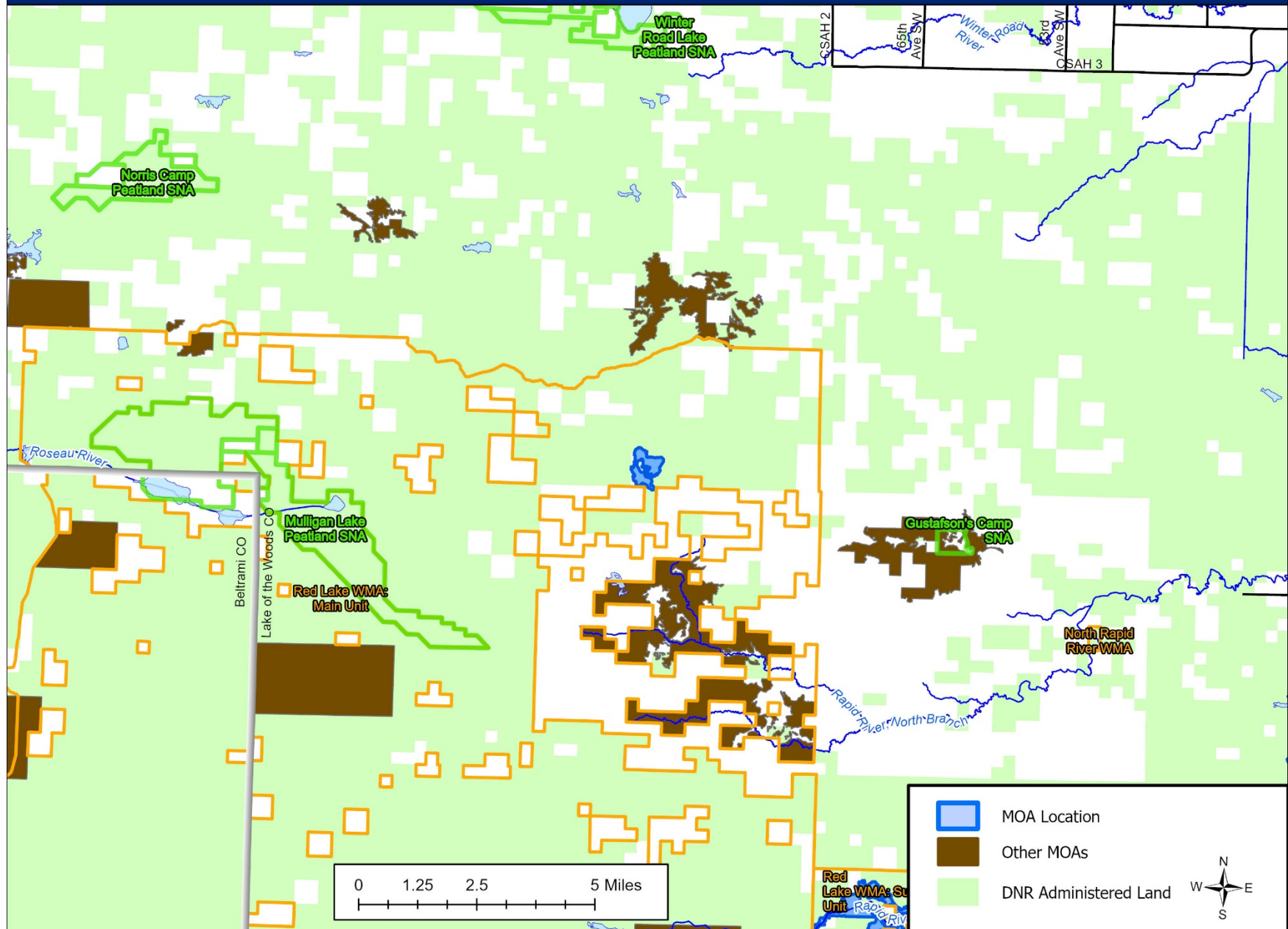
t15934w1330646

t15934w1330632

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Stotts Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around AL-WC-009) |
| Location (Eco. Section, TRS) | T159 R37 Sections 16, 17, 19, 20 |
| NPC System | FDn12, FDn43, MHn44, WFn53, WFW54, WMn82 |
| Acres by Land Status (approx.) | 75 acres ConCon, 514 acres LUP (total 590) |
| Current Conditions | <p>The complex centers around three old growth white cedar stands, established circa 1882 to 1890. Surrounding stands consist of cedar, lowland brush, aspen, balsam fir, red pine and black spruce.</p> <p>Least and pale moonwort (both SPC) are found in several locations adjacent to this OFMC.</p> |

| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> Encourage development of components of older growth stages in even- and uneven-aged types. Maintain wildlife corridors between OFMC stands and old growth stands. The management plan for the old growth stands is passive management. Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> Maintain wildlife corridors between OFMC stands and old growth stands Retain old forest characteristics in stands with active management. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. Represent all native plant community class growth stages on state lands to the extent possible. Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> Aspen stand 561 (t15937w1200561) should be evaluated for conversion to long lived conifers. Continue to support the AFMP. |

| FUTURE DIRECTION | |
|---|--|
| Future Planning Considerations (optional) | |

List of stands by Stand ID from FIM

Old growth stands

AL-WC-009

t15937w1200557

t15937w1170503

t15937w1170497

OFMC Stands

t15937w1200561

t15937w1200580

t15937w1200560

t15937w1200599

t15937w1200570

t15937w1170504

t15937w1170458

t15937w1200566

t15937w1170499

t15937w1200555

t15937w1200585

t15937w1170507

t15937w1170518

t15937w1170521

t15937w1170466

t15937w1200560

t15937w1200599

t15937w1200582

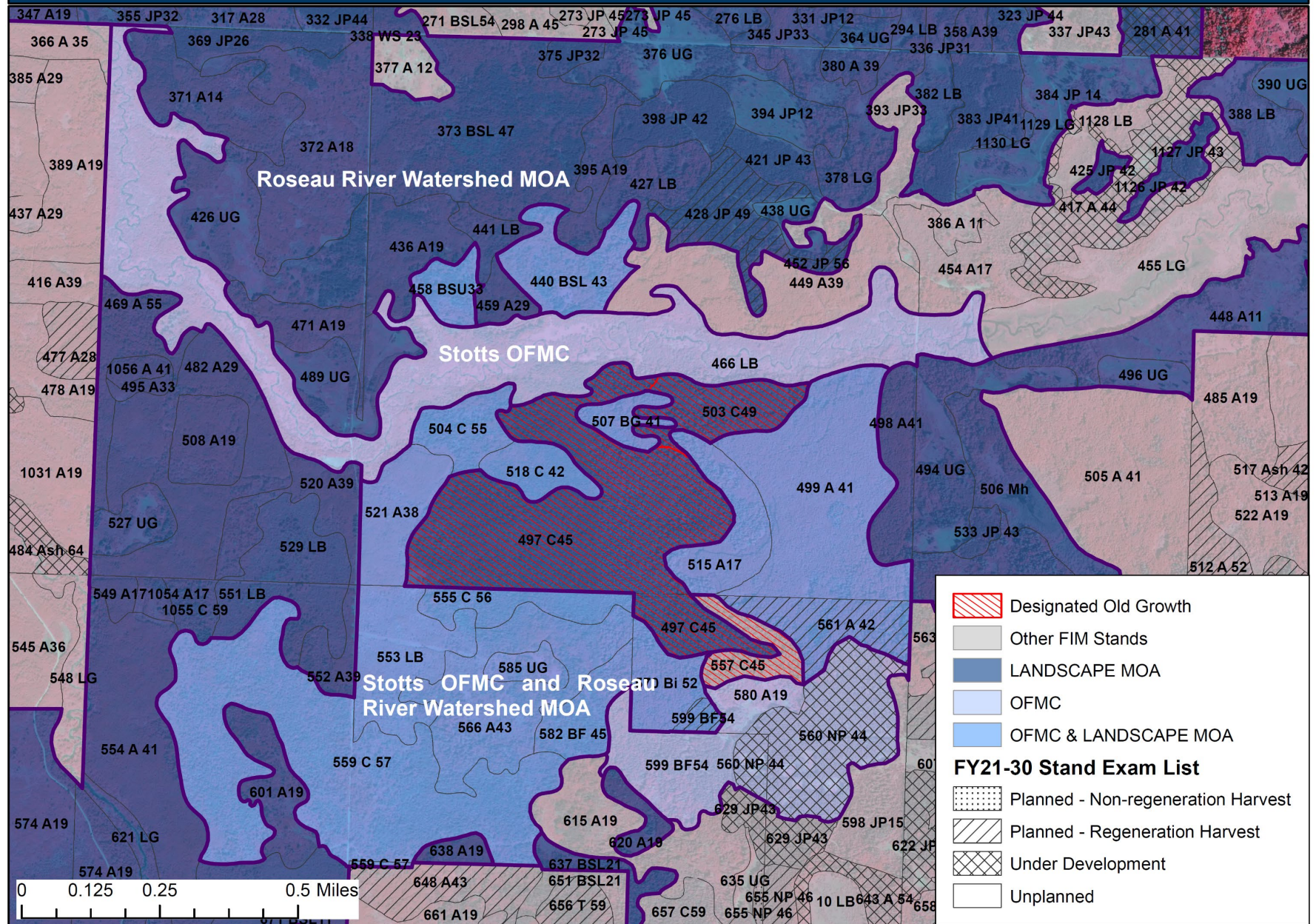
t15937w1170515

t15937w1170440

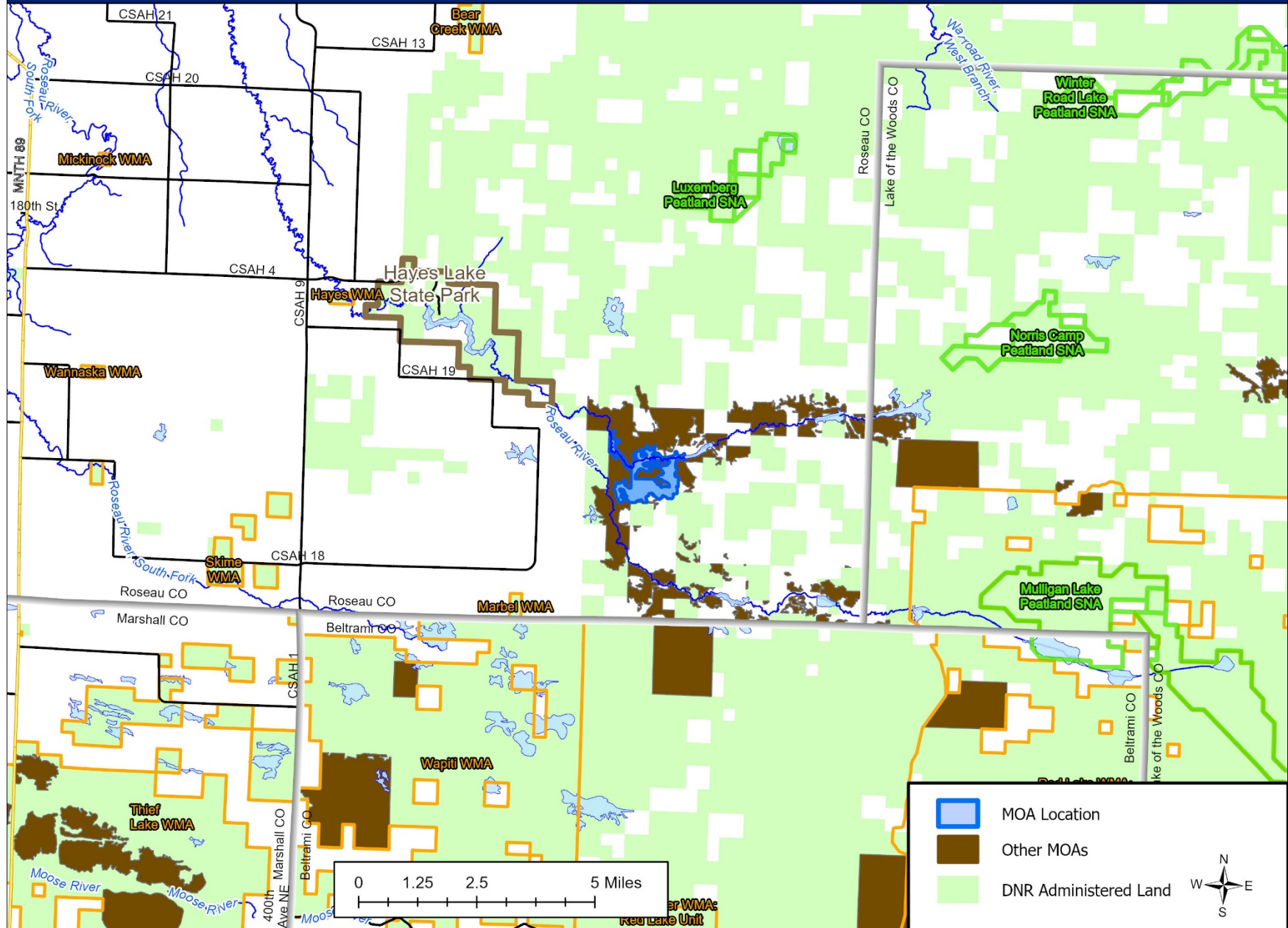
t15937w1200553

t15937w1190559

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Thistledew Lake Old Growth and OFMC |
| MOA Type | Old Forest Management Complex (around old growth SW-134) |
| Location (Eco. Section, TRS) | T 61 N, R. 23 W, Sections 1, 2, 3, 10, 11 |
| NPC System | Coon Lake Till Plain (primary), Rauch Till Plain (secondary) |
| Acres by Land Status (approx.) | 431 acres acquired, 479 acres School Trust (909 acres total) |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This OFMC centers around Thistledew Lake and seven stands designated for red pine old-growth, and is within the Thistledew Lake State Game Refuge. Red pine is the FIM cover type in two stands. Red pine stand t06123w1020089 was established ca. 1844. Red pine stand t06123w1020755 was established ca. 1909. The other five stands, with red pine are cover typed as aspen or jack pine in FIM, and date to 1899-1924. Much of the acreage on the south and west side of the OFMC is non-forested, and several of the forested stands on the south end have been harvested fairly recently. Stands located between the designated old growth and Thistledew Lake consist mostly of red pine dating from 1813-1844-1899, and jack pine dating to 1833. There is an existing road (551) along the east side of the old growth. |

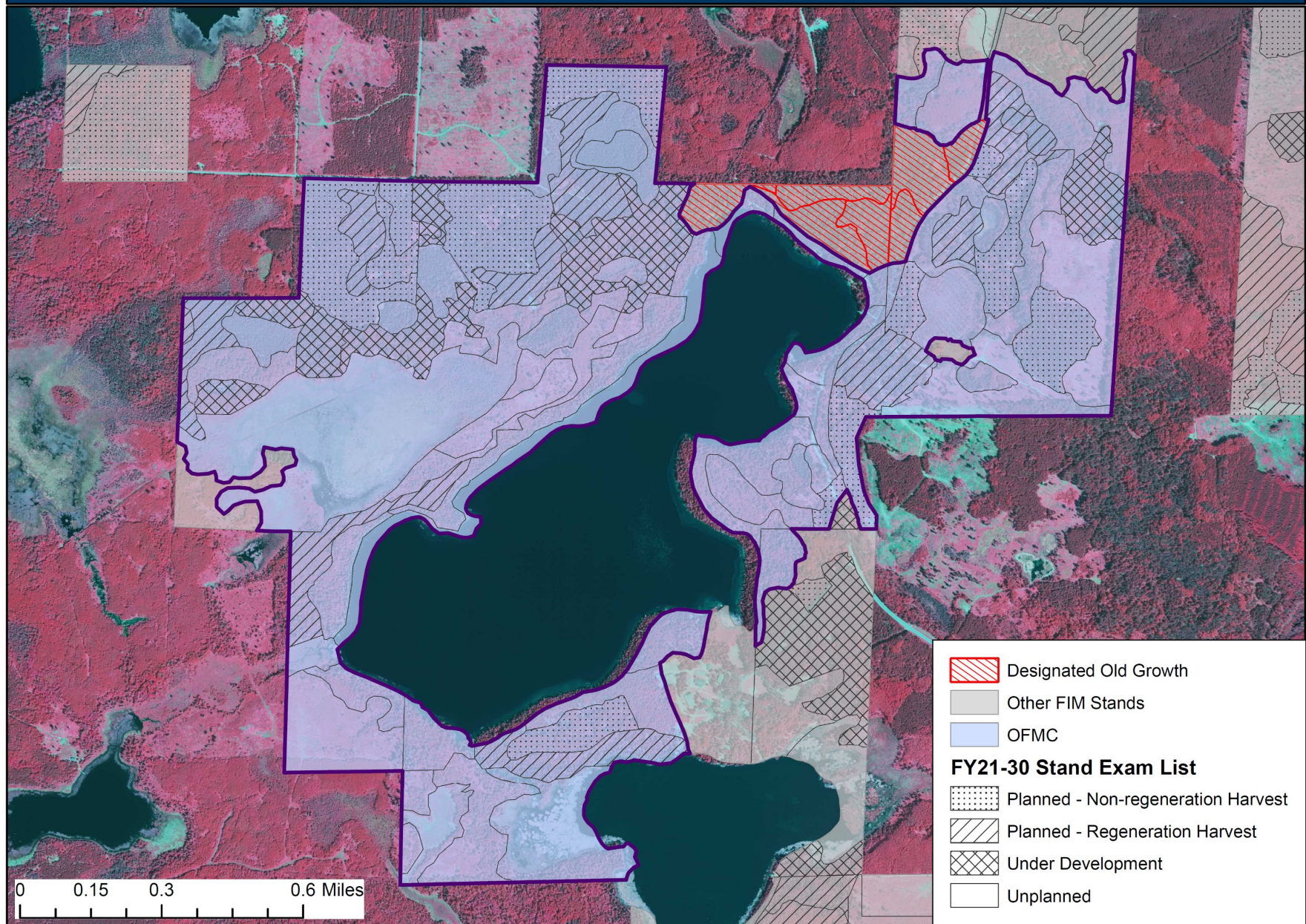
| FUTURE DIRECTION | |
|----------------------------------|---|
| 10-Year Management Intent | <p>The intent of OFMCs is to enhance the conservation value of designated old-growth and spatially extend their resource values. OFMCs serve policy, management, and ecological purposes. They include three different elements: 1) designated old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics.</p> <ul style="list-style-type: none"> The intent of this OFMC is to maintain and improve the older forest characteristic over time, and to extend buffering capacity of the area around old growth. |

| FUTURE DIRECTION | |
|--|---|
| 10-Year Management Intent (cont.) | <ul style="list-style-type: none"> • This OFMC will provide older forest habitat for plant and animal species and extend travel corridors and connectivity between contiguous forest areas. • Harvest within the OFMC will promote older growth stage components and biological legacies. • This OFMC provides educational, recreation and forest research opportunities. • The management plan for the old growth stands is passive management. • Manage stands around Thistledew Lake and along Road 551 to maintain the high scenic, recreational, and wildlife values of the area. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Identify NPCs and seek opportunities to retain older forest features of those NPCs • Allow for natural regeneration and conversion of non-forest stands to forest within OFMC • Average stand age will maintain or increase during planning period. • Retain standing coarse woody debris (snags of various decay classes) • Retain down coarse woody debris of various decay classes • Identified I&D concerns should be addressed in management coordination • Retain older trees (wolfy aspen, aging birch, mature conifers and hardwoods) while following STH regimes • Retain low-value trees for structural variation and contribution to woody debris within STH regimes • Favor leave trees and reserve areas within the SMZ. • Coordinate management approaches on stands that span school trust and acquired statuses. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Recommend that stands t06123w1010677, t06123w1020678, t06123w1020995, and t06123w1020996, located between the designated old growth and Thistledew Lake be evaluated for old growth designation (and update FIM). |
| Future Planning Considerations (optional) | |

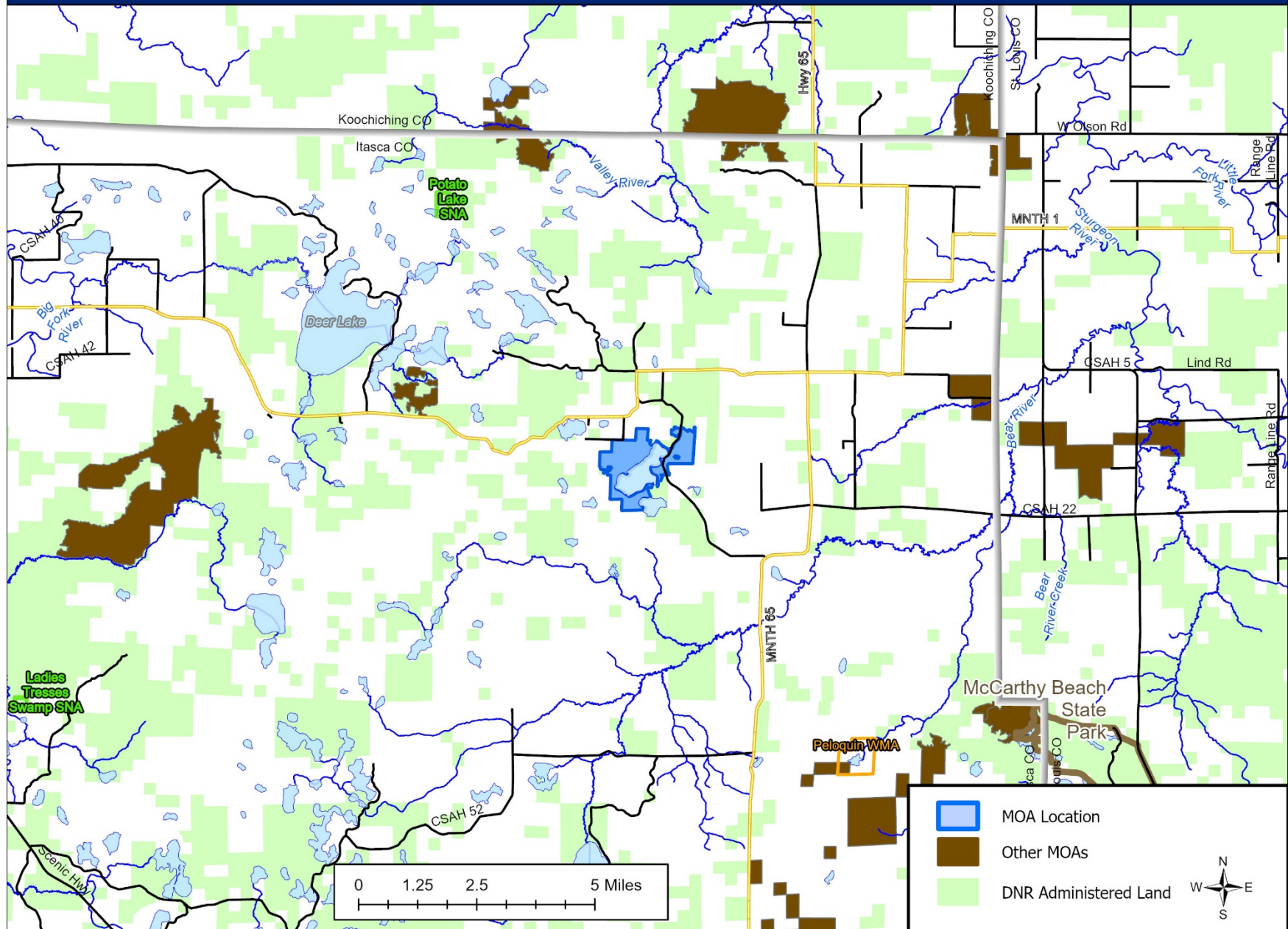
List of stands by Stand ID from FIM

| | |
|----------------|----------------|
| t06123w1010677 | t06123w1021046 |
| t06123w1010679 | t06123w1030721 |
| t06123w1010684 | t06123w1030757 |
| t06123w1010750 | t06123w1030758 |
| t06123w1010752 | t06123w1030759 |
| t06123w1010754 | t06123w1030765 |
| t06123w1010772 | t06123w1030767 |
| t06123w1010773 | t06123w1030768 |
| t06123w1010848 | t06123w1030771 |
| t06123w1010849 | t06123w1030776 |
| t06123w1010851 | t06123w1031035 |
| t06123w1010852 | t06123w1031036 |
| t06123w1010853 | t06123w1031037 |
| t06123w1010854 | t06123w1100239 |
| t06123w1010855 | t06123w1100730 |
| t06123w1010856 | t06123w1100781 |
| t06123w1010857 | t06123w1100802 |
| t06123w1010858 | t06123w1100803 |
| t06123w1010860 | t06123w1101039 |
| t06123w1010861 | t06123w1101045 |
| t06123w1011008 | t06123w1110270 |
| t06123w1020044 | t06123w1110276 |
| t06123w1020051 | t06123w1110694 |
| t06123w1020053 | t06123w1110695 |
| t06123w1020055 | t06123w1110697 |
| t06123w1020058 | t06123w1110698 |
| t06123w1020088 | t06123w1110700 |
| t06123w1020090 | t06123w1110702 |
| t06123w1020097 | t06123w1110703 |
| t06123w1020099 | t06123w1110783 |
| t06123w1020106 | t06123w1110785 |
| t06123w1020117 | t06123w1110789 |
| t06123w1020118 | t06123w1110790 |
| t06123w1020678 | t06123w1110798 |
| t06123w1020681 | t06123w1110986 |
| t06123w1020720 | t06123w1110992 |
| t06123w1020723 | t06123w1110993 |
| t06123w1020766 | t06123w1111017 |
| t06123w1020775 | |
| t06123w1020995 | |
| t06123w1020996 | |
| t06123w1021001 | |
| t06123w1021016 | |
| t06123w1021038 | |
| t06123w1021044 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Upper Red Lake Old Growth and OFMC |
| MOA Type | Old Forest Management Complex |
| Location (Eco. Section, TRS) | T155N, R32W, Sections 19, 20, 28, 29, 30, 31, 32, 33 |
| NPC System | Unknown |
| Acres by Land Status (approx.) | Con Con (1,988 acres) within Red Lake WMA Supplemental Unit, LUP (37 ac); 2,025 acres total |
| Current Conditions | <p>This OFMC is primarily lowland conifers, white cedar and tamarack and marsh. Larger diameter old growth trees provide cavity nesting habitat for ducks and other species. There are seven contiguous old growth stands running parallel to the Upper Red Lake shoreline, comprising 255 acres of lowland hardwoods established between ca. 1873 and ca. 1939. All of these stands are dominated by ash, and several have various components of American elm, aspen, birch, Balm of Gilead, bur oak, sugar maple and basswood. An existing access road runs through the seven contiguous old growth stands. An eighth, disjoint stand of old growth lowland hardwoods covers 11 acres, was established ca. 1942, and contains ash, elm, aspen, birch, and Balm of Gilead.</p> |
| FUTURE DIRECTION | |
| 10-Year Management Intent | <ul style="list-style-type: none">• The intent of the OFMC is to maintain or increase older growth stage characteristics, and promote older growth types.• The management plan for the old growth stands is passive management.• Access route will be kept open.• Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Evaluate ash stands for other species regeneration if emerald ash borers gets established in the area.• If annual plan additions occur, harvest in a manner that maintains or enhances the desired characteristics of this OFMC. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |

List of stands by Stand ID from FIM

Old growth stands

OG11-04

t15532w1320186
 t15532w1310195
 t15532w1320183
 t15532w1320182
 t15532w1310192
 t15532w1310188
 t15532w1320136
 t15532w1320124

t15532w1310171
 t15532w1310191
 t15532w1310193
 t15532w1310197
 t15432w1060001
 t15532w1320187
 t15532w1330175
 t15532w1330175

OFMC Stands

t15532w1320184
 t15532w1310176
 t15532w1320187
 t15532w1330174
 t15532w1310189
 t15532w1320178
 t15532w1330181
 t15532w1290144
 t15532w1320194
 t15532w1300153
 t15532w1330158
 t15532w1300145
 t15532w1290116
 t15532w1320190
 t15532w1300198
 t15532w1330185
 t15532w1310196
 t15532w1330199
 t15532w1320173
 t15532w1320200
 t15532w1330175
 t15532w1330175

LOCAL MOA MAP

LOCAL MOA MAP

0 0.3 0.6 1.2 Miles

Legend:

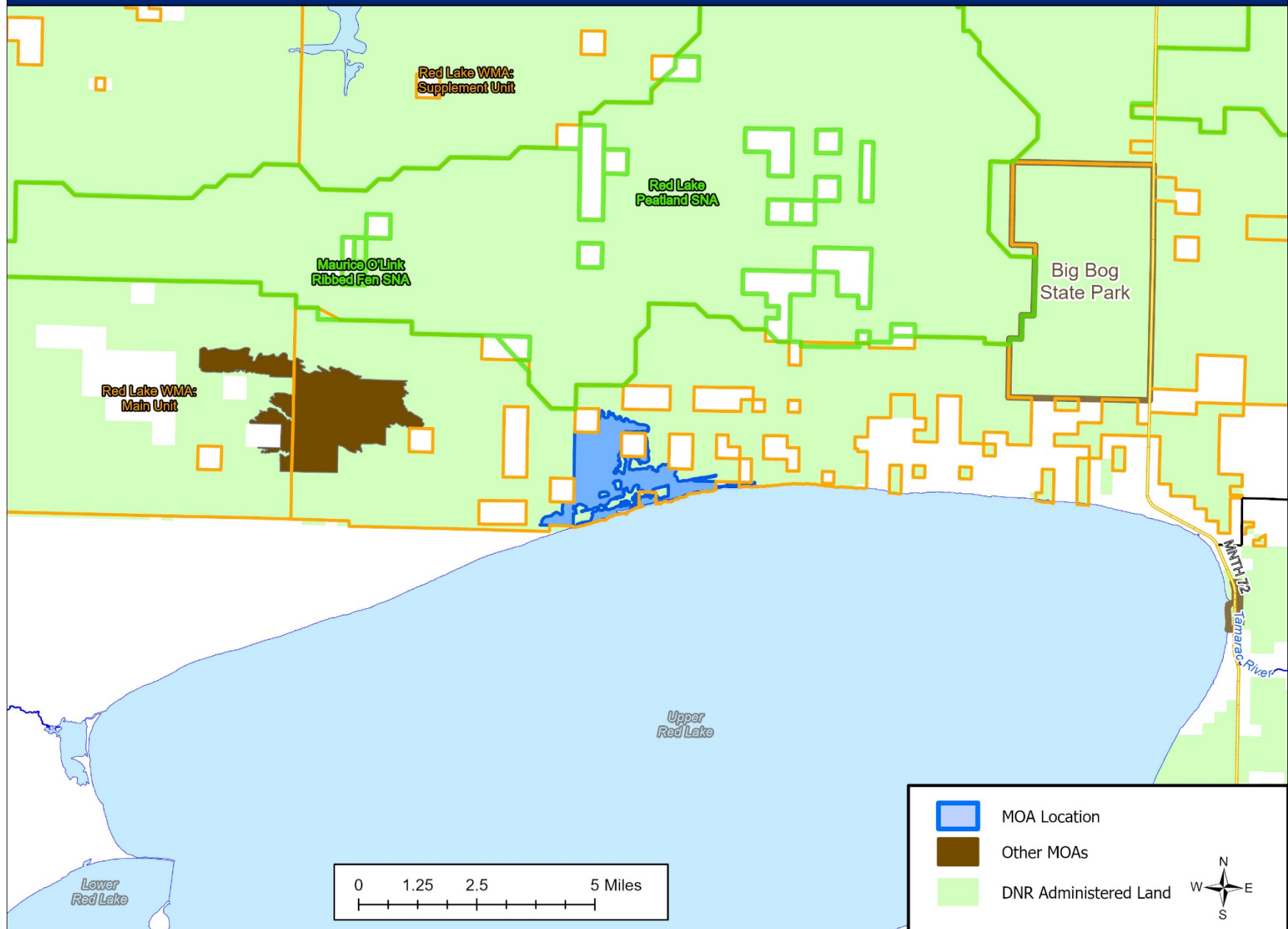
- Designated Old Growth
- Other FIM Stands
- OFMC

FY21-30 Stand Exam List

- Planned - Regeneration Harvest
- Unplanned



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Valley River Headwaters Old Growth and OFMC |
| MOA Type | Old Forest Management Complex |
| Location (Eco. Section, TRS) | T63 N, R23 W, Section 32; T. 62 N, R. 23 W, Sections 4, 5 |
| NPC System | FDn43 |
| Acres by Land Status (approx.) | 643 acres, all School Trust land |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | <p>This OFMC centers around 6 stands designated for old growth white cedar; two of the stands are dominated by aspen. These stands were established ca. 1887-1919. The three aspen stands to the north were harvested between 1994 and 2010.</p> <p>The Valley River meanders through the middle of the OFMC.</p> |

| FUTURE DIRECTION | |
|---------------------------|--|
| 10-Year Management Intent | <p>The intent of OFMCs is to enhance the conservation value of designated old-growth and spatially extend their resource values. OFMCs serve policy, management, and ecological purposes. They include three different elements: 1) designated old-growth stands, 2) SMZs around these stands, and 3) additional stands managed for older growth stage characteristics.</p> <ul style="list-style-type: none">• The intent of this OFMC is to maintain and improve the older forest characteristic over time, and to extend buffering capacity of the area around old growth.• This OFMC will provide older forest habitat for plant and animal species and extend travel corridors and connectivity between contiguous forest areas.• Harvest within the OFMC will promote older growth stage components and biological legacies. |

| FUTURE DIRECTION | |
|--|--|
| 10-Year Management Intent (cont.) | <ul style="list-style-type: none"> • This OFMC provides educational, recreation and forest research opportunities. • The management plan for the old growth stands is passive management. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Identify NPCs and seek opportunities to retain older forest features of those NPCs • Allow for natural regeneration and conversion of non-forest stands to forest within OFMC • Average stand age will maintain or increase during planning period. • Retain standing coarse woody debris (snags of various decay classes) • Retain down coarse woody debris of various decay classes • Identified I&D concerns should be addressed in management coordination • Retain older trees (wolfy aspen, aging birch, mature conifers and hardwoods) while following STH regimes • Retain low-value trees for structural variation and contribution to woody debris within STH regimes • Consider swapping black spruce stands if suitable replacements can be found. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Represent all native plant community class growth stages on state lands to the extent possible. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations | <ul style="list-style-type: none"> • Reduce the number of stands selected in a 10 year period if harvest scheduling over-selects stands in an OFMC for treatment in any 10-year planning period. |

List of stands by Stand ID from FIM

Old growth stands

OG12-83

t06323w1320514
t06323w1320409
t06323w1320402
t06323w1320401
t06323w1320403
t06323w1320390

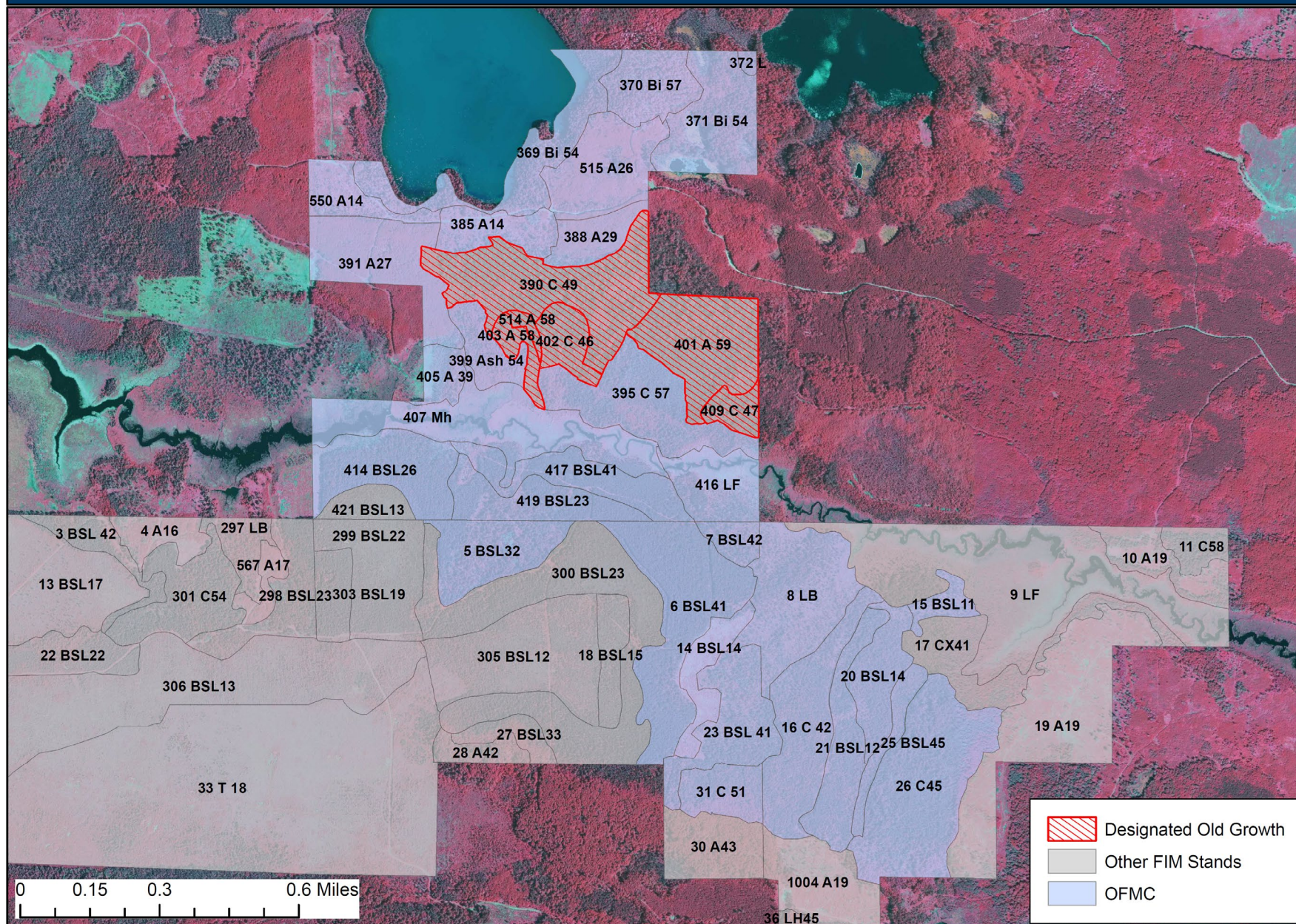
t06323w1320395
t06323w1320416
t06323w1320407
t06223w1040015
t06223w1050014
t06223w1040016
t06223w1040036
t06223w1040037
t06223w1041004
t06223w1040011
t06223w1040009
t06223w1050030
t06323w1320372
t06223w1040025
t06323w1320414
t06323w1320388

t06323w1320550
t06323w1320369
t06223w1040026
t06223w1040019
t06323w1320385
t06323w1320515
t06323w1320391
t06323w1320399
t06223w1050006
t06323w1320405
t06223w1040017
t06223w1040008
t06223w1050023
t06223w1040010

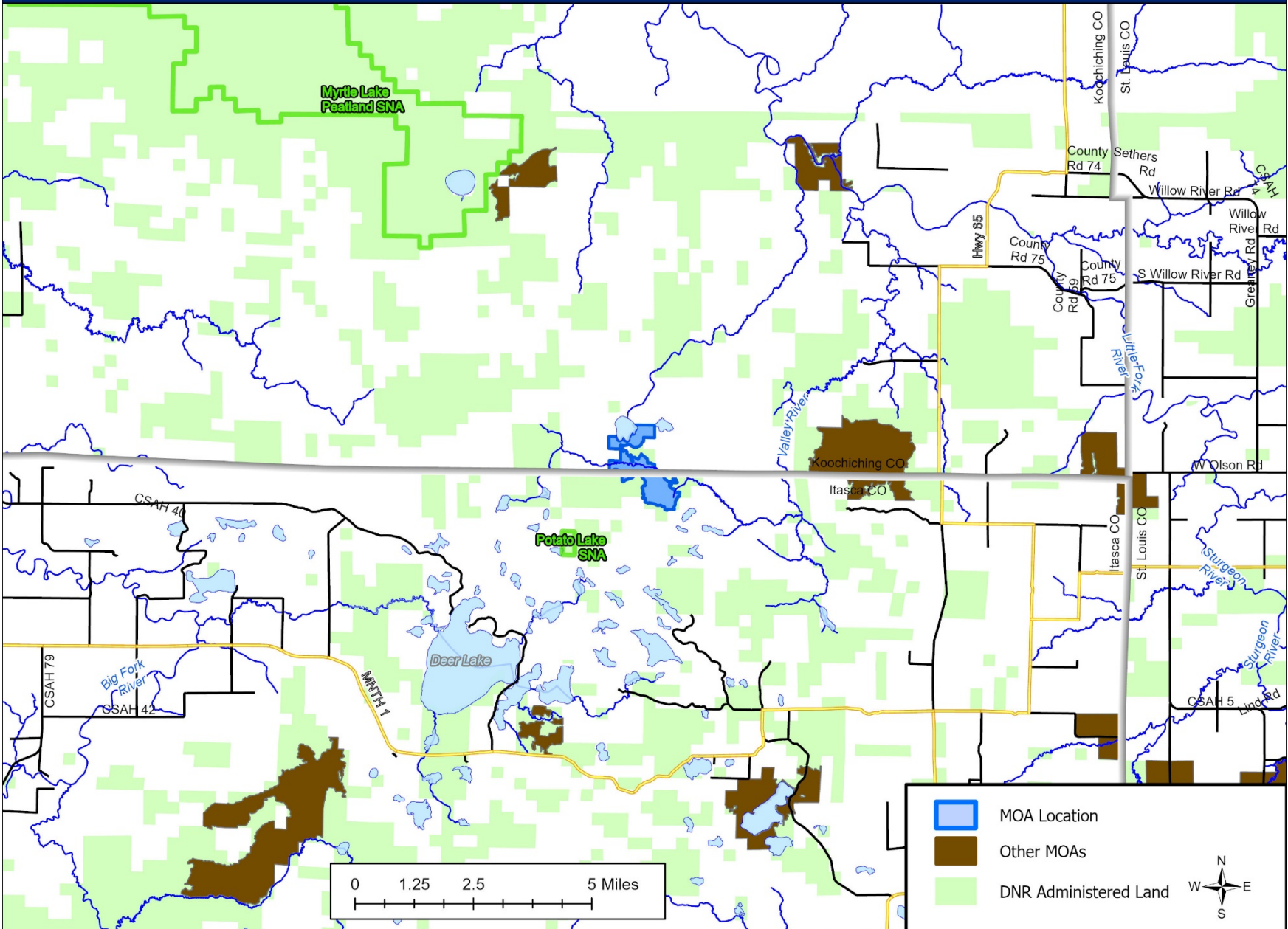
OFMC Stands

t06323w1320371
t06323w1320419
t06223w1040021
t06223w1050007
t06323w1320417
t06323w1320370
t06223w1040038

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | West Hogsback Old Growth and OFMC |
| MOA Type | Old Forest Management Complex |
| Location (Eco. Section, TRS) | T159N, R36W, Sections 13, 14, 23 |
| NPC System | FDn33 |
| Acres by Land Status (approx.) | 200 acres LUP |
| Current Conditions | <p>The OFMC is jack pine to the northwest and cedar to the southeast. The red pine old growth is bordered on the south by a road. There is active timber management on Red Lake Tribal lands surrounding this OFMC.</p> <p>The lowland conifer stands to the southeast compliment the old growth by providing fisher and marten habitat.</p> |

| FUTURE DIRECTION | |
|--|---|
| 10-Year Management Intent | <ul style="list-style-type: none"> Encourage development of components of older growth stages in even- and uneven-aged types Explore opportunities to cooperate with adjacent land owners for compatible management. The management plan for the old growth stands is passive management. Reserve white cedar stands from harvest in this 10 year planning period. Create diverse habitat structures for forage, nesting, cover and protection. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> No more than one jack pine stand in the OFMC should be harvested in a single 10 year planning period. When jack pine is harvested attempt to increase red pine. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. Represent all native plant community class growth stages on state lands to the extent possible. Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |

| FUTURE DIRECTION | |
|---------------------------------|--|
| Future Planning Considerations: | |

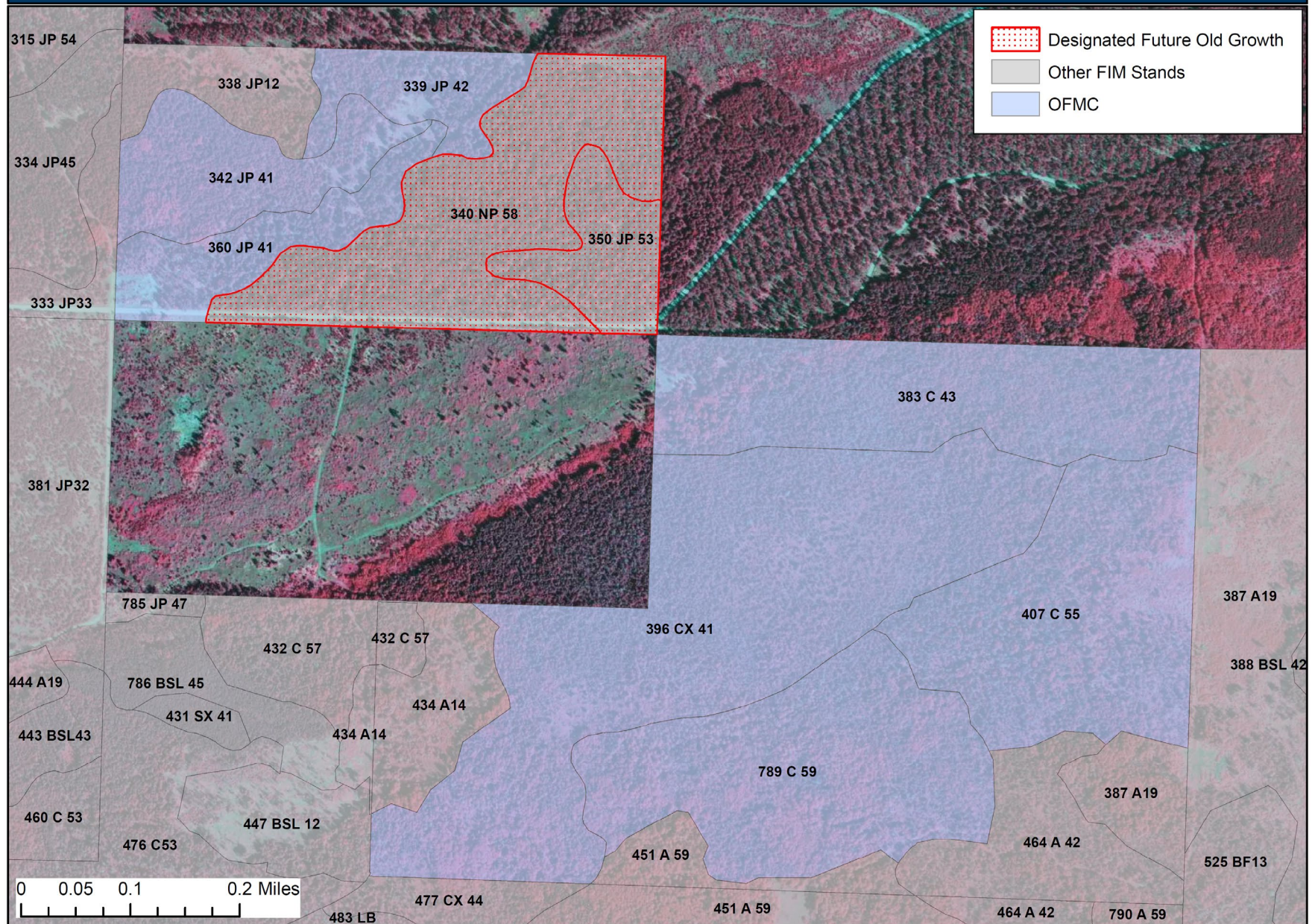
List of stands by Stand ID from FIM

Old growth stands

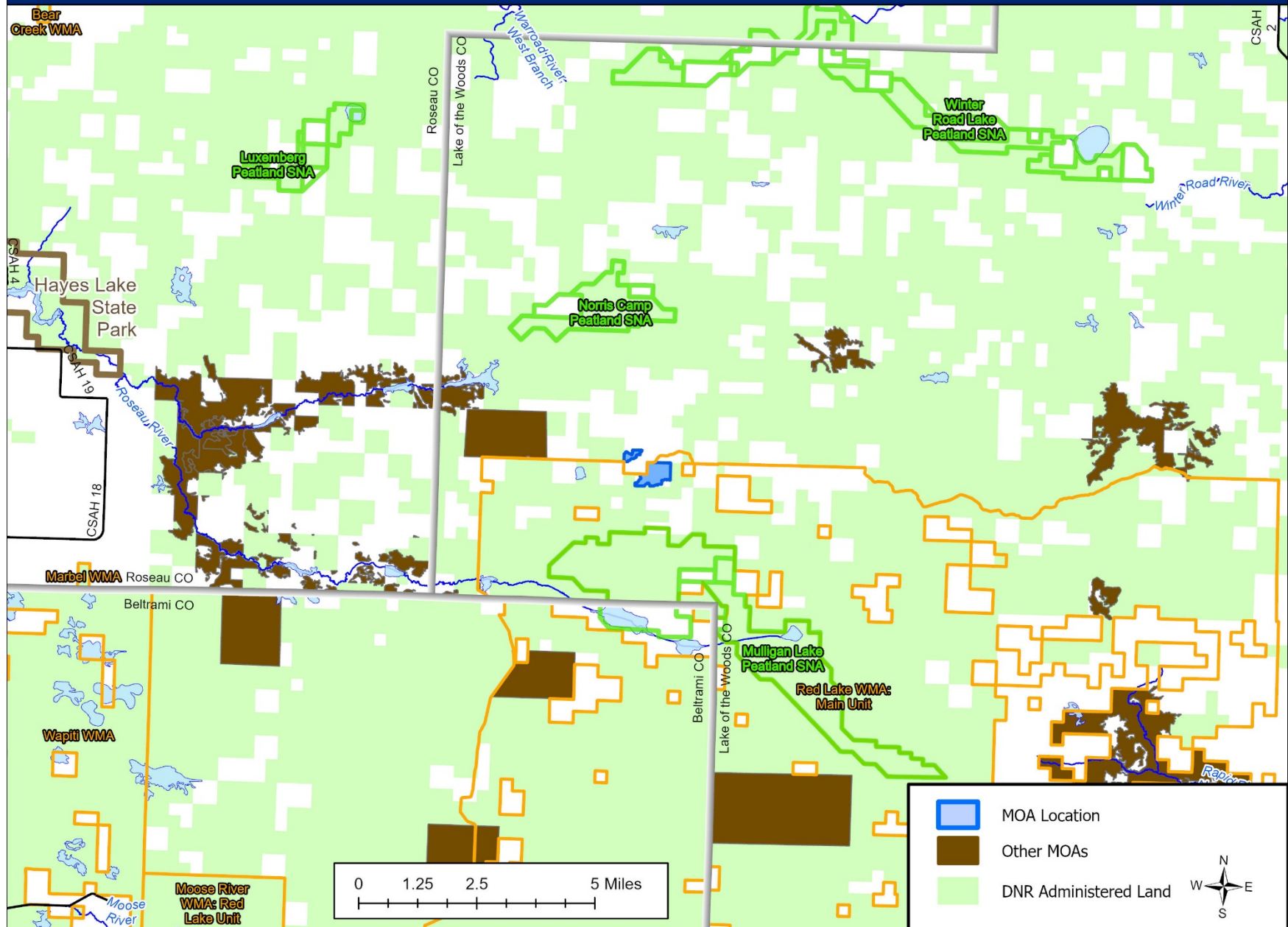
AL-NP-013
t15936w1140350
t15936w1140340

OFMC Stands
t15936w1140342
t15936w1140360
t15936w1140339
t15936w1230789
t15936w1230789
t15936w1230396
t15936w1230383

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Bear River East Patch |
| MOA Type | Patch Old Lowland Conifer (POLC) |
| Location (Eco. Section, TRS) | NMOP; T66N R26W Secs 4-5, 8-9; T67N R27W Sec 33 |
| NPC Systems | Forested Rich Peatland, Acid Peatland |
| Acres by Land Status (approx.) | 2,238 acres, all School Trust, FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | Expanse of productive (SI>23) white cedar and black spruce, primarily in older age classes. This area also contains components of stagnant white cedar, tamarack, balsam fir, and black ash. Located northeast of Big Falls on the Koochiching State Forest. Mostly (>87%) within a candidate lowland conifer old growth complex (LFVU22). This patch qualifies for the largest SFRMP size class category (class 1, >640 ac). |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | The goal of this MOA is to maintain a large area of unfragmented older lowland conifer forest over the next 10 years for species that need older forest interior habitat (e.g. Connecticut warbler, olive-sided flycatcher, boreal chickadee). If management is needed to maintain the viability of the patch overall (e.g. to address insect and disease concerns), harvest in a manner that maintains the older forest structural character of the patch (see strategies below). |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> Maintain the patch primarily in older age classes over the next 10 years, and avoid introducing disturbance that would create young forest conditions across a majority of this patch area. |

| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <ul style="list-style-type: none"> • In the event forest management activities are necessary during this 10 year period, focus on maintaining or enhancing species diversity and structural complexity in these stands, particularly characteristics of the site's NPC older growth stages (e.g. greater structural diversity: retain snags, deadwood, larger diameter trees; and species representative of later successional conditions: black spruce and white cedar dominance). • Where absent, consider favoring or establishing species that are found in the older growth stages (i.e., aerial seeding black spruce, retaining white cedar). |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Monitor and assess eastern larch beetle mortality/damage for salvage and/or regeneration opportunities. Reassess patch condition at that time to determine if it is no longer representative of an older forest patch. |

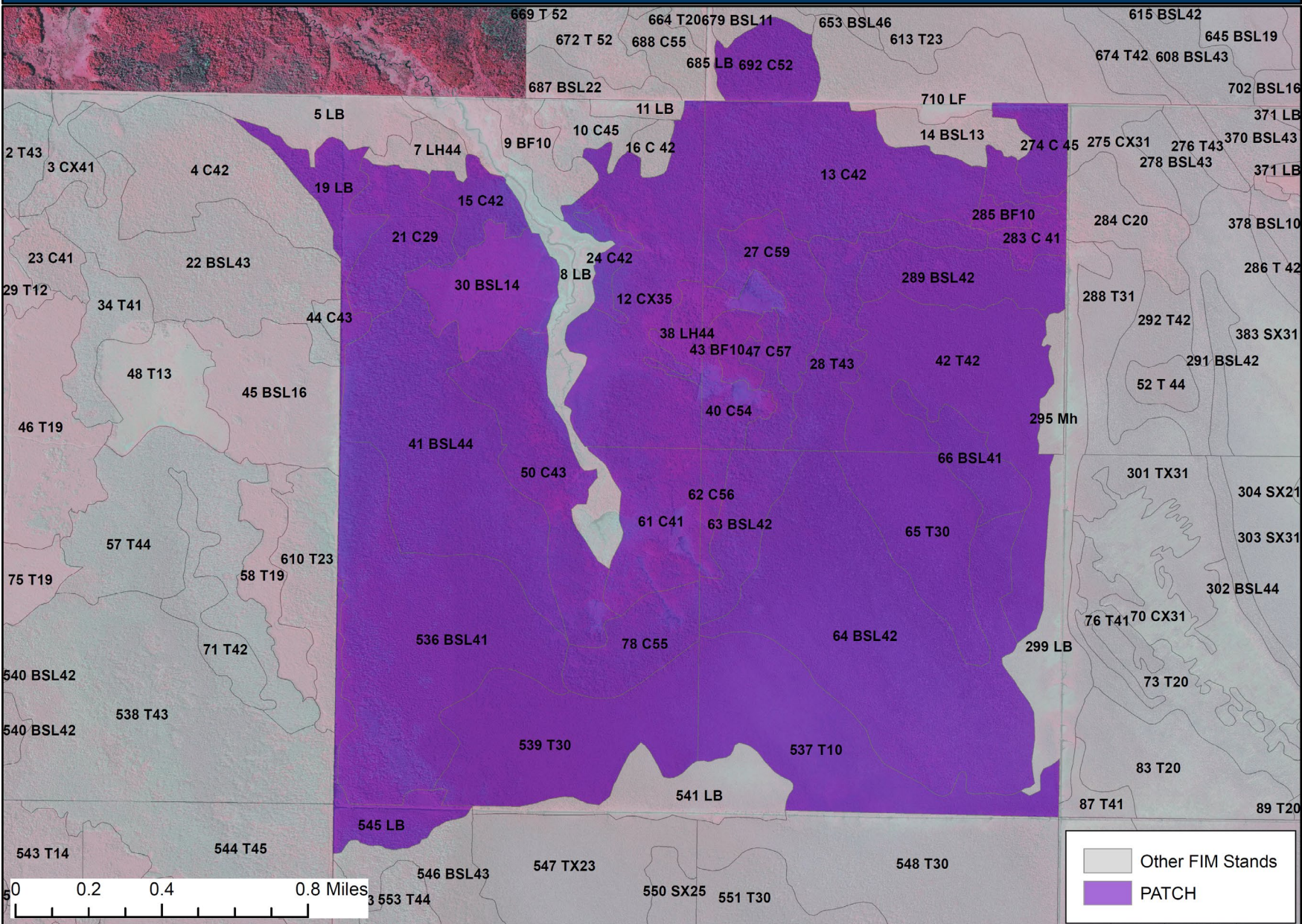
List of stands from FIM:

| | |
|----------------|----------------|
| t06626w1040013 | t06626w1050030 |
| t06626w1040027 | t06626w1050038 |
| t06626w1040028 | t06626w1050041 |
| t06626w1040040 | t06626w1050050 |
| t06626w1040042 | t06626w1080061 |
| t06626w1040043 | t06626w1080078 |
| t06626w1040047 | t06626w1080536 |
| t06626w1040274 | t06626w1080539 |
| t06626w1040283 | t06626w1090062 |
| t06626w1040285 | t06626w1090063 |
| t06626w1040289 | t06626w1090064 |
| t06626w1050012 | t06626w1090065 |
| t06626w1050015 | t06626w1090066 |
| t06626w1050019 | t06626w1090537 |
| t06626w1050021 | t06626w1170545 |
| t06626w1050024 | t06726w1330692 |

LOCAL MOA MAP

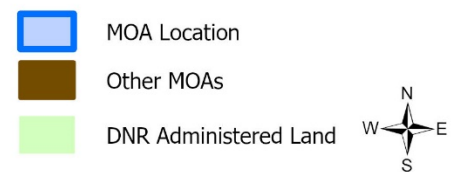
0 0.2 0.4 0.8 Miles

Other FIM Stands
PATCH



LANDSCAPE MOA MAP

This map illustrates the location of the MOA (Minnesota Open Area) in relation to other MOAs and DNR Administered Land. The MOA is highlighted in blue, while other MOAs are shown in brown. DNR Administered Land is represented by green areas. The map includes a scale bar (0 to 5 miles) and a north arrow. Key features include the Big Fork River, Bear River, Lost River, and Clam River. Roads shown include County Rd 14, County Rd 77, County Rd 30, County Rd 31, County Rd 8, Hwy 65, Hwy 71, Hwy 6, and Hwy 30. The town of Big Falls is marked. The Littlefork River WMA is also indicated.



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Bowman Creek Patch |
| MOA Type | Patch Intermediate Upland Deciduous (PIUD) |
| Location (Eco. Section, TRS) | NMOP; T150N R25W Sec 20; T150N R25W Sec 29 |
| NPC Systems | Mesic Hardwood, Wet Forest, Floodplain Forest, Acid Peatland |
| Acres by Land Status (approx.) | 503 acres; all School Trust land and FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | Area of mostly low site index aspen (SI<65), in younger to middle-aged condition, with several older northern hardwood stands and some lowland areas with older black ash and black spruce inclusions. The MOA is located ~6 miles west of Hwy 6 and ~2 miles north of the Big Fork River on the Big Fork State Forest in Itasca County. This patch qualifies for the SFRMP patch size class 2 category (251-640 ac). |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | The goal of this MOA is to maintain a large area of intermediate-aged upland deciduous forest and increase older forest characteristics over the next 10 years. If forest management activities occur, they should maintain or increase the development of older forest characteristics of stands within this area (see strategies below). |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • When possible, avoid introducing disturbance that would create young forest conditions. • Favor uneven-aged silvicultural systems in northern hardwood and ash cover types (e.g. group selection, thinning, or other partial harvest approaches). |

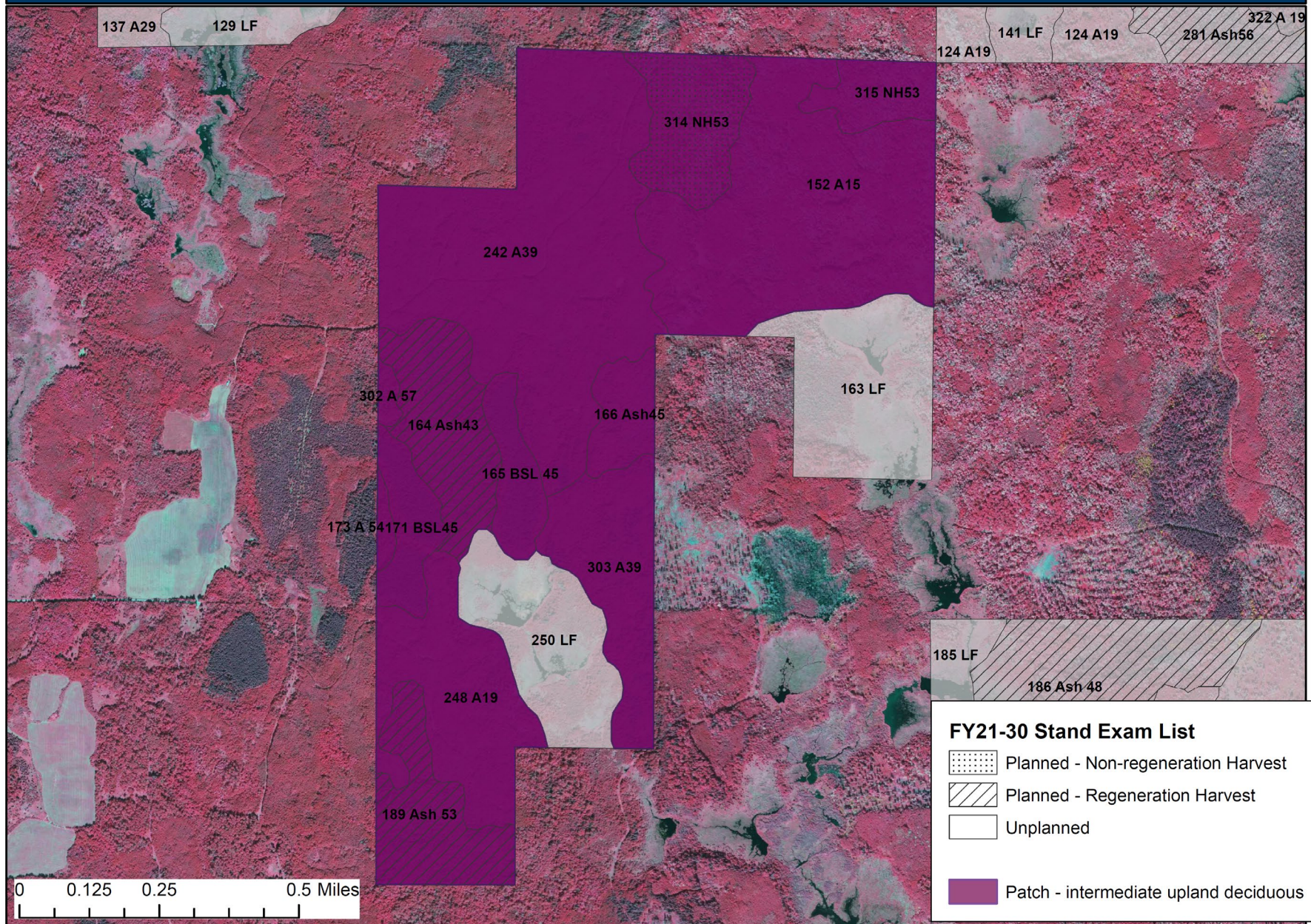
| FUTURE DIRECTION | |
|--|---|
| Strategies to Achieve 10-year Intent (cont.) | <ul style="list-style-type: none"> • Evaluate the potential for intermediate treatments in the younger stands in this patch, to accelerate the development of older forest characteristics (e.g. greater structural diversity: snags, deadwood, larger diameter trees, areas with open understory conditions; development of species representative of later successional conditions: white spruce, balsam fir, red/bur oak). • Favor or establish species found in the older growth stages of the native plant communities in this area, with emphasis on conifers where appropriate to NPC (i.e., underplanting or retaining conifers and longer-lived hardwood species). |
| Draft SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Maintain existing large patches and increase average patch size on state lands over time, with consideration of natural spatial patterns. • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <p>The two northern hardwood stands (t15025w1200314, t15025w1200315) and black ash stands (t15025w1200164, t15025w1290189) may already have old forest characteristics so future management activities should strive to maintain or enhance those conditions.</p> <p>Stands 242 and 152 may be evaluated for potential harvest if needed to reach Area cover type cord targets, however, objectives of the MOA should still be followed to the extent possible.</p> |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Ideally and if possible, develop this into older patch by adjusting future stand selections through stand swapping. |

List of MOA stands in FIM.

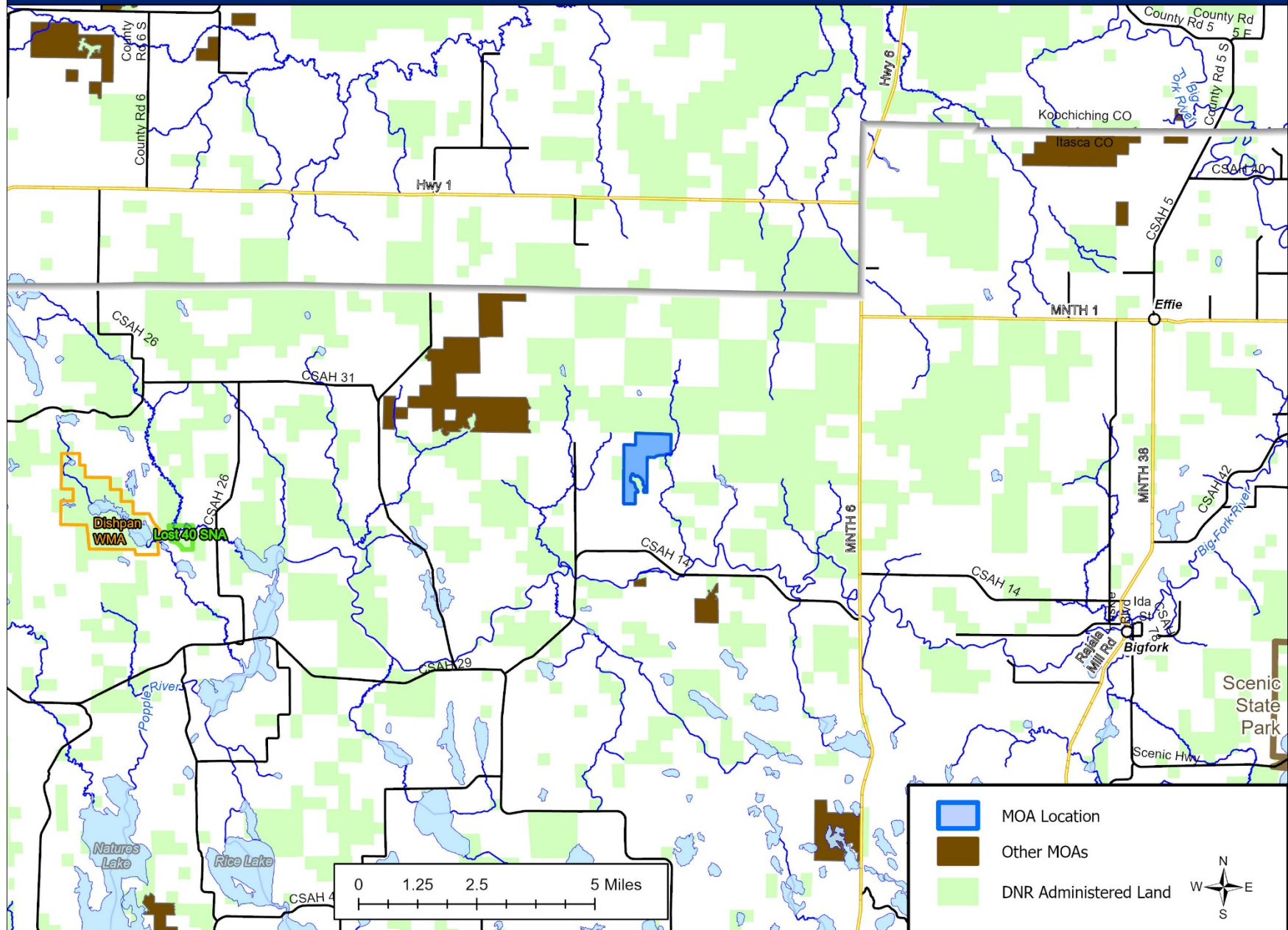
t15025w1200152
 t15025w1200164
 t15025w1200165
 t15025w1200166
 t15025w1200171
 t15025w1200173
 t15025w1200242
 t15025w1200302
 t15025w1200303
 t15025w1200314

t15025w1200315
 t15025w1290189
 t15025w1290248

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Thorhult East Patch |
| MOA Type | Patch Old Lowland Conifer (POLC) |
| Location (Eco. Section, TRS) | NMOP; T155N R33W Secs 17-21, 29-30; T155N R34W Secs 13-14, 24-25 |
| NPC Systems | Forested Rich Peatland, Acid Peatland, Wet Forest |
| Acres by Land Status | 3,582 acres, all Consolidated Conservation, FAW administered |
| Current Conditions | Large expanse of productive (SI>23) tamarack, with lesser amounts of black spruce and white cedar, primarily in older age classes. Located between Upper Red Lake and Red Lake Peatland SNA on the Red Lake WMA. Almost entirely within a candidate lowland conifer old growth complex (AG33). This patch qualifies for the largest SFRMP size class category (class 1, >640 ac). |

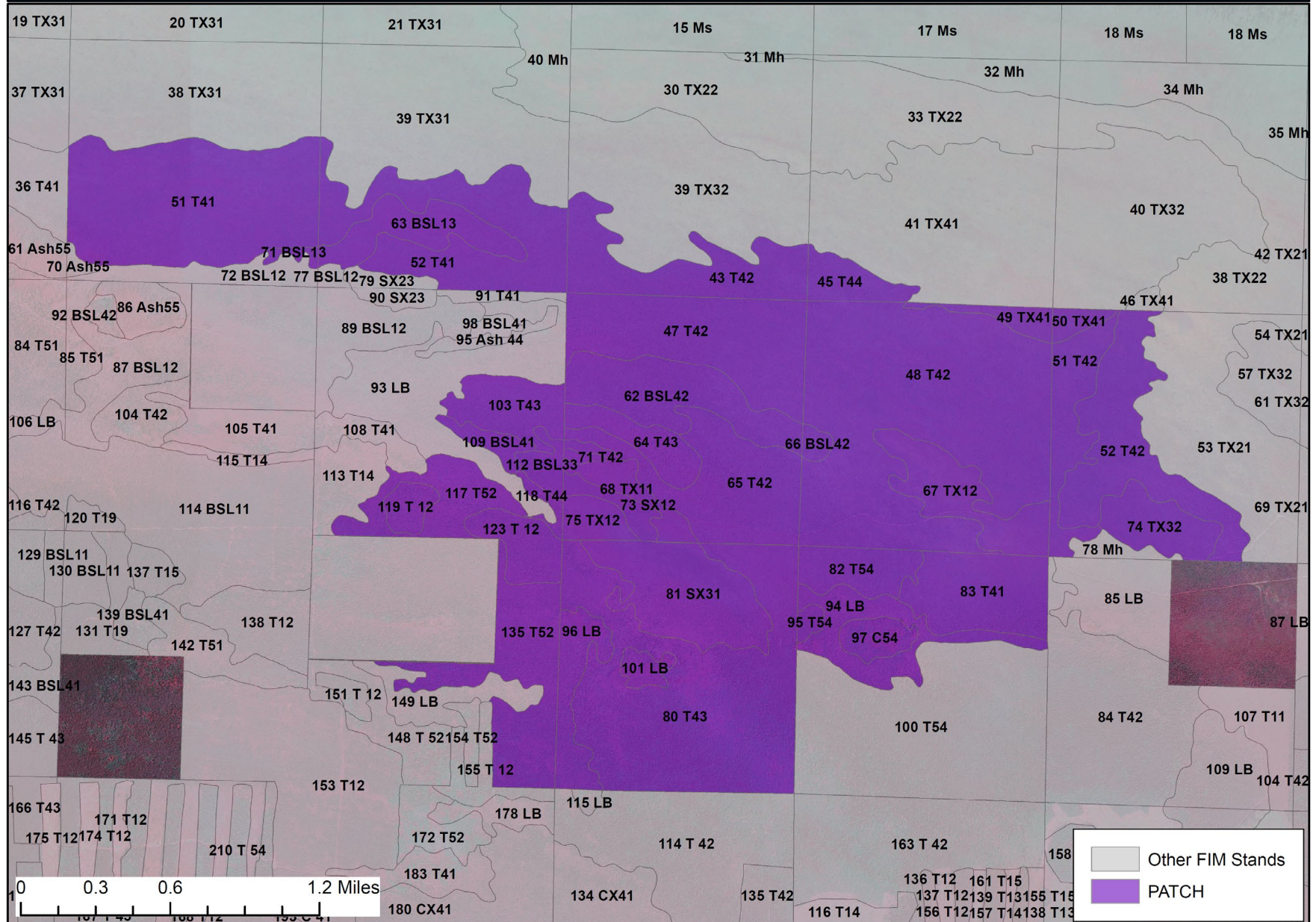
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | The goal of this MOA is to maintain a large area of unfragmented older lowland conifer forest over the next 10 years for species that need older forest interior habitat (e.g. Connecticut warbler, olive-sided flycatcher, boreal chickadee). If management is needed to maintain the viability of the patch overall (e.g. to address insect and disease concerns), harvest in a manner that maintains the older forest structural character of the patch (see strategies below). |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain the patch primarily in older age classes over the next 10 years, and avoid introducing disturbance that would create young forest conditions across a majority of this patch area.• In the event forest management activities are necessary during this 10 year period, focus on maintaining or enhancing species diversity and structural complexity in these stands, particularly characteristics of the site's NPC older growth stages (e.g. greater structural diversity: retain snags, deadwood, larger diameter trees; and species representative of later successional conditions: black spruce and white cedar dominance).• Where absent, consider favoring or establishing species that are found in the older growth stages (i.e., aerial seeding black spruce, retaining white cedar). |

| FUTURE DIRECTION | |
|--|---|
| Draft SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Maintain existing large patches and increase average patch size on state lands over time, with consideration of natural spatial patterns. Identify ways to increase average patch size over time. • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Monitor and assess eastern larch beetle mortality/damage for salvage and/or regeneration opportunities. Reassess patch condition at that time to determine if it is no longer representative of an older forest patch. |

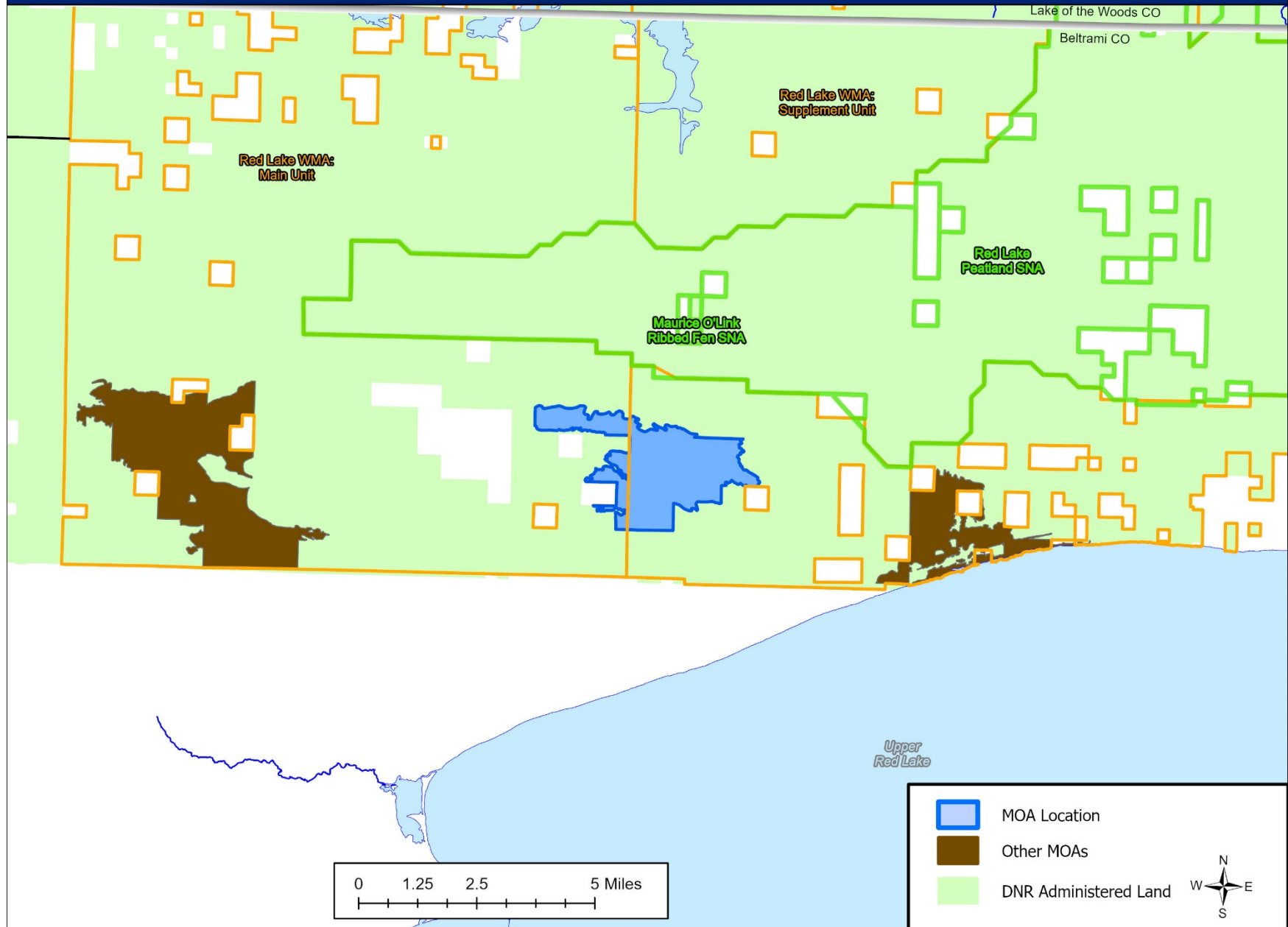
List of MOA stands from FIM.

| | |
|----------------|----------------|
| t15533w1170045 | t15533w1290097 |
| t15533w1180043 | t15533w1300080 |
| t15533w1190047 | t15533w1300081 |
| t15533w1190062 | t15533w1300096 |
| t15533w1190064 | t15533w1300101 |
| t15533w1190065 | t15534w1130052 |
| t15533w1190068 | t15534w1130063 |
| t15533w1190071 | t15534w1140051 |
| t15533w1190073 | t15534w1140071 |
| t15533w1190075 | t15534w1240103 |
| t15533w1200048 | t15534w1240109 |
| t15533w1200049 | t15534w1240112 |
| t15533w1200066 | t15534w1240117 |
| t15533w1200067 | t15534w1240118 |
| t15533w1210050 | t15534w1240119 |
| t15533w1210051 | t15534w1240123 |
| t15533w1210052 | t15534w1250135 |
| t15533w1210074 | |
| t15533w1290082 | |
| t15533w1290083 | |
| t15533w1290094 | |
| t15533w1290095 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Thorhult West Patch |
| MOA Type | Patch Old Lowland Conifer (POLC) |
| Location (Eco. Section, TRS) | NMOP; T155N R35W Secs 15-22, 27-28, 33-36 |
| NPC Systems | Forested Rich Peatland, Open Peatland, Wet Forest |
| Acres by Land Status (approx.) | 5,600 acres, all Consolidated Conservation, FAW administered |
| Current Conditions | Large expanse of productive (SI>23) tamarack, black spruce and white cedar, primarily in older age classes. This area also contains additional components of black ash and stagnant lowland conifers, with the majority of ash in designated old growth stands. Located northwest of Upper Red Lake on the Red Lake WMA. Also mostly (>82%) within a candidate lowland conifer old growth complex (AG4). This patch qualifies for the largest SFRMP size class category (class 1, >640 ac). |

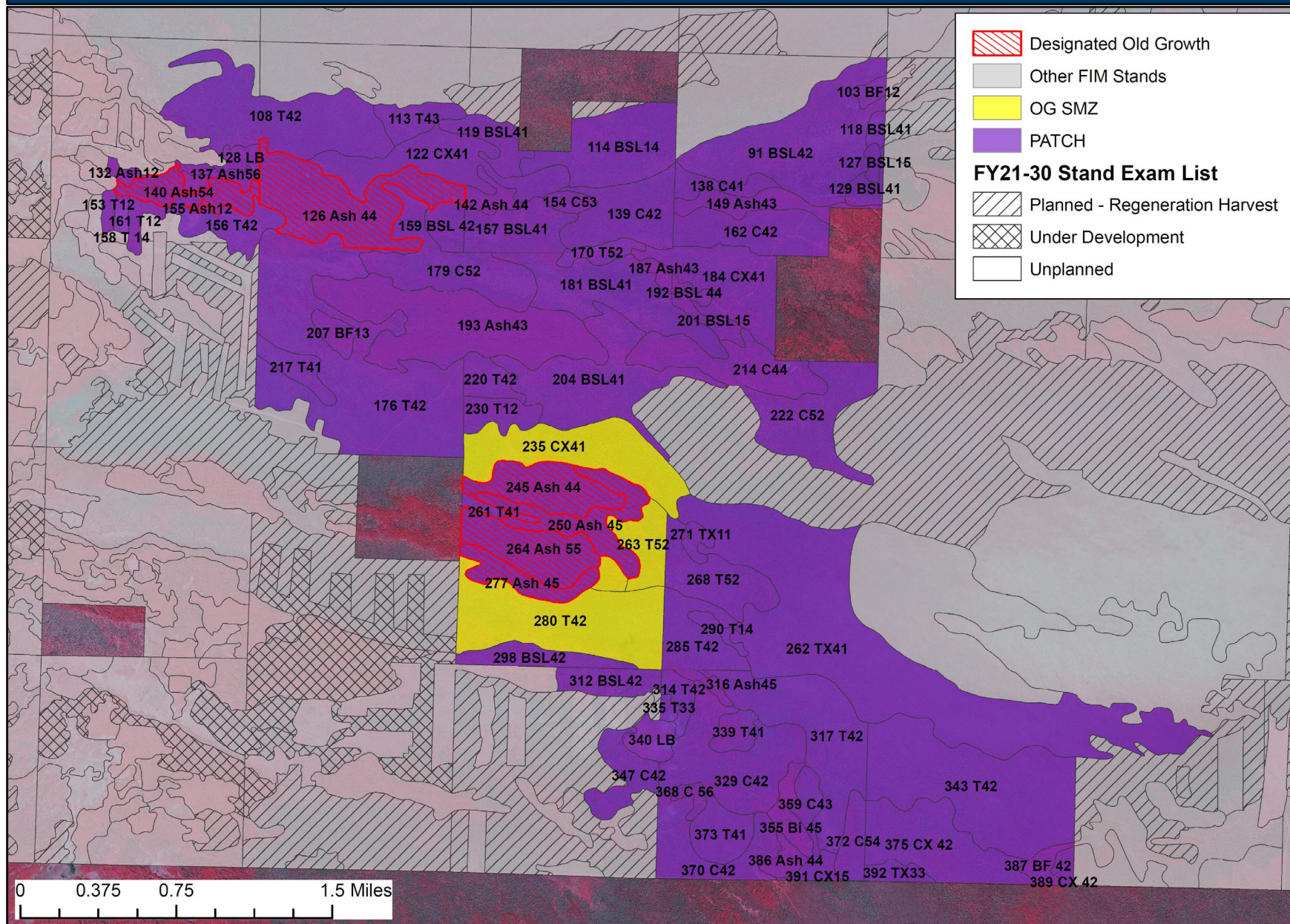
| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | The goal of this MOA is to maintain a large area of unfragmented older lowland conifer forest over the next 10 years for species that need older forest interior habitat (e.g. Connecticut warbler, olive-sided flycatcher, boreal chickadee), and to compliment the designated old growth stands in this area. If management is needed to maintain the viability of the patch overall (e.g. to address insect and disease concerns), harvest in a manner that maintains the older forest structural character of the patch (see strategies below) and appropriately addresses old growth stand management considerations. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain the patch primarily in older age classes over the next 10 years, and avoid introducing disturbance that would create young forest conditions across a majority of this patch area.• In the event forest management activities are necessary during this 10 year period, focus on maintaining or enhancing species diversity and structural complexity in these stands, particularly characteristics of the site's NPC older growth stages (e.g. greater structural diversity: retain snags, deadwood, larger diameter trees; and species representative of later successional conditions: black spruce and white cedar dominance).• Where absent, consider favoring or establishing species that are found in the older growth stages (i.e., aerial seeding black spruce, retaining white cedar).• Apply appropriate old growth special management zones around each of the designated old growth ash stands. |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Maintain existing large patches and increase average patch size on state lands over time, with consideration of natural spatial patterns. Identify ways to increase average patch size over time. • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <p>Several designated old growth stands occur within this patch, so refer to the old growth ArcGIS QuickLayers resources to appropriately identify and apply special management zones around those stands.</p> |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Monitor and assess eastern larch beetle mortality/damage for salvage and/or regeneration opportunities. Reassess patch condition at that time to determine if it is no longer representative of an older forest patch. • When reassessing the patch goals for this area, consider establishing an Old Forest Management Complex here to connect and complement the multiple designated old growth stands (either in lieu of or addition to an old patch). |

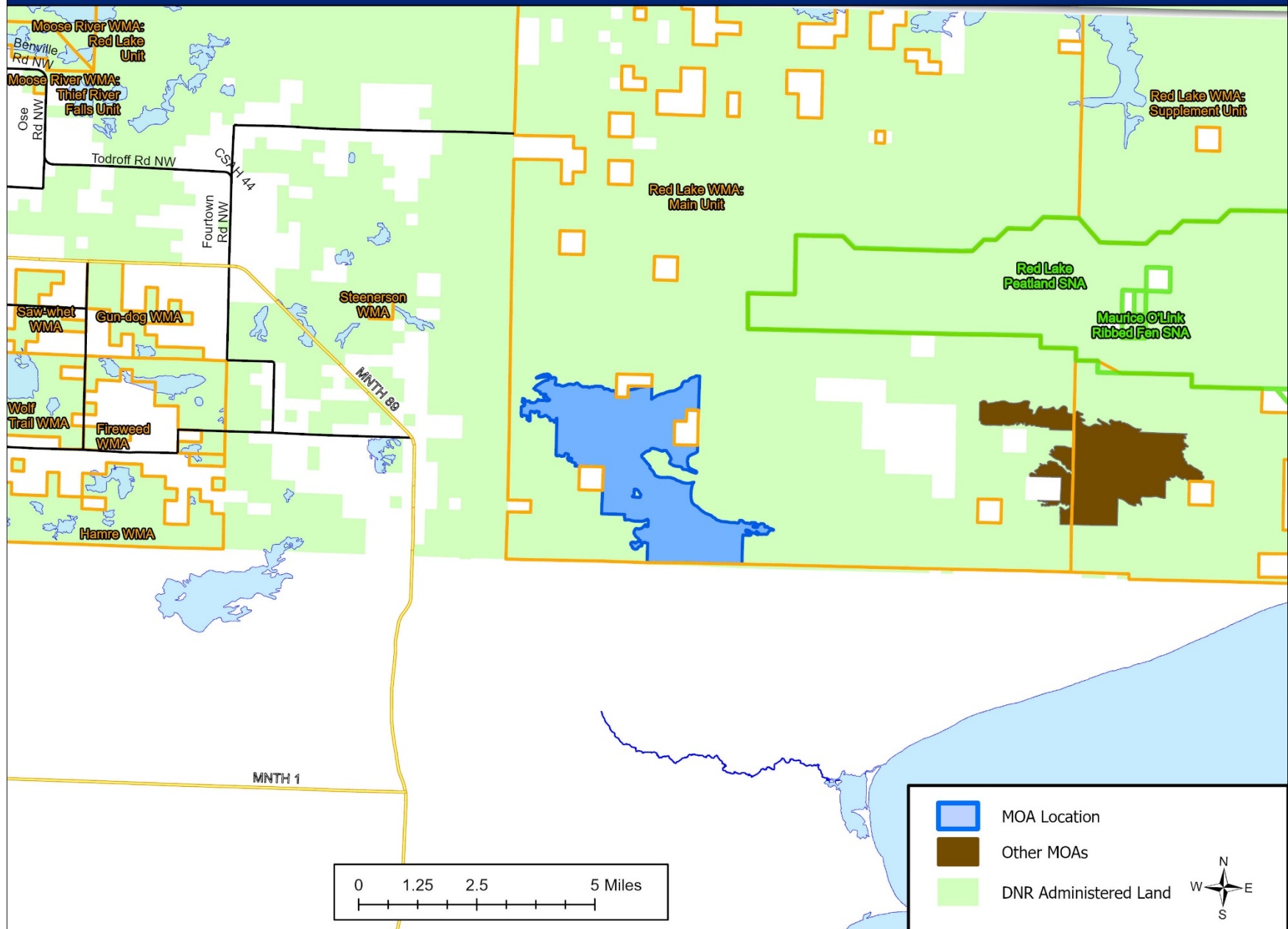
List of stands by Stand ID from FIM

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| t15535w1150091 | t15535w1170126 | t15535w1210187 | t15535w1280263 | t15535w1340372 |
| t15535w1150103 | t15535w1170159 | t15535w1210204 | t15535w1280264 | t15535w1340373 |
| t15535w1150118 | t15535w1180128 | t15535w1210220 | t15535w1280277 | t15535w1340386 |
| t15535w1150127 | t15535w1180132 | t15535w1210230 | t15535w1280280 | t15535w1340391 |
| t15535w1150129 | t15535w1180137 | t15535w1210235 | t15535w1280298 | t15535w1350343 |
| t15535w1150138 | t15535w1180140 | t15535w1220184 | t15535w1330312 | t15535w1350375 |
| t15535w1150149 | t15535w1180144 | t15535w1220192 | t15535w1330340 | t15535w1350387 |
| t15535w1150162 | t15535w1180153 | t15535w1220201 | t15535w1330347 | t15535w1350389 |
| t15535w1160114 | t15535w1180155 | t15535w1220214 | t15535w1340314 | t15535w1350392 |
| t15535w1160119 | t15535w1180156 | t15535w1220222 | t15535w1340316 | |
| t15535w1160139 | t15535w1180158 | t15535w1270262 | t15535w1340317 | |
| t15535w1160142 | t15535w1180161 | t15535w1270268 | t15535w1340329 | |
| t15535w1160154 | t15535w1200176 | t15535w1270271 | t15535w1340335 | |
| t15535w1160157 | t15535w1200179 | t15535w1270285 | t15535w1340339 | |
| t15535w1160170 | t15535w1200193 | t15535w1270290 | t15535w1340355 | |
| t15535w1170108 | t15535w1200207 | t15535w1280245 | t15535w1340359 | |
| t15535w1170113 | t15535w1200217 | t15535w1280250 | t15535w1340368 | |
| t15535w1170122 | t15535w1210181 | t15535w1280261 | t15535w1340370 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Treaty Boundary Patch |
| MOA Type | Patch Old Lowland Conifer (POLC) |
| Location (Eco. Section, TRS) | NMOP; T157N R27W Secs 28, 29, 32-34; T156N R27W Secs 3-5, 9, 10 |
| NPC Systems | Forested Rich Peatland, Acid Peatland |
| Acres by Land Status (approx.) | 1,930 acres; 468 ConCon, 1,430 Trust, 35 Volstead; all FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | Large expanse of productive (SI>23) tamarack, black spruce and stagnant and productive white cedar, primarily in older age classes. This area also contains a small island of designated future old growth white pine. Located southwest of the South Black River Peatland SNA on the Pine Island State Forest, straddling the 1855 Treaty boundary (hence the name). This patch qualifies for the largest SFRMP size class category (class 1, >640 ac). |

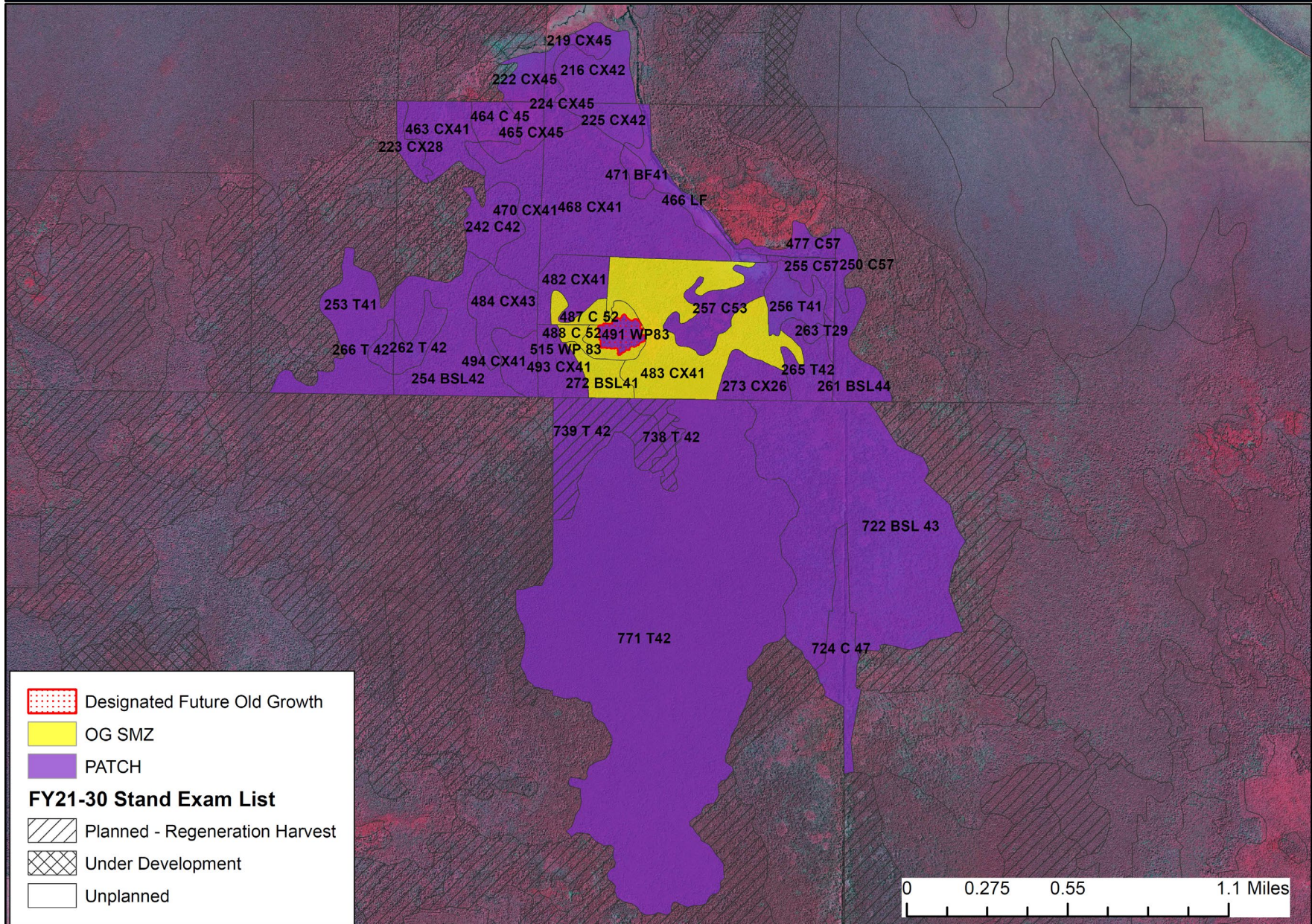
| FUTURE DIRECTION | |
|----------------------------------|---|
| 10-Year Management Intent | The goal of this MOA is to maintain a large area of unfragmented older lowland conifer forest over the next 10 years for species that need older forest interior habitat (e.g. Connecticut warbler, olive-sided flycatcher, boreal chickadee), and to compliment the designated future old growth stand in this area. If management is needed to maintain the viability of the patch overall (e.g., to address insect and disease concerns), harvest in a manner that maintains the older forest structural character of the patch (see strategies below) and appropriately addresses old growth stand management considerations. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain the patch primarily in older age classes over the next 10 years, and avoid introducing disturbance that would create young forest conditions across a majority of this patch area. • In the event forest management activities are necessary during this 10 year period, focus on maintaining or enhancing species diversity and structural complexity in these stands, particularly characteristics of the site's NPC older growth stages (e.g. greater structural diversity: retain snags, deadwood, larger diameter trees; and species representative of later successional conditions: black spruce and white cedar dominance). • Where absent, consider favoring or establishing species that are found in the older growth stages (i.e., aerial seeding black spruce, retaining white cedar). • Apply appropriate old growth special management zones around the designated old growth ash stands. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Maintain existing large patches and increase average patch size on state lands over time, with consideration of natural spatial patterns. Identify ways to increase average patch size over time. • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | <p>There is a designated future old growth white pine stand in T157N R27W Sec. 33 that is 256 years old, and likely primary forest. Refer to the old growth ArcGIS QuickLayers resources to appropriately identify and apply special management zones around this stand.</p> |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Stand boundaries dissolve over time as similar stands are managed as one unit based on NPC boundaries. • Monitor and assess eastern larch beetle mortality/damage for salvage and/or regeneration opportunities. Reassess patch condition at that time to determine if it is no longer representative of an older forest patch. |

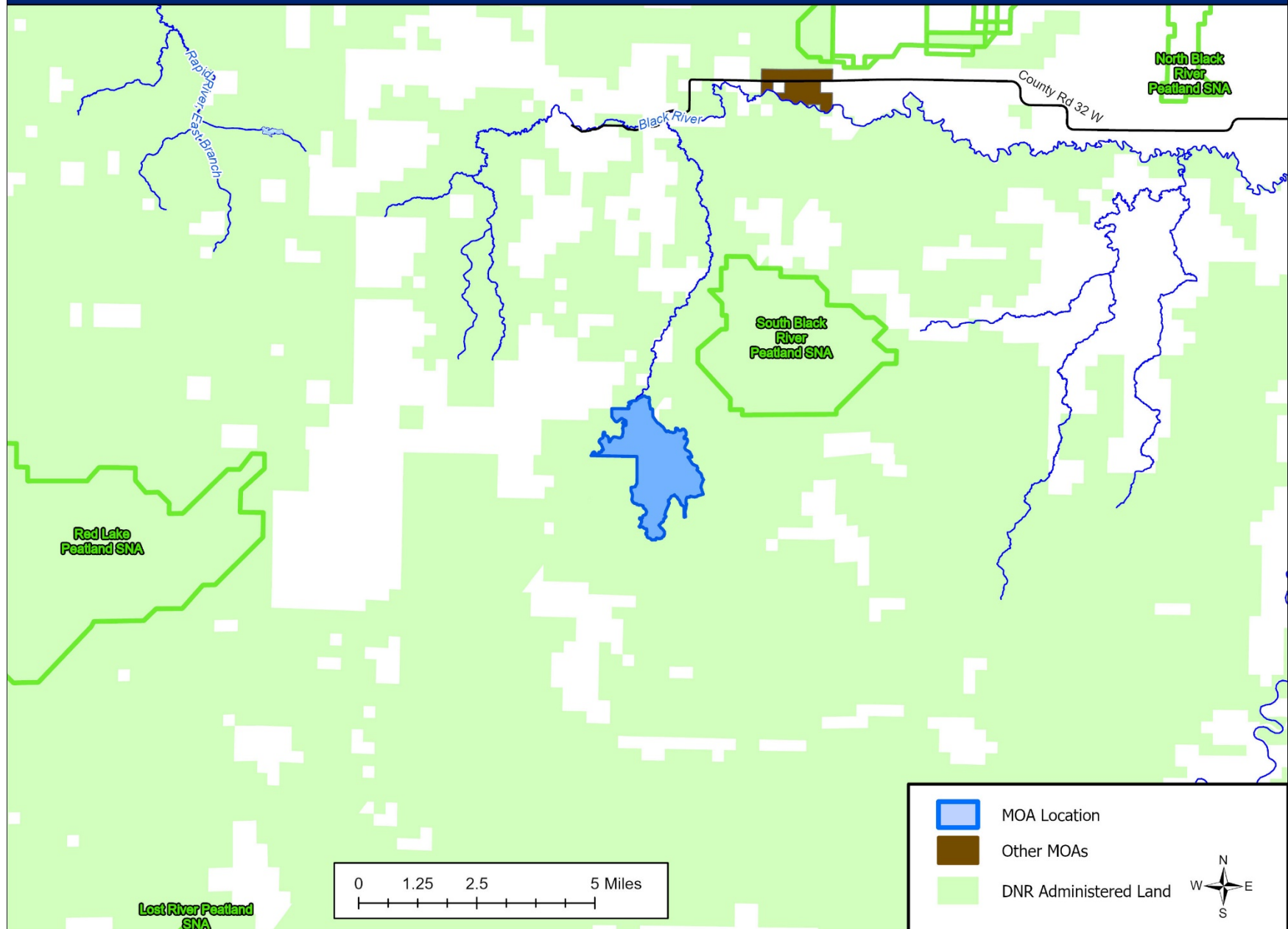
List of stands by Stand ID from FIM

t15627w1030722
t15627w1040738
t15627w1040739
t15627w1040771
t15627w1100724
t15727w1280216
t15727w1280219
t15727w1290222
t15727w1320223
t15727w1320242
t15727w1320253
t15727w1320254
t15727w1320262
t15727w1320266
t15727w1320463
t15727w1320464
t15727w1320465
t15727w1320470
t15727w1320484
t15727w1320494
t15727w1330224
t15727w1330225
t15727w1330255
t15727w1330256
t15727w1330257
t15727w1330263
t15727w1330265
t15727w1330272
t15727w1330273
t15727w1330466
t15727w1330468
t15727w1330471
t15727w1330477
t15727w1330482
t15727w1330483
t15727w1330487
t15727w1330488
t15727w1330491
t15727w1330493
t15727w1330514
t15727w1330515
t15727w1340250
t15727w1340261

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

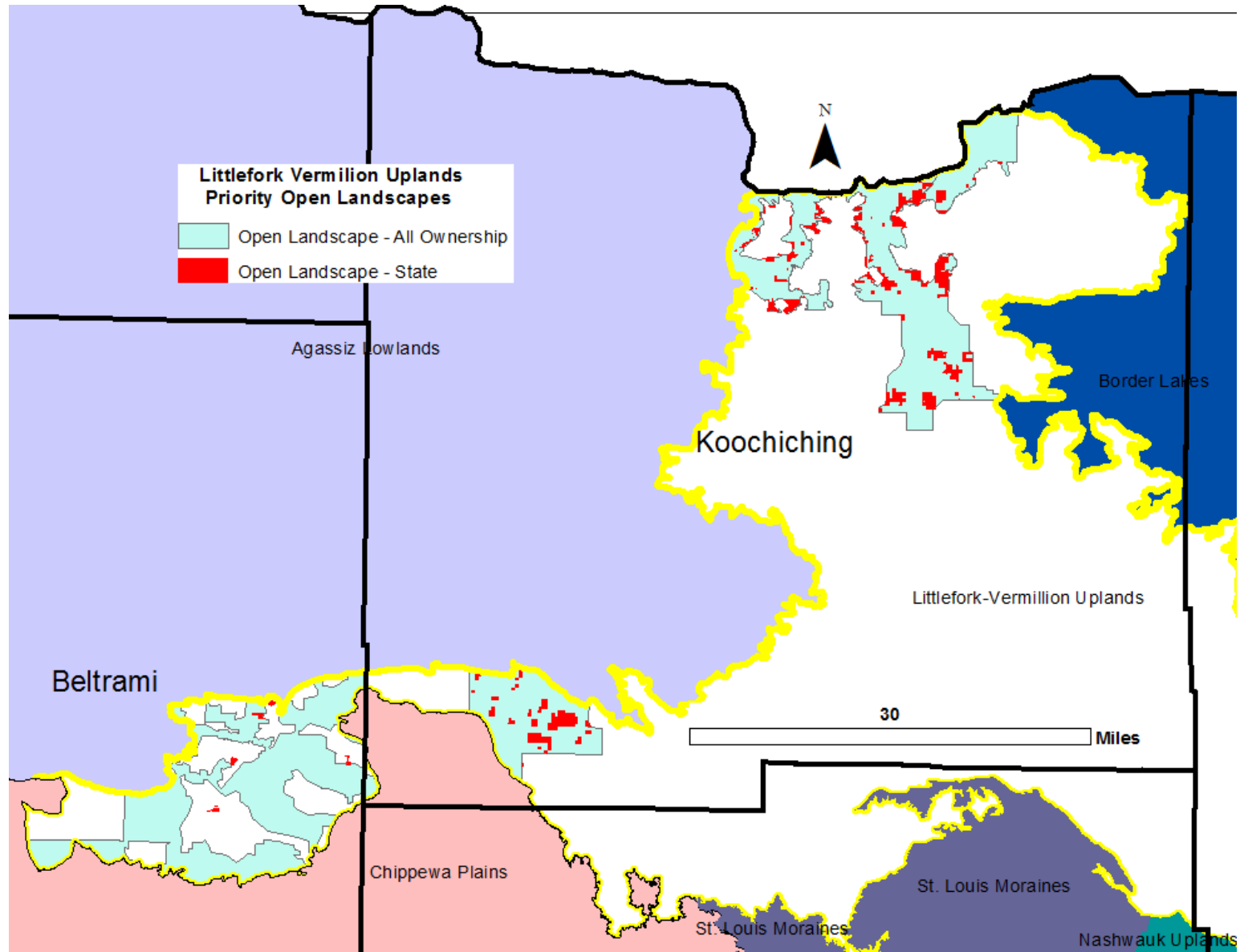
NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Littlefork Vermilion Priority Open Landscape |
| MOA Type | Open Landscape Priority Area |
| Location (Eco. Section, TRS) | Northern and western perimeters of Subsection |
| NPC System | |
| Acres by Land Status (approx.) | 15,000 acres (14,145 acres Trust, 825 acres ConCon, 14 acres Volstead) |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | <p>The core component of this MOA is open uplands (agricultural fields or pastures). State lands in proximity to these and within common land type associations are designated. Open peatlands and brushlands contribute to this landscape habitat type. All covertypes are potentially included; specific management of particular stands considers enhancing overall openland characteristics.</p> <p>The actual boundary of the priority open landscape includes all ownerships. This designation will help inform other administrations to consider land management that would be compatible with this plan within these areas. This Priority Landscape is a result of a comprehensive brushland assessment as approved by FRIT in 2002. These areas in Littlefork Vermilion were agreed upon by DNR divisions in the mid 2000's.</p> |

| FUTURE DIRECTION | |
|---------------------------|--|
| 10-Year Management Intent | Patch sizes have been maintained or increased, fragmentation of open areas decreased, and planned harvest goals have been met. Maintain or increase targeted bird populations (primarily sharp-tailed grouse). Coordination with other agency and private landowners encourages management strategies favoring open landscape habitat. |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent | <p>Apply these strategies in appropriate locations to meet open landscape habitat goals, using sharptail habitat or likely sharptail habitat as a guide:</p> <ul style="list-style-type: none"> • Consider swapping in upland stands over or approaching rotation age and merchantable lowland conifer stands adjacent to selected stands not initially selected by the harvest scheduling model. • Clump leave trees and discourage their placement in the interior of large harvest blocks. • Encourage biomass removal on timber sales and promote brushland biomass harvest when feasible. • Coordinate across divisions on projects designed to set back or maintain successional stages (e.g. Rx Fire, mechanical winter shearing or mowing). • Stands selected for treatment will be assessed in context with surrounding habitat for potential value to enhancing openland or brushland characteristics. Of those that apply, treat most upland hardwood stands above or near (within 10 years of) normal rotation age (NRA) for harvest consideration. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • Consider selecting clusters of adjacent merchantable lowland conifer stands across site index categories to increase lowland block size. |

LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Bear River Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T61N, R21W, Secs 3-6; T62N, R22W, Sec 36 |
| NPC System | Primarily Rauch Till Plain, some Effie Till Plain |
| Acres by Land Status (approx.) | 1,980 acres total, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area is comprised of a diverse mix of productive aspen stand ages and sizes, with small areas of lowland conifer, white spruce, and lowland brush. |

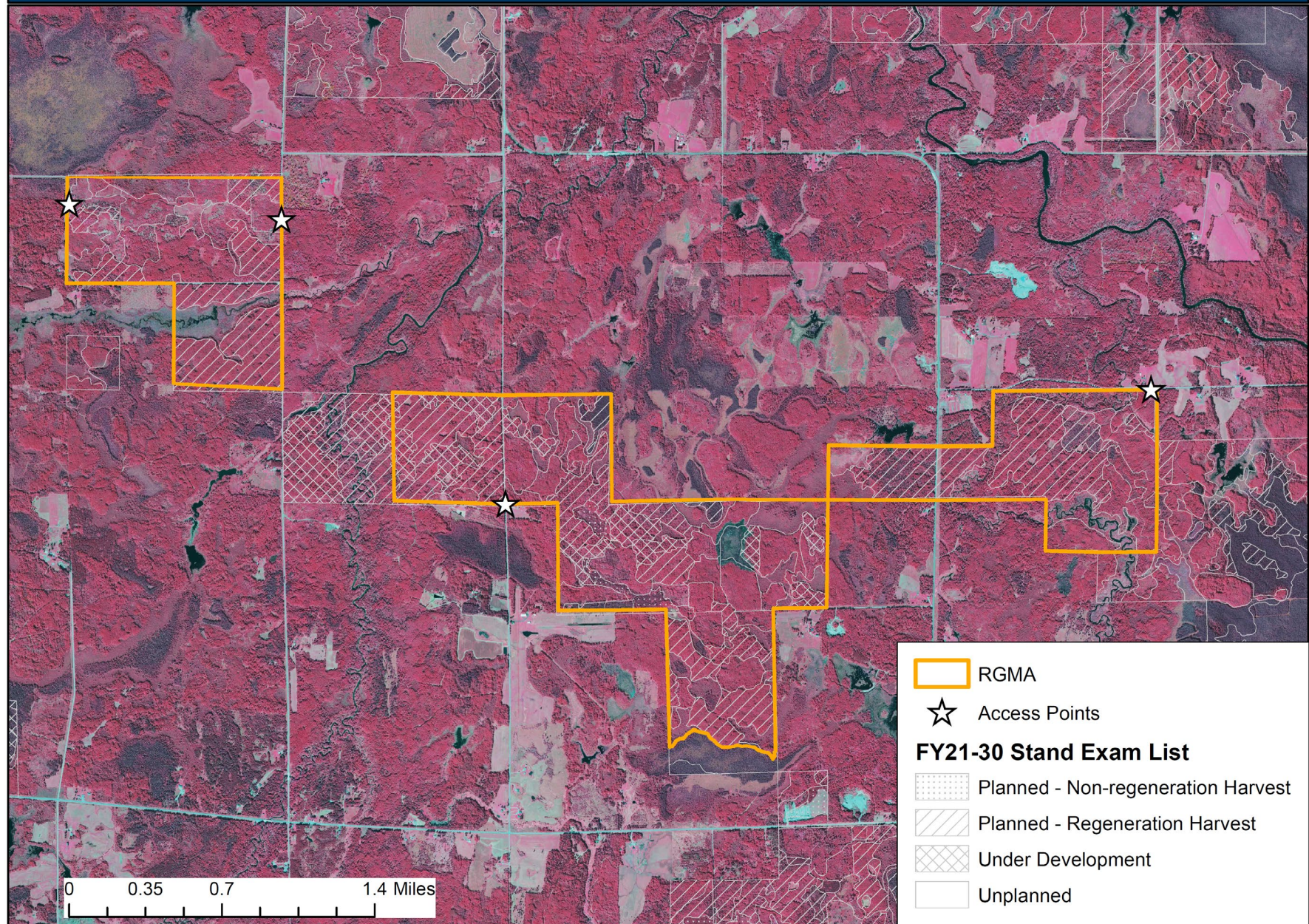
| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen by harvesting in small blocks. Harvest should regenerate aspen but also retain allowable balsam, spruce, and cedar where appropriate for use as predator/thermal cover where feasible. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Attempt to maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 -20 acres or less preferred). • Coordinate on consolidated placement of 1-5 acre reserves (while following STH regimes) to help maintain within-stand age and structural diversity. • Regenerate aspen and retain some conifers for grouse cover • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags • Stands may not be able to be split according to MOA direction in this 10-year period due to lack of swapping opportunities. |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Expand Hunter Walking Trail network. |

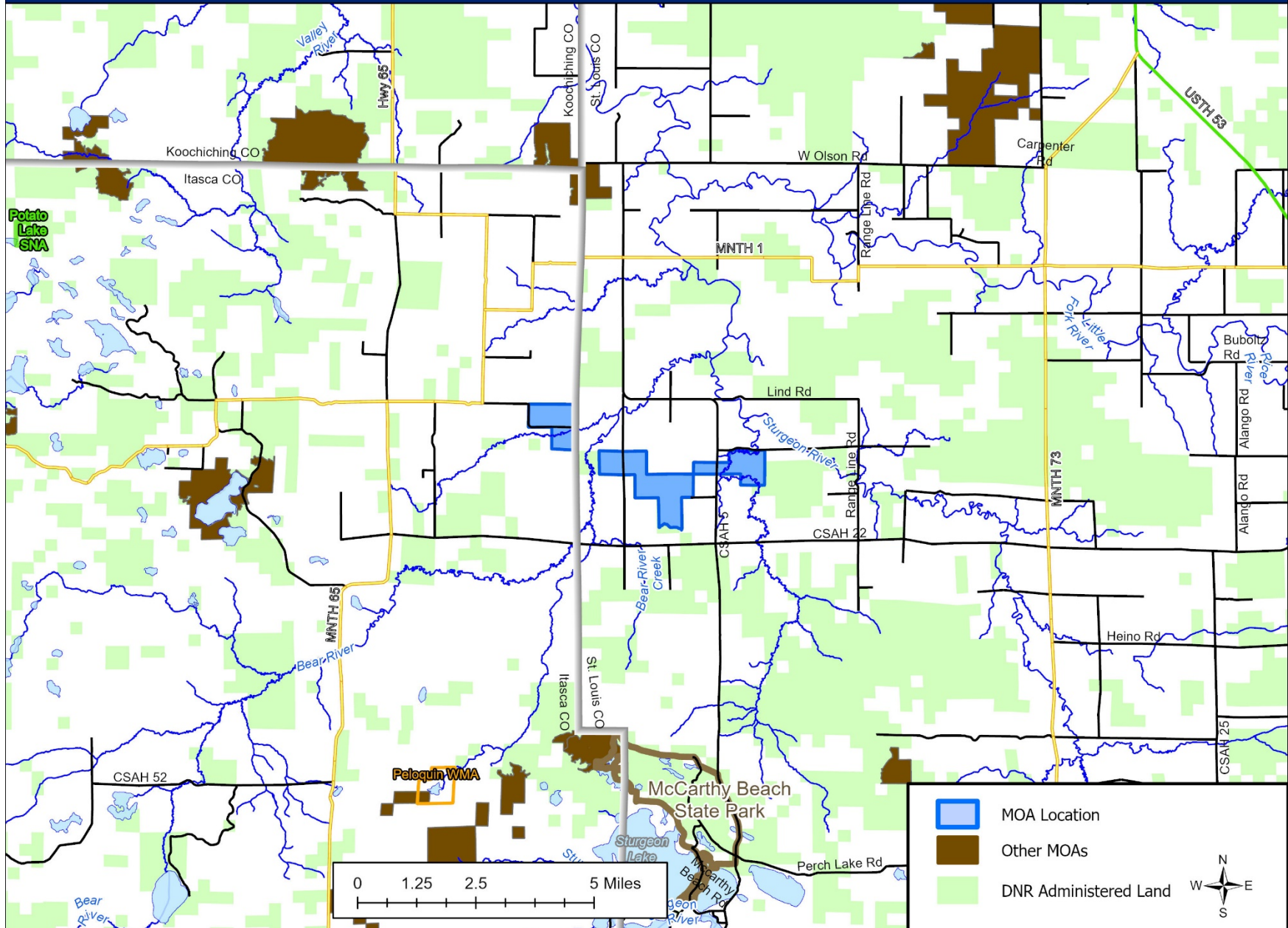
List of stands by Stand ID from FIM

| | | | |
|----------------|----------------|----------------|----------------|
| t06121w0091215 | t06121w1050056 | t06121w1060905 | t06222w1360181 |
| t06121w1020127 | t06121w1050080 | t06121w1060908 | t06222w1360216 |
| t06121w1030096 | t06121w1050081 | t06121w1060914 | t06222w1360217 |
| t06121w1030110 | t06121w1050083 | t06121w1060923 | t06222w1360218 |
| t06121w1030126 | t06121w1050085 | t06121w1060925 | t06222w1360219 |
| t06121w1030884 | t06121w1050088 | t06121w1061172 | t06222w1360220 |
| t06121w1030885 | t06121w1050895 | t06121w1080188 | t06222w1360224 |
| t06121w1030896 | t06121w1050902 | t06121w1080192 | t06222w1360225 |
| t06121w1030910 | t06121w1050907 | t06121w1080207 | t06222w1360226 |
| t06121w1030915 | t06121w1050916 | t06121w1080223 | t06222w1360227 |
| t06121w1030924 | t06121w1051118 | t06121w1081131 | t06222w1360228 |
| t06121w1031144 | t06121w1051119 | t06121w1081132 | t06222w1360233 |
| t06121w1031146 | t06121w1051121 | t06121w1081176 | t06222w1360234 |
| t06121w1040078 | t06121w1051122 | t06121w1081188 | |
| t06121w1040079 | t06121w1051123 | t06121w1090163 | |
| t06121w1040086 | t06121w1051124 | t06121w1090165 | |
| t06121w1040097 | t06121w1051125 | t06121w1090171 | |
| t06121w1040099 | t06121w1051126 | t06121w1090172 | |
| t06121w1040104 | t06121w1051127 | t06121w1090204 | |
| t06121w1040130 | t06121w1051128 | t06121w1090234 | |
| t06121w1040136 | t06121w1051129 | t06222w1360157 | |
| t06121w1040137 | t06121w1051130 | t06222w1360158 | |
| t06121w1040909 | t06121w1051163 | t06222w1360159 | |
| t06121w1040911 | t06121w1051207 | t06222w1360160 | |
| t06121w1040912 | t06121w1051208 | t06222w1360161 | |
| t06121w1041165 | t06121w1051209 | t06222w1360162 | |
| t06121w1041216 | t06121w1060891 | t06222w1360164 | |
| t06121w1050019 | t06121w1060892 | t06222w1360165 | |
| t06121w1050020 | t06121w1060893 | t06222w1360166 | |
| t06121w1050035 | t06121w1060894 | t06222w1360178 | |
| t06121w1050036 | t06121w1060904 | t06222w1360179 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Beaver Brook Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T68N, R24W, Secs 16, 21 |
| NPC System | MHn – Little-Big Fork and Ash Lake Till Plain LTAs |
| Acres by Land Status (approx.) | 360 acres total, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Small Block Management Areas is located east of Littlefork south of Hwy 217. It contains a mix of aspen/balm-of-Gilead age classes in stands averaging 15 acres. Stands are currently managed for fiber production, recreation, and wildlife resources. |

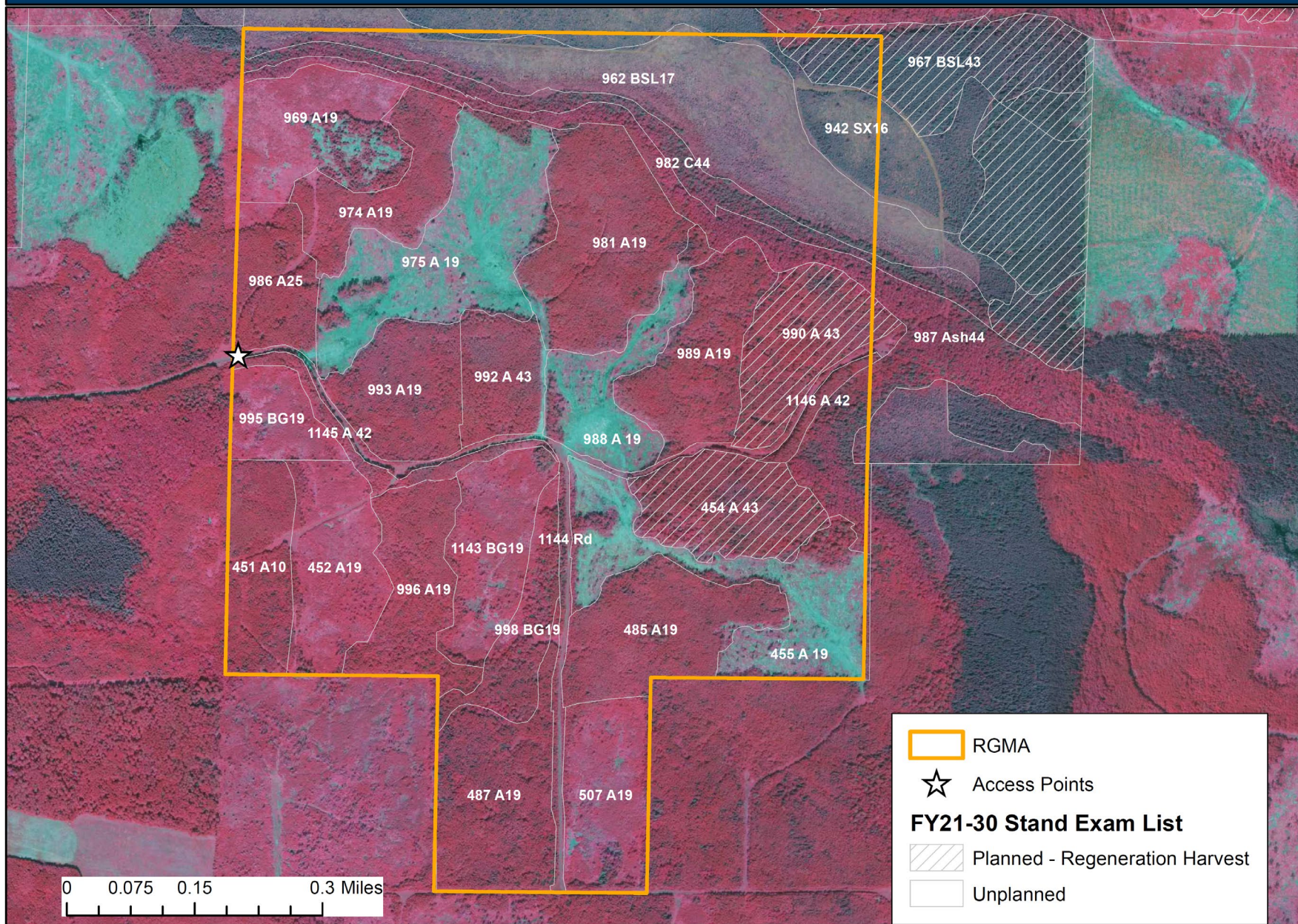
| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Target reserve patches to promote desirable characteristics such as longer-lived conifer species. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 acres preferred) • Leave reserve trees where they create “activity centers” around which diverse age classes are distributed • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Expand Hunter Walking Trail network. |

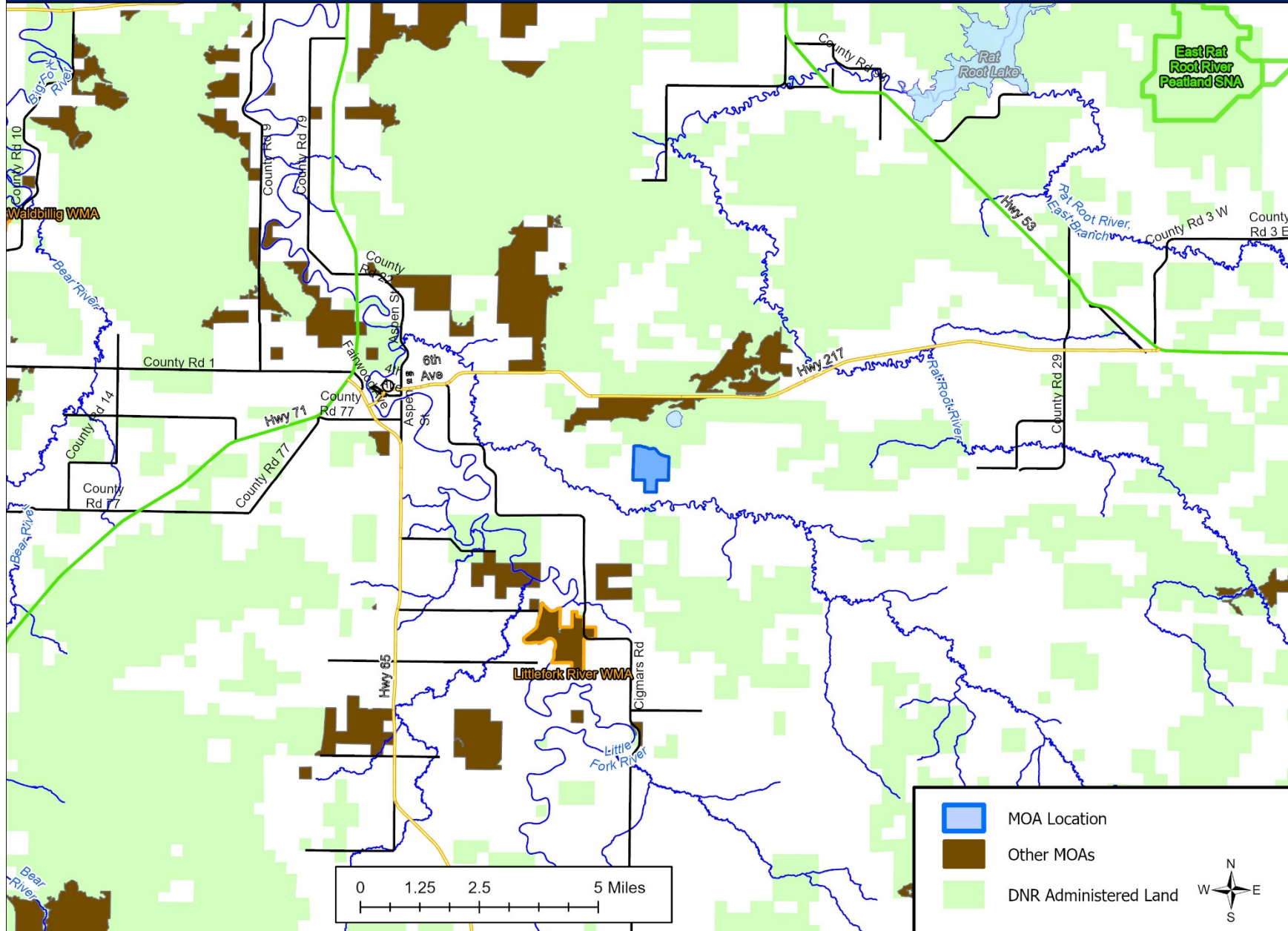
List of stands by Stand ID from FIM

t06824w1160969
t06824w1160974
t06824w1160975
t06824w1160981
t06824w1160986
t06824w1160987
t06824w1160988
t06824w1160989
t06824w1160990
t06824w1160992
t06824w1160993
t06824w1160995
t06824w1161145
t06824w1161146
t06824w1210451
t06824w1210452
t06824w1210454
t06824w1210455
t06824w1210485
t06824w1210487
t06824w1210507
t06824w1210996
t06824w1210998
t06824w1211143
t06824w1211144

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Black River Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R27W, Secs 23-26 |
| NPC System | MHn - Rapid River Till Plain LTA |
| Acres by Land Status (approx.) | 520 acres, all ConCon |
| Current Conditions | This Small Block Management Area is located on both sides of the Black River Road north of the Black River. It contains a mix of age classes of aspen and mixed hardwood types, and is currently managed for fiber production, recreation, and wildlife resources. |

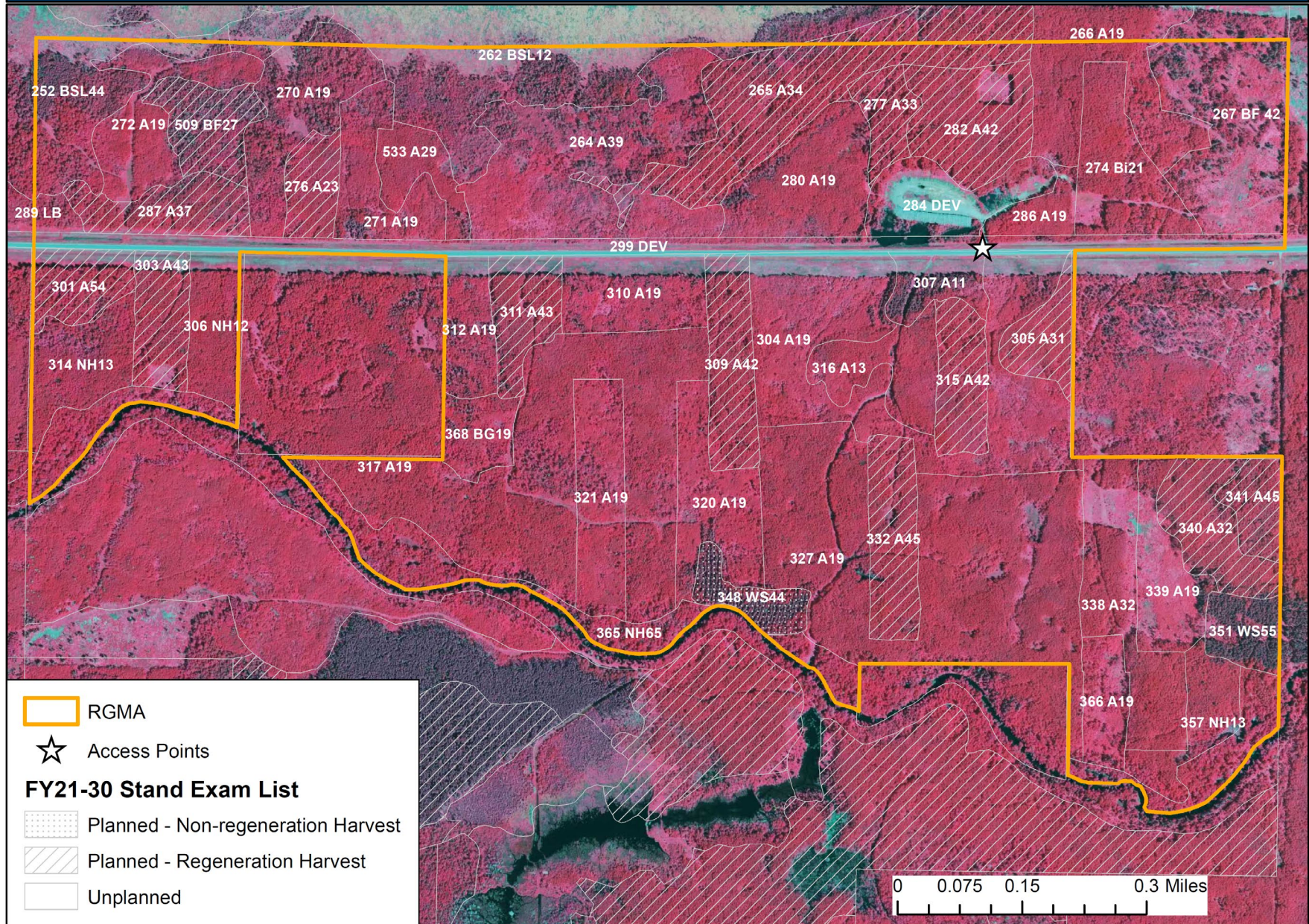
| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks and allowing other areas to mature. Ten acre blocks are preferred, however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.</p> <p>Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (see above).• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed. (Activity centers are 2-3 acre areas around grouse drumming logs that include the intersection of all age classes necessary for the grouse life cycle.)• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.• Ensure young, early-successional forest is distributed across the landscape over time.• Ensure older forest characteristics within stands are distributed across the landscape. |

| FUTURE DIRECTION | |
|--|---|
| Direction or Consideration for Specific Stands (optional) | Stands 304 and 327 are relatively large for a small patch unit and are adjacent with similar ages. Some of these stands need to be harvested near rotation age and the rest allowed to get older to increase heterogeneity. North of the road, Stand 277 and part of 265 should be treated late in the upcoming plan or very early in the next. Also, two of the five older stands in the NW part of the MOA could be treated in the upcoming plan. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. |

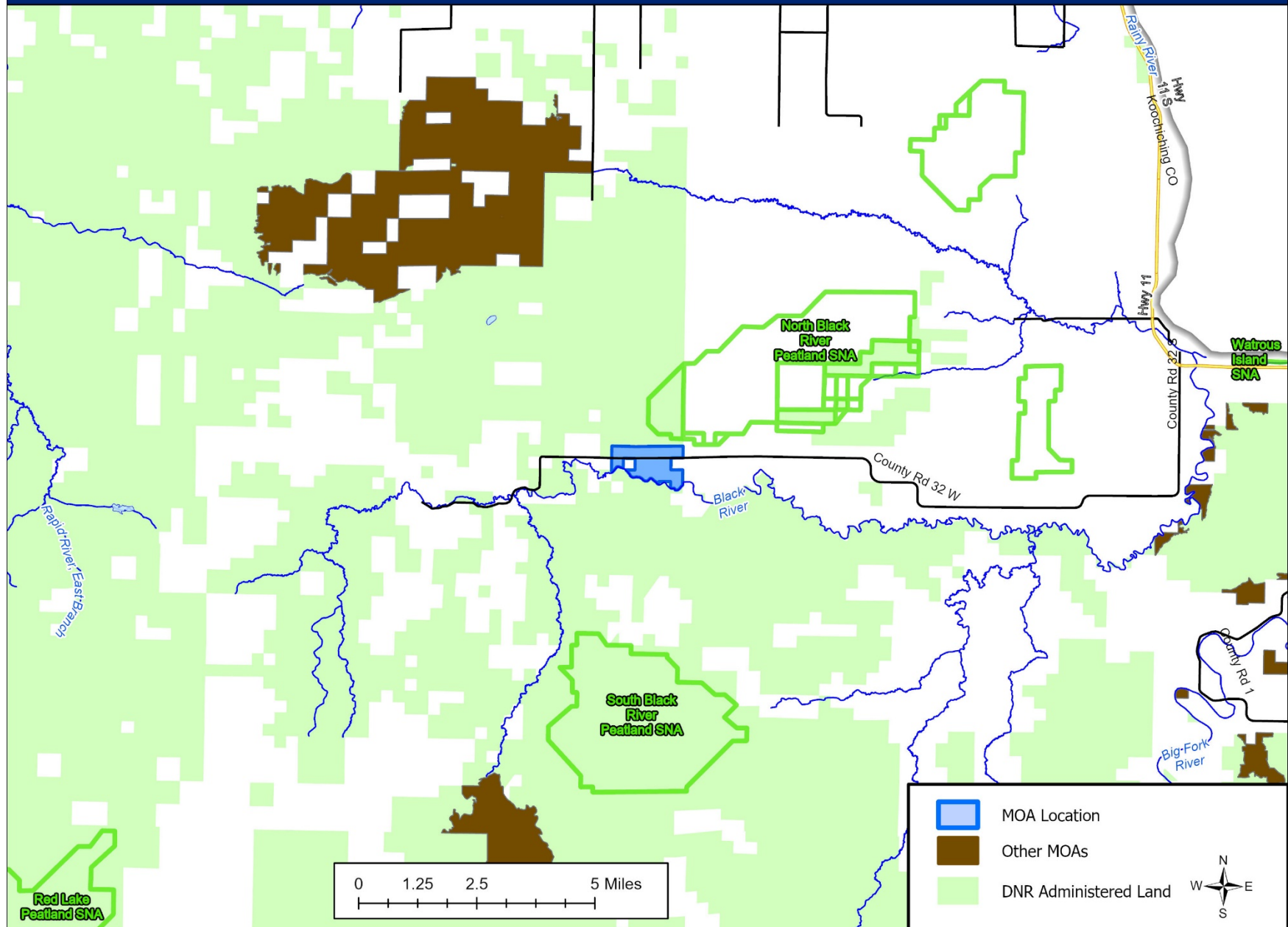
List of stands by Stand ID from FIM

| | |
|----------------|----------------|
| t15827w1230270 | t15827w1250311 |
| t15827w1230271 | t15827w1250312 |
| t15827w1230272 | t15827w1250315 |
| t15827w1230276 | t15827w1250316 |
| t15827w1230287 | t15827w1250317 |
| t15827w1230509 | t15827w1250320 |
| t15827w1230533 | t15827w1250321 |
| t15827w1240264 | t15827w1250327 |
| t15827w1240265 | t15827w1250332 |
| t15827w1240266 | t15827w1250338 |
| t15827w1240267 | t15827w1250339 |
| t15827w1240274 | t15827w1250340 |
| t15827w1240277 | t15827w1250341 |
| t15827w1240280 | t15827w1250348 |
| t15827w1240282 | t15827w1250351 |
| t15827w1240284 | t15827w1250357 |
| t15827w1240286 | t15827w1250366 |
| t15827w1250304 | t15827w1250368 |
| t15827w1250305 | t15827w1260301 |
| t15827w1250307 | t15827w1260303 |
| t15827w1250309 | t15827w1260306 |
| t15827w1250310 | t15827w1260314 |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Canis Lupus Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T157,N, R34W, Sec 21-23 |
| NPC System | Beltrami-Pine Islands Peatlands |
| Acres by Land Status (approx.) | 1,080 acres total, all ConCon |
| Current Conditions | This Small Block Management Area contains young timber stands and a walking trail (Canis lupus walking trail) maintained by the DNR Division of Fish and Wildlife Section of Wildlife. |

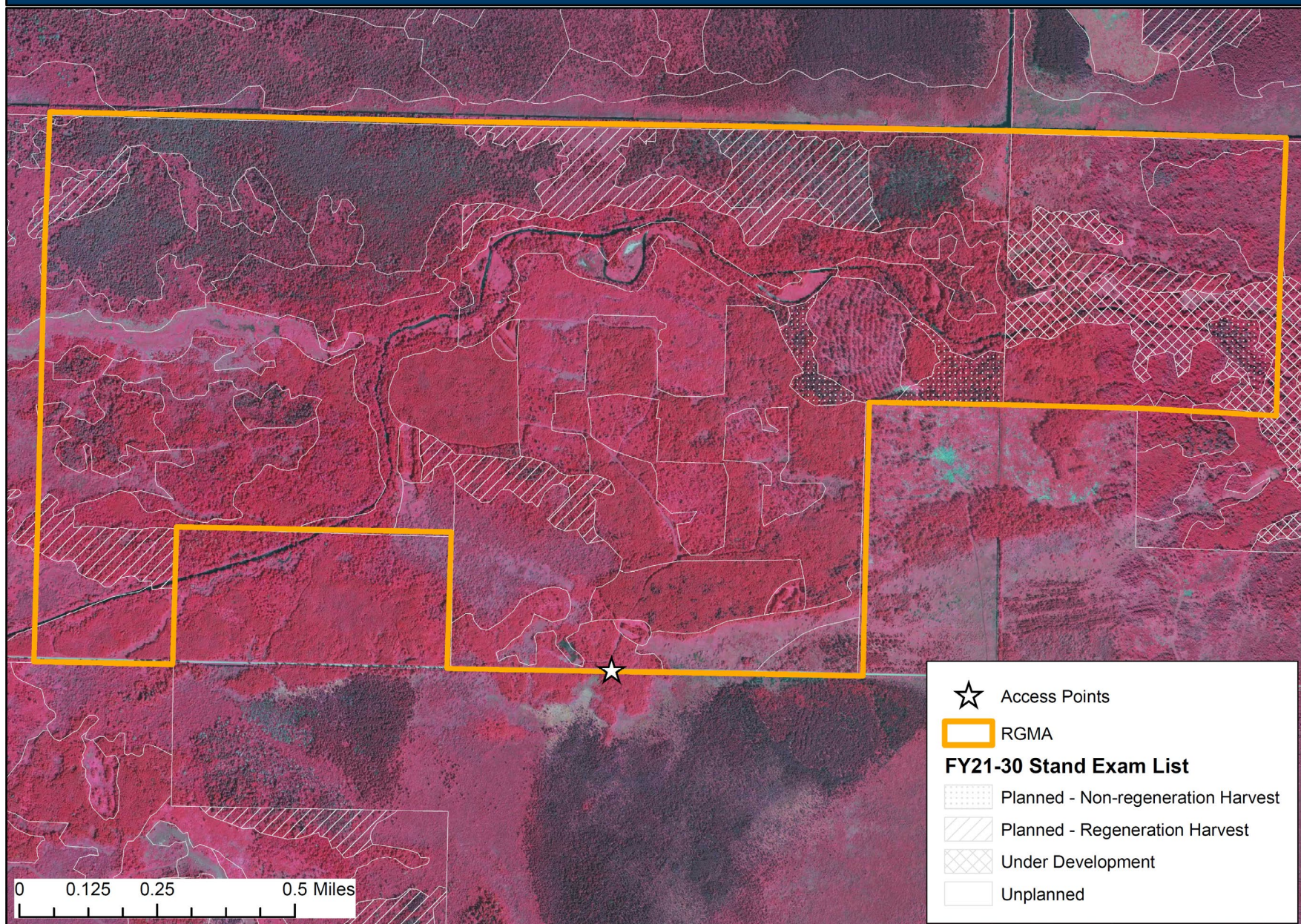
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks and allowing other areas to mature. Ten-acre blocks are preferred; however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.</p> <p>Some stands or parts of some stands could be allowed to passively convert, provided the wildlife manager’s prescription can achieve conversion goals, and others should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover.</p> <p>To facilitate hunter access, timber harvest areas should intersect with walking trails and access roads that hunters use for access.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (see above).• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed. (Activity centers are 2-3 acre areas around grouse drumming logs that include the intersection of all age classes necessary for the grouse life cycle.)• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <p>Do not harvest t15734w1220219. Within other aspen harvests, retain conifer trees for cover as appropriate.</p> |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Allow some passive conversion of older stands to provide mixed conifer stands. • Multiple harvest areas should intersect the Canis Lupus walking trail to accommodate hunter access to a variety of age classes |

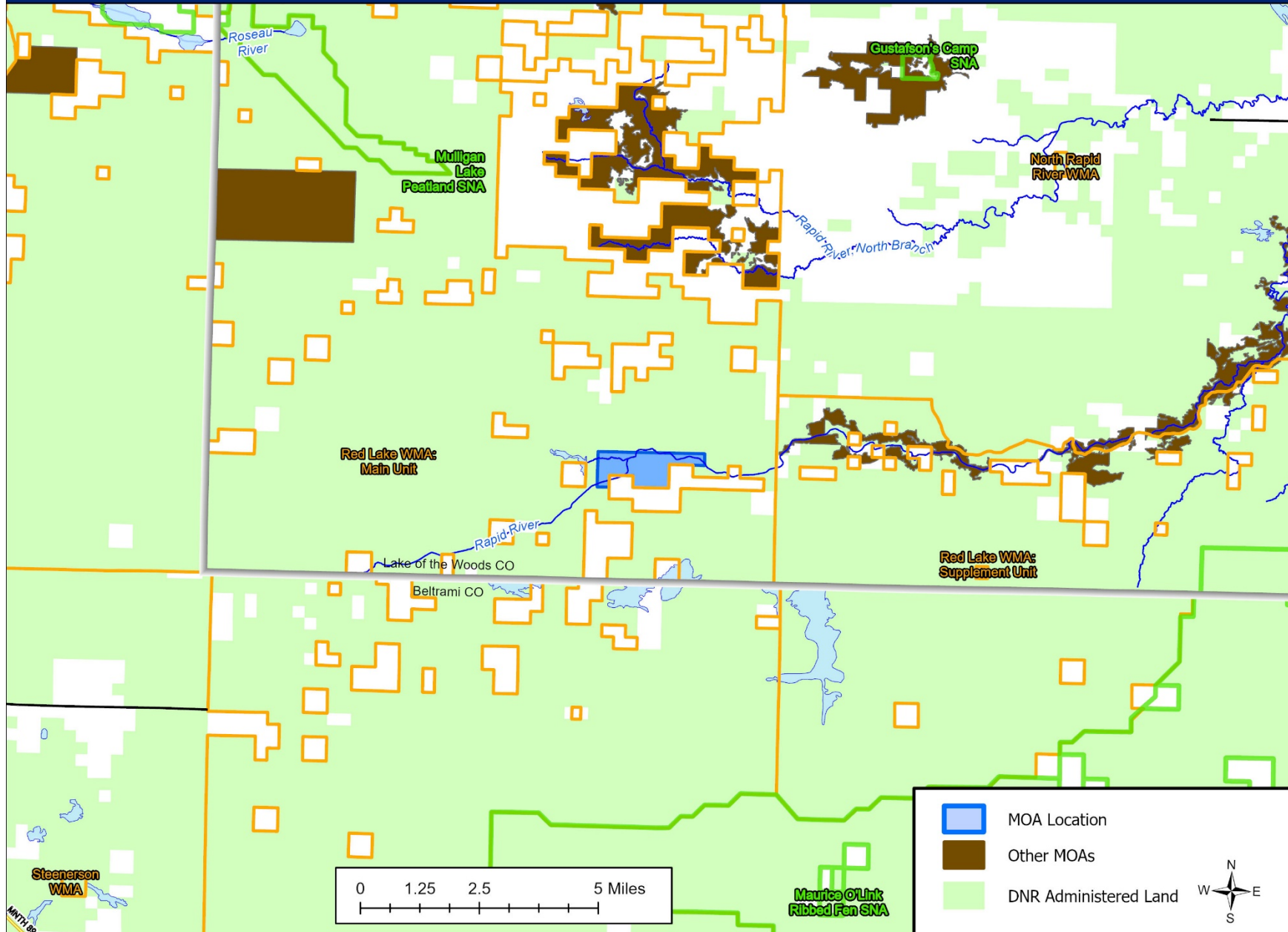
List of stands by Stand ID from FIM

| | |
|----------------|----------------|
| t15734w1210200 | t15734w1220250 |
| t15734w1210213 | t15734w1220251 |
| t15734w1210226 | t15734w1220252 |
| t15734w1210232 | t15734w1220253 |
| t15734w1210238 | t15734w1220255 |
| t15734w1210245 | t15734w1220413 |
| t15734w1210247 | t15734w1220419 |
| t15734w1210454 | t15734w1220424 |
| t15734w1210455 | t15734w1220505 |
| t15734w1210457 | t15734w1220514 |
| t15734w1210460 | t15734w1220545 |
| t15734w1210537 | t15734w1220546 |
| t15734w1210538 | t15734w1220547 |
| t15734w1210540 | t15734w1220548 |
| t15734w1210541 | t15734w1220550 |
| t15734w1210542 | t15734w1220551 |
| t15734w1220204 | t15734w1220552 |
| t15734w1220219 | t15734w1230225 |
| t15734w1220221 | t15734w1230414 |
| t15734w1220224 | t15734w1230415 |
| t15734w1220228 | t15734w1230416 |
| t15734w1220233 | t15734w1230421 |
| t15734w1220236 | t15734w1230422 |
| t15734w1220243 | t15734w1230604 |
| t15734w1220244 | |
| t15734w1220248 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Carp Swamp Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T159N, R31W, Secs 19, 20, 29, 30; T159N, R31W, Secs 13, 25 |
| NPC System | Pine Island Peatlands, Rapid River Till Plain |
| Acres by Land Status (approx.) | 2,940 acres total, all Division of Forestry-administered ConCon |
| Current Conditions | This ruffed grouse management area is located on County Road 1 adjacent to Carp Swamp WMA and contains a mix of aspen age classes and lowland brush types currently managed for timber production, recreation, and wildlife resources. This area has been managed as a Ruffed Grouse Management Area in the past. Hunter hiking trails maintained by the Section of Wildlife traverse the area. |

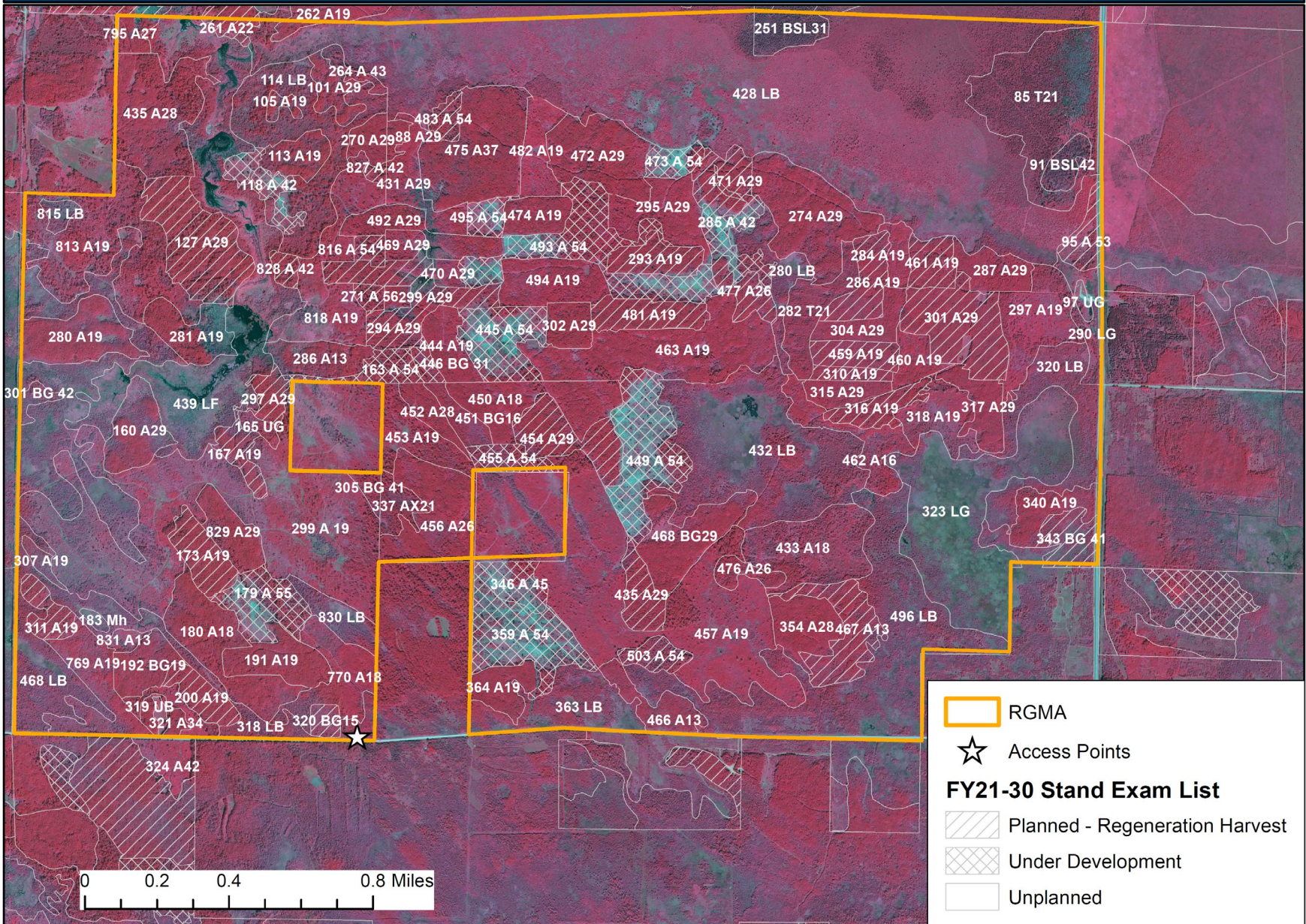
| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks and allowing other areas to mature. Ten acre-blocks are preferred; however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.</p> <p>Harvest should regenerate aspen, but also retain or promote significant conifer cover where appropriate for use as predator/thermal cover.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks. • Leave reserve trees where they create “activity centers” around which diverse age classes are distributed. (Activity centers are 2-3 acre areas around grouse drumming logs that include the intersection of all age classes necessary for the grouse life cycle.) • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |

| FUTURE DIRECTION | |
|---|---|
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. |

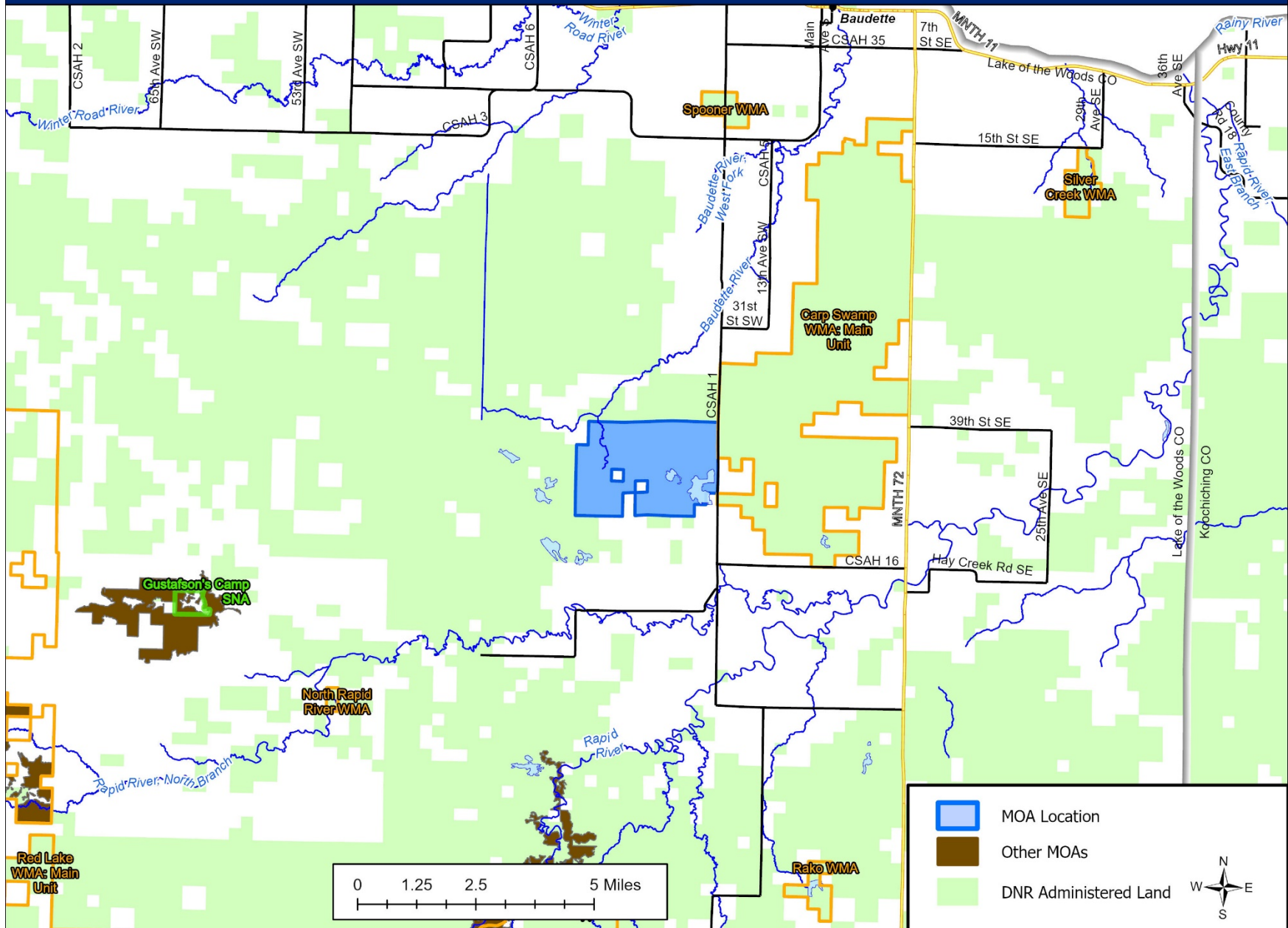
List of stands by Stand ID from FIM

| | | | |
|----------------|----------------|----------------|----------------|
| t15931w1190088 | t15931w1200284 | t15931w1300449 | t15932w1240816 |
| t15931w1190163 | t15931w1200286 | t15931w1300450 | t15932w1240818 |
| t15931w1190280 | t15931w1200287 | t15931w1300451 | t15932w1240827 |
| t15931w1190285 | t15931w1200290 | t15931w1300452 | t15932w1240828 |
| t15931w1190293 | t15931w1200297 | t15931w1300453 | t15932w1250160 |
| t15931w1190294 | t15931w1200301 | t15931w1300454 | t15932w1250165 |
| t15931w1190295 | t15931w1200304 | t15931w1300455 | t15932w1250167 |
| t15931w1190299 | t15931w1200310 | t15931w1300456 | t15932w1250173 |
| t15931w1190302 | t15931w1200459 | t15931w1300457 | t15932w1250179 |
| t15931w1190431 | t15931w1200460 | t15931w1300466 | t15932w1250180 |
| t15931w1190444 | t15931w1200461 | t15931w1300468 | t15932w1250183 |
| t15931w1190445 | t15931w1200463 | t15931w1300476 | t15932w1250191 |
| t15931w1190446 | t15931w1290315 | t15931w1300503 | t15932w1250192 |
| t15931w1190469 | t15931w1290316 | t15932w1240101 | t15932w1250200 |
| t15931w1190470 | t15931w1290317 | t15932w1240105 | t15932w1250297 |
| t15931w1190471 | t15931w1290318 | t15932w1240113 | t15932w1250299 |
| t15931w1190472 | t15931w1290320 | t15932w1240114 | t15932w1250301 |
| t15931w1190473 | t15931w1290323 | t15932w1240118 | t15932w1250305 |
| t15931w1190474 | t15931w1290340 | t15932w1240127 | t15932w1250307 |
| t15931w1190475 | t15931w1290343 | t15932w1240261 | t15932w1250311 |
| t15931w1190477 | t15931w1290354 | t15932w1240262 | t15932w1250318 |
| t15931w1190481 | t15931w1290363 | t15932w1240264 | t15932w1250319 |
| t15931w1190482 | t15931w1290432 | t15932w1240270 | t15932w1250320 |
| t15931w1190483 | t15931w1290433 | t15932w1240271 | t15932w1250321 |
| t15931w1190492 | t15931w1290462 | t15932w1240280 | t15932w1250468 |
| t15931w1190493 | t15931w1290467 | t15932w1240281 | t15932w1250769 |
| t15931w1190494 | t15931w1290496 | t15932w1240286 | t15932w1250770 |
| t15931w1190495 | t15931w1300337 | t15932w1240435 | t15932w1250829 |
| t15931w1200095 | t15931w1300346 | t15932w1240439 | t15932w1250830 |
| t15931w1200097 | t15931w1300359 | t15932w1240795 | t15932w1250831 |
| t15931w1200274 | t15931w1300364 | t15932w1240813 | t15932w1360324 |
| t15931w1200282 | t15931w1300435 | t15932w1240815 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Celina Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T62N, R21W, Secs 6 |
| NPC System | Rauch Till Plain |
| Acres by Land Status (approx.) | 450 acres total; 210 acres State Trust land that adjoins 240 acres of County land managed cooperatively as RGMA |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area includes about 210 acres of state land (within an area of about 450 acres). It is comprised of productive aspen and a diverse mix of conifer species. There is one hunter walking trail located within the boundary of this MOA. |

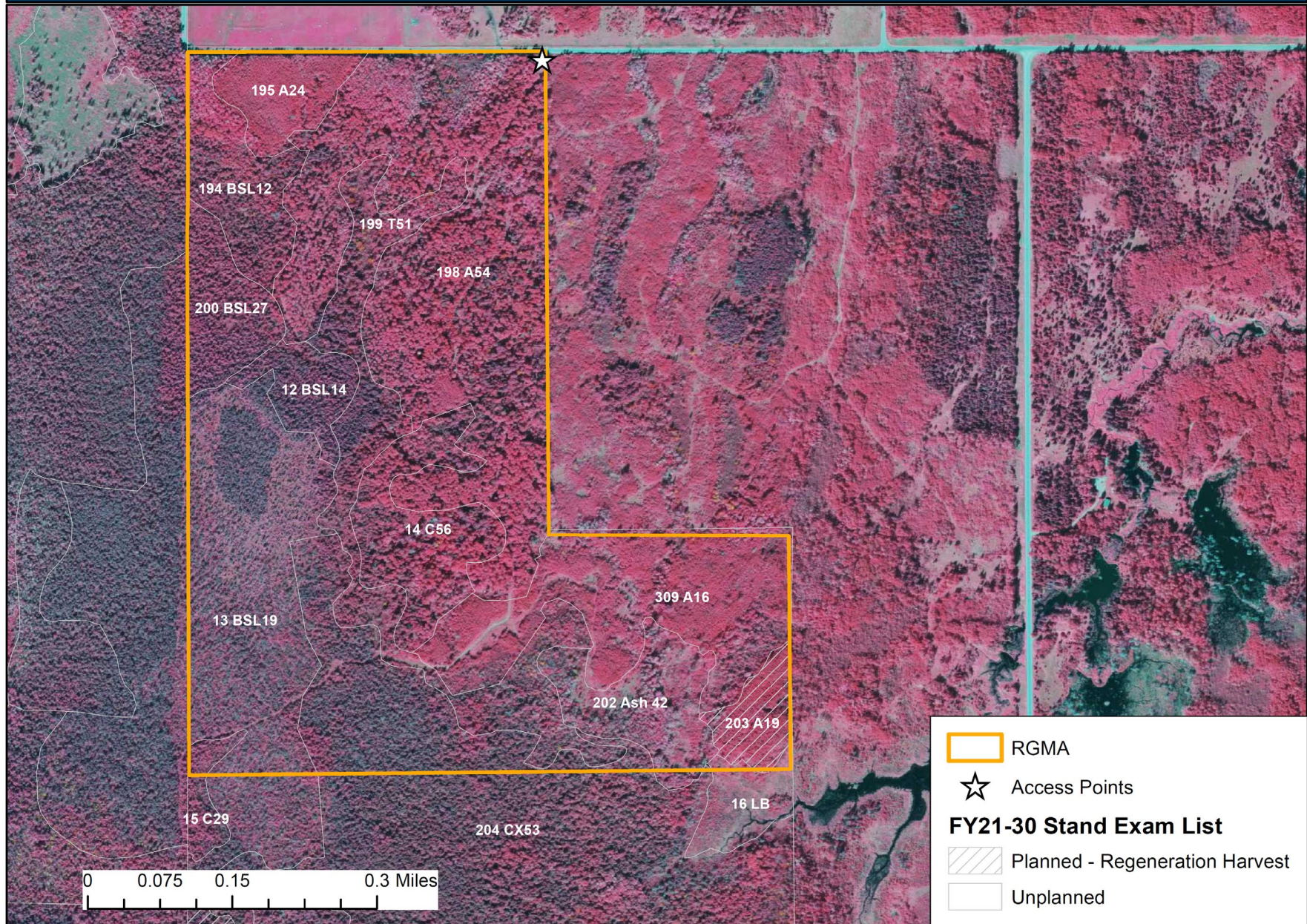
| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen by harvesting in small blocks (10-40 acres preferred). Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Strive to maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10-40 acres preferred) • Coordinate on consolidated placement of 1-5 acre reserves (while following STH regimes) to help maintain within-stand age and structural diversity • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within reserves |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Expand amount of Hunter Walking Trails |

List of stands by Stand ID from FIM

t06221w1060012
t06221w1060013
t06221w1060014
t06221w1060016
t06221w1060194
t06221w1060195
t06221w1060198
t06221w1060199
t06221w1060200
t06221w1060202
t06221w1060203
t06221w1060309

LOCAL MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

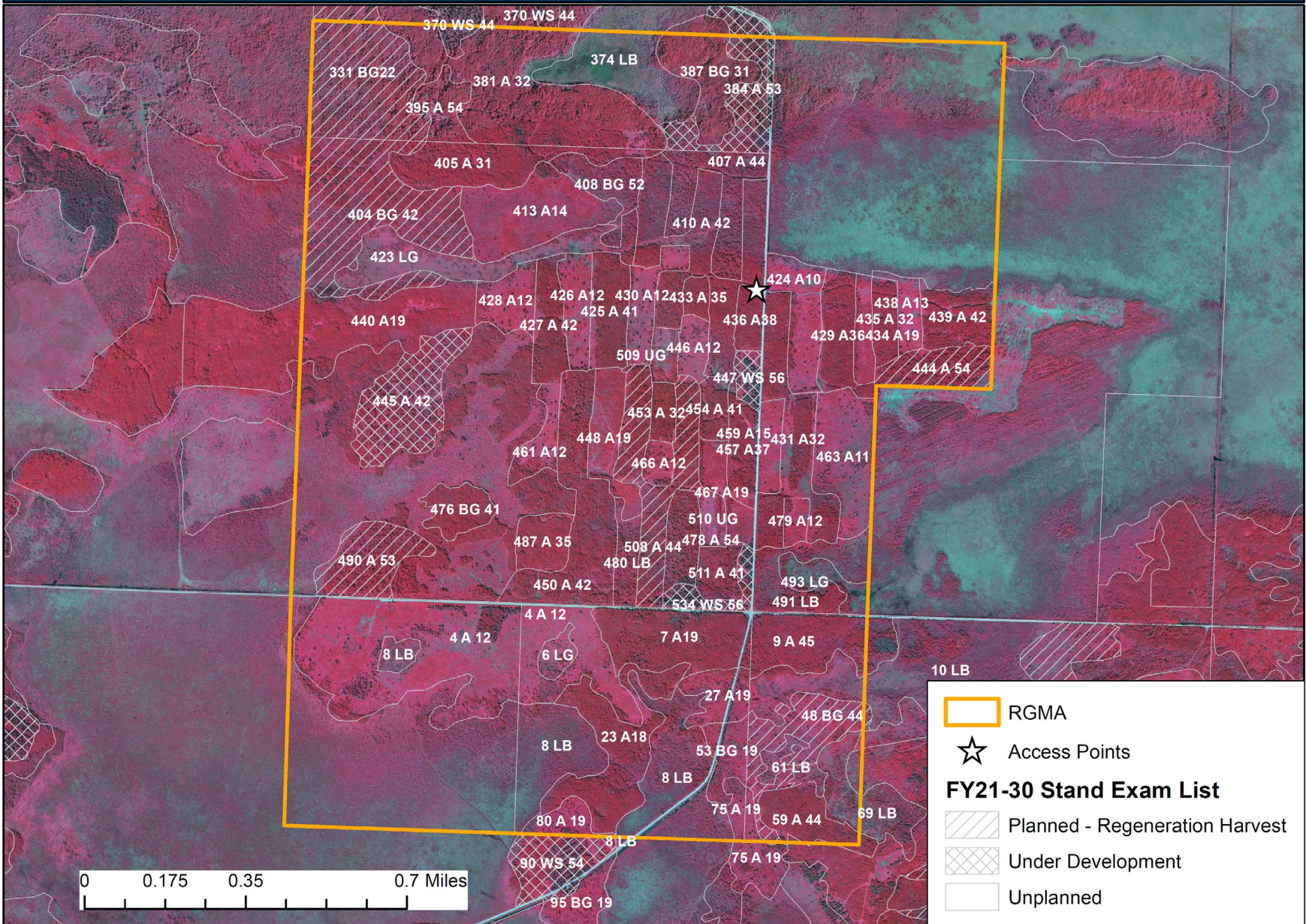
| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Gates Corner Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T157N, R36W, Secs 5, 6; T157N, R36W, Secs 30-32 |
| NPC System | Beltrami-Pine Island Peatlands |
| Acres by Land Status (approx.) | 1,600 acres total (1,440 ConCon, 160 LUP) |
| Current Conditions | Forest and brushland areas within Beltrami Island State Forest dominated by younger hardwoods. A portion of the area has been previously managed as a Ruffed Grouse Management Area with aspen harvests occurring primarily in 10-acre blocks. Two walking trails maintained by the Section Wildlife traverse the area. |
| FUTURE DIRECTION | |
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Some stands or parts of some stands on Wildlife administered lands could be allowed to passively convert, provided the wildlife manager and forester agree that the prescription would achieve conversion goals. Other stands should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks, and allowing other areas to mature up to 60 years <ul style="list-style-type: none"> ○ 10 acres preferred, however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable. • Leave reserve trees where they create “activity centers” around which diverse age classes are distributed. (Activity centers are 2-3 acre areas around a grouse drumming log that includes the intersection of all age classes necessary for the grouse life cycle.) • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|--|
| Draft SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Stand 384A53 (t15836w1300384) will be considered for passive conversion to accumulate mature aspen and encourage mixed conifer component stands. • If harvest occurs in stands 490A53 (t15836w1310490), 478A54 (t15836w1310478) and 444A54 (t15836w1320444), no more than 10 acres of the stand will be harvested to maximize heterogeneity and create smaller harvest blocks within the RGMA. Conifers are used by grouse for cover and will be retained within aspen harvests as appropriate. • Plan half of stands t15836w1310404 and t15836w1300331 in 2023 and the remainder in 2028. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. |

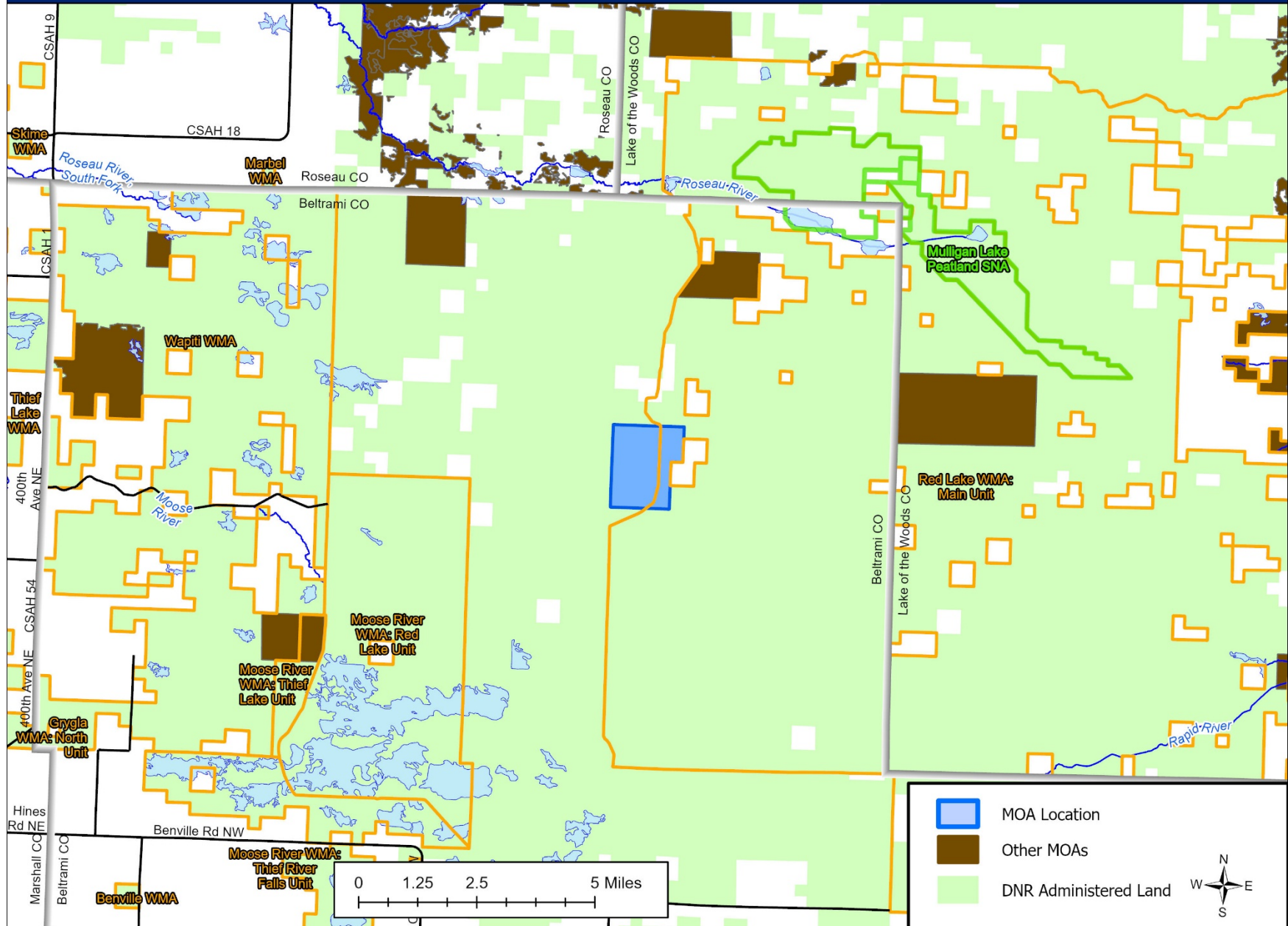
Attach a list of stands by Stand ID from FIM

| | | | |
|----------------|----------------|----------------|----------------|
| t15637w1020008 | t15736w1060149 | t15836w1310433 | t15836w1310509 |
| t15736w1050009 | t15836w1300331 | t15836w1310436 | t15836w1310510 |
| t15736w1050010 | t15836w1300370 | t15836w1310440 | t15836w1310511 |
| t15736w1050047 | t15836w1300374 | t15836w1310445 | t15836w1310534 |
| t15736w1050048 | t15836w1300381 | t15836w1310446 | t15836w1320424 |
| t15736w1050052 | t15836w1300384 | t15836w1310447 | t15836w1320429 |
| t15736w1050059 | t15836w1300387 | t15836w1310448 | t15836w1320431 |
| t15736w1050061 | t15836w1300395 | t15836w1310450 | t15836w1320434 |
| t15736w1050069 | t15836w1310404 | t15836w1310453 | t15836w1320435 |
| t15736w1050075 | t15836w1310405 | t15836w1310454 | t15836w1320438 |
| t15736w1060004 | t15836w1310407 | t15836w1310457 | t15836w1320439 |
| t15736w1060006 | t15836w1310408 | t15836w1310461 | t15836w1320444 |
| t15736w1060007 | t15836w1310410 | t15836w1310466 | t15836w1320459 |
| t15736w1060008 | t15836w1310413 | t15836w1310467 | t15836w1320463 |
| t15736w1060023 | t15836w1310423 | t15836w1310476 | t15836w1320479 |
| t15736w1060027 | t15836w1310425 | t15836w1310478 | t15836w1320491 |
| t15736w1060053 | t15836w1310426 | t15836w1310480 | t15836w1320493 |
| t15736w1060080 | t15836w1310427 | t15836w1310487 | |
| t15736w1060090 | t15836w1310428 | t15836w1310490 | |
| t15736w1060095 | t15836w1310430 | t15836w1310508 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Gladen's Camp Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R35W, Secs 18-21, 27-31 |
| NPC System | Beltrami-Pine Island Peatlands |
| Acres by Land Status (approx.) | 2,740 acres total; 2,580 acres WMA ConCon, 160 acres LUP |
| Current Conditions | This RGMA is situated on a ridge between two larger areas of peat soils and sustains large stands of aspen, ash, tamarack and cedar. Most aspen stands within Red Lake WMA are younger than these stands, which currently provide nearly contiguous areas of mature hardwood habitat. Retention of portions of these large stands within a complex of small harvest sites and passive conversion sites will provide ideal ruffed grouse habitat. This area is currently interspersed with several walking trails, which provide excellent hunter access. |

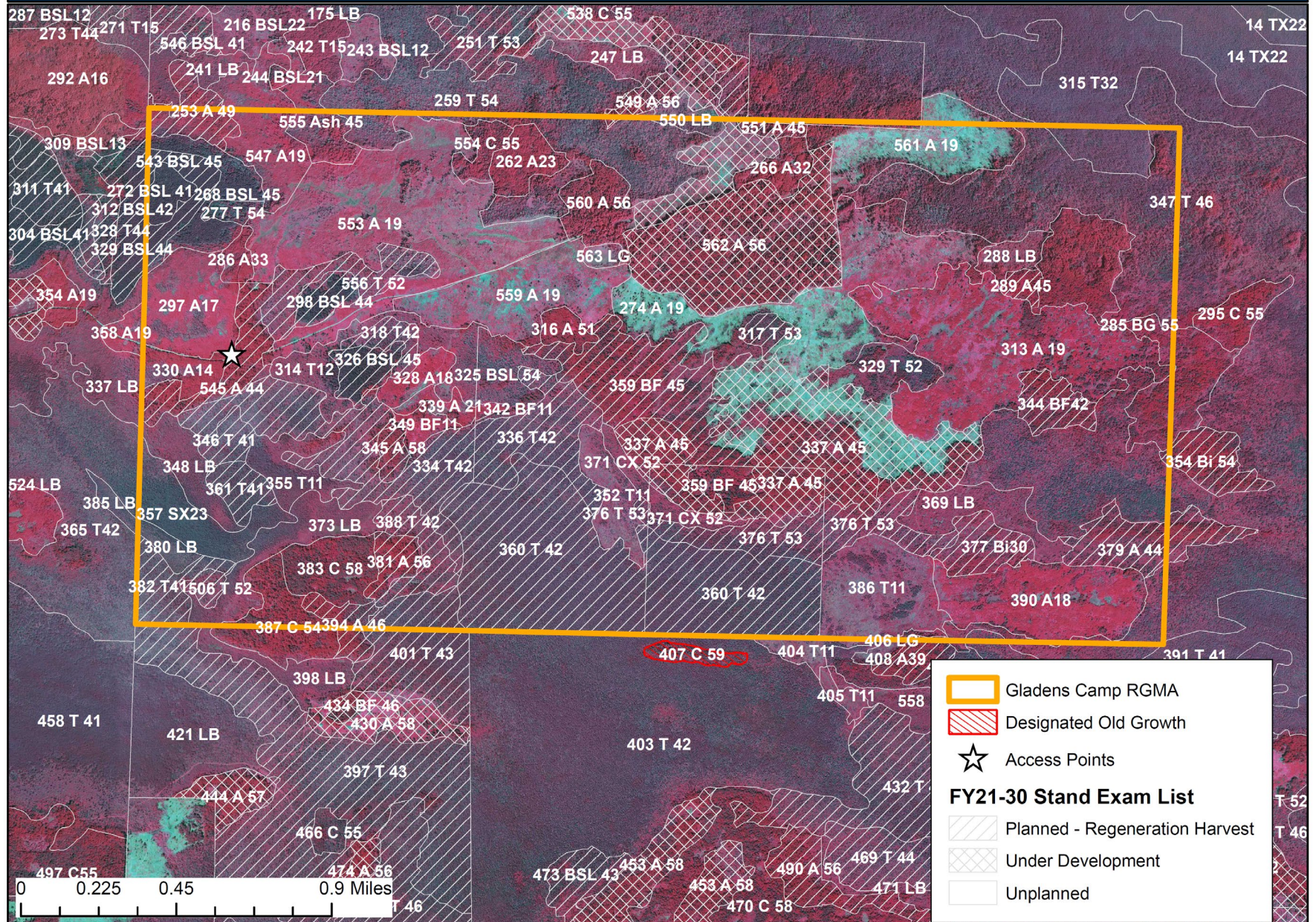
| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small "activity centers" by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Although 10-acre blocks are preferred, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.</p> <p>Some stands or parts of some stands could be allowed to passively convert, provided the wildlife manager's prescription can achieve conversion goals, and other stands should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 acres preferred), and allowing other areas to mature up to 60 years. • Leave reserve trees where they create "activity centers" around which diverse age classes are distributed. (Activity centers are 2-3 acre areas around a grouse drumming log that includes the intersection of all age classes necessary for the grouse life cycle.) • Regenerate aspen and retain some conifers for grouse cover. • Increase within-stand age and structural diversity. • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within "activity centers". • Past management in this area has not been focused on small block management and future management should work toward the above |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (cont.) | goals with the understanding that all goals (block size, age structure etc.) are not likely to be attainable within ten years. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | Reserve 560A56 (t15835w1200560) for mature aspen in a landscape of younger aspen. This stand is a leave island from when the stand was part of stand 257A57 (t15835w1210257). Reserve portions of stand 337A45 (t15835w1280337) that have not already been sold. Conifers should be retained as appropriate for cover trees. Look for opportunities to balance age classes, evenly distribute older aspen within the RGMA, and retain conifer coverage by utilizing large reserves and/or deferring (and replacing) portions of stands 359BF45 and 545A44. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. |

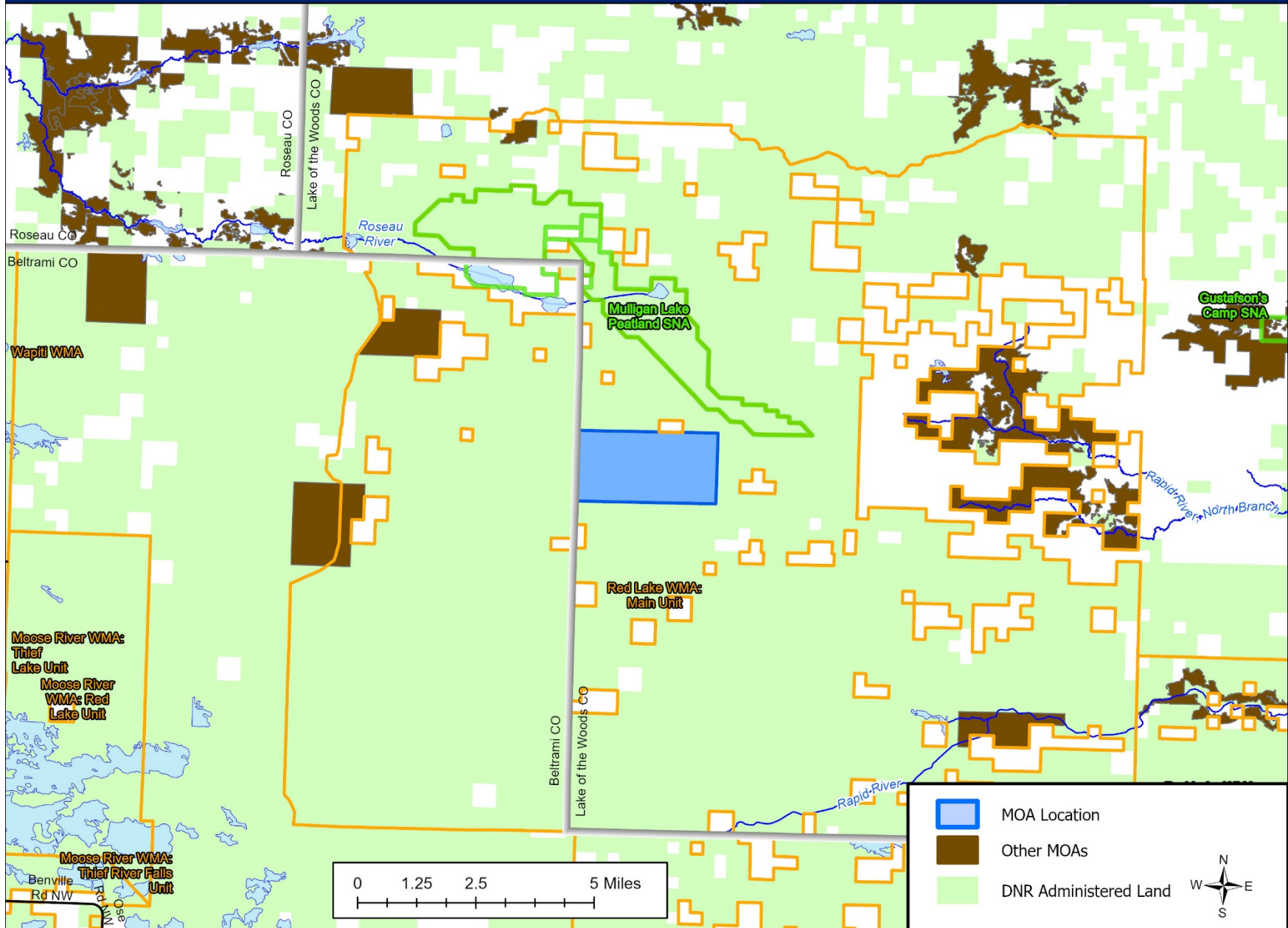
List of stands by Stand ID from FIM

| | | | |
|----------------|----------------|----------------|----------------|
| t15835w1280379 | t15835w1300326 | t15835w1210288 | t15835w1190547 |
| t15835w1290317 | t15835w1280386 | t15835w1280337 | t15835w1300297 |
| t15835w1200262 | t15835w1300339 | t15835w1280337 | t15835w1190543 |
| t15835w1200562 | t15835w1290371 | t15835w1300318 | t15835w1300348 |
| t15835w1300328 | t15835w1310401 | t15835w1290316 | t15835w1300383 |
| t15835w1190554 | t15835w1290342 | t15835w1190286 | t15835w1190253 |
| t15835w1280377 | t15835w1200550 | t15835w1300330 | t15835w1190268 |
| t15835w1190556 | t15835w1210285 | t15835w1300298 | t15835w1290376 |
| t15835w1300345 | t15835w1280344 | t15835w1190555 | t15835w1290360 |
| t15835w1210274 | t15835w1210289 | t15835w1300361 | t15835w1290371 |
| t15835w1300388 | t15835w1290336 | t15835w1300334 | t15835w1290359 |
| t15835w1280390 | t15835w1290559 | t15835w1300380 | t15835w1280337 |
| t15835w1210561 | t15835w1290359 | t15835w1300545 | |
| t15835w1290325 | t15835w1280329 | t15835w1300506 | |
| t15835w1200560 | t15835w1300314 | t15835w1300346 | |
| t15835w1280369 | t15835w1280313 | t15835w1300387 | |
| t15835w1300381 | t15835w1200551 | t15835w1190277 | |
| t15835w1300349 | t15835w1190553 | t15835w1300382 | |
| t15835w1290376 | t15835w1300394 | t15835w1300357 | |
| t15835w1290376 | t15835w1200266 | t15835w1300373 | |
| t15835w1200563 | t15835w1200549 | t15835w1300355 | |
| t15835w1290360 | t15835w1290352 | t15835w1190272 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Hwy 115 Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T62N, R17W, Secs 16 |
| NPC System | Cook Till Plain |
| Acres by Land Status (approx.) | 670 acres total; all School Trust land; adjoins 40 acres County administered land managed as an RGMA. |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area is comprised of a diverse mix of productive aspen with stagnant lowland conifer, ash and lowland brush. There is one hunter walking trail located within its boundary. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen by harvesting in small blocks (10-40 acres preferred). Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Strive to maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10-40 acres preferred) • Coordinate on consolidated placement of 1-5 acre reserves (while following STH regimes) to help maintain within-stand age and structural diversity • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within reserves • Coordinate with Forestry to split 245-acre aspen stand into multiple cutting blocks distributed across the 10-year plan period |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (cont.) | <ul style="list-style-type: none"> • Use access trails to realign the hunter walking trail on the west side of unit that is inundated by beaver activity |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Expand Hunter Walking Trail network |

List of stands by Stand ID from FIM

t06217w1160062

t06217w1160063

t06217w1160065

t06217w1160068

t06217w1160069

t06217w1160070

t06217w1160072

t06217w1160075

t06217w1160077

t06217w1160079

t06217w1160080

t06217w1160082

t06217w1160083

t06217w1160084

t06217w1160086

t06217w1160087

t06217w1160088

t06217w1160098

t06217w1160100

t06217w1160101

t06217w1160104

t06217w1160107

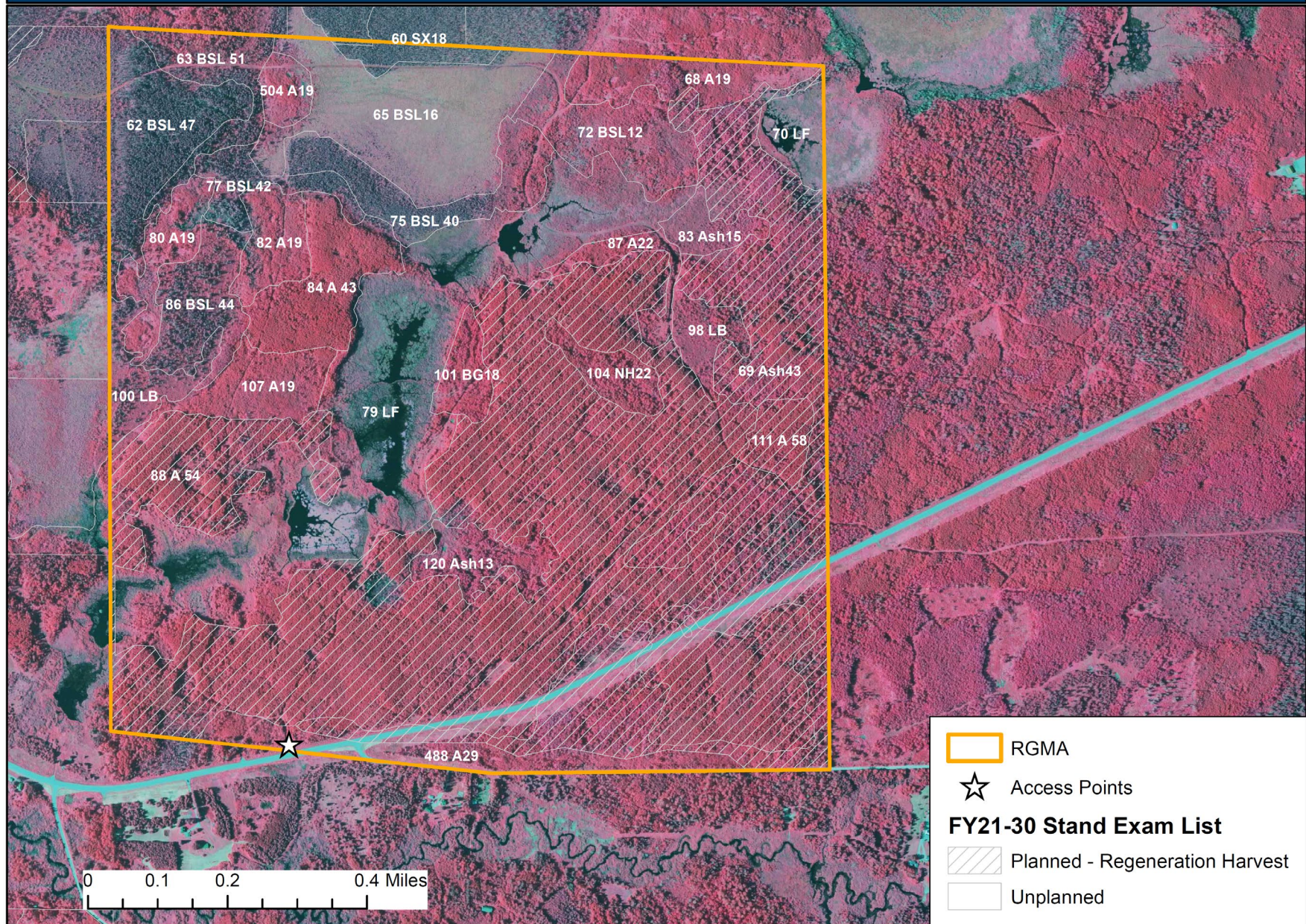
t06217w1160111

t06217w1160120

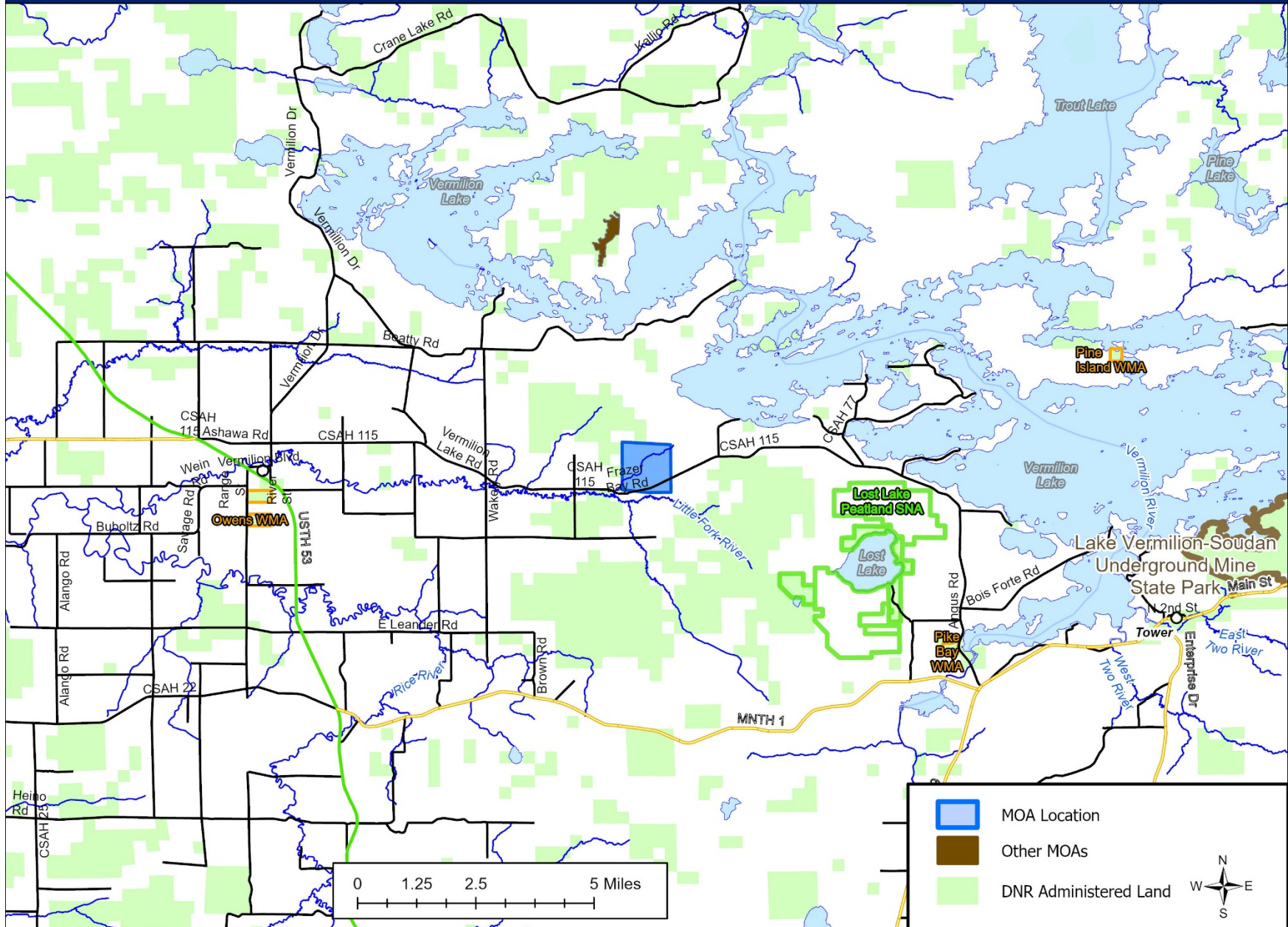
t06217w1160488

t06217w1160504

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Moose Lake Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T68N, R24W, Secs 7-10, 18 |
| NPC System | MHn – Little-Big Fork and Ash Lake Till Plain LTAs |
| Acres by Land Status (approx.) | 572 acres total, all School Trust Land |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Small Block Management Areas is located east of Littlefork, south of Hwy 217. It has a mixed age class of aspen/BG types averaging 15 acres in size. Stands are currently managed for fiber production, recreation and wildlife resources. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Target reserve patches to promote desirable characteristics such as longer-lived conifer species. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 acres preferred)• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

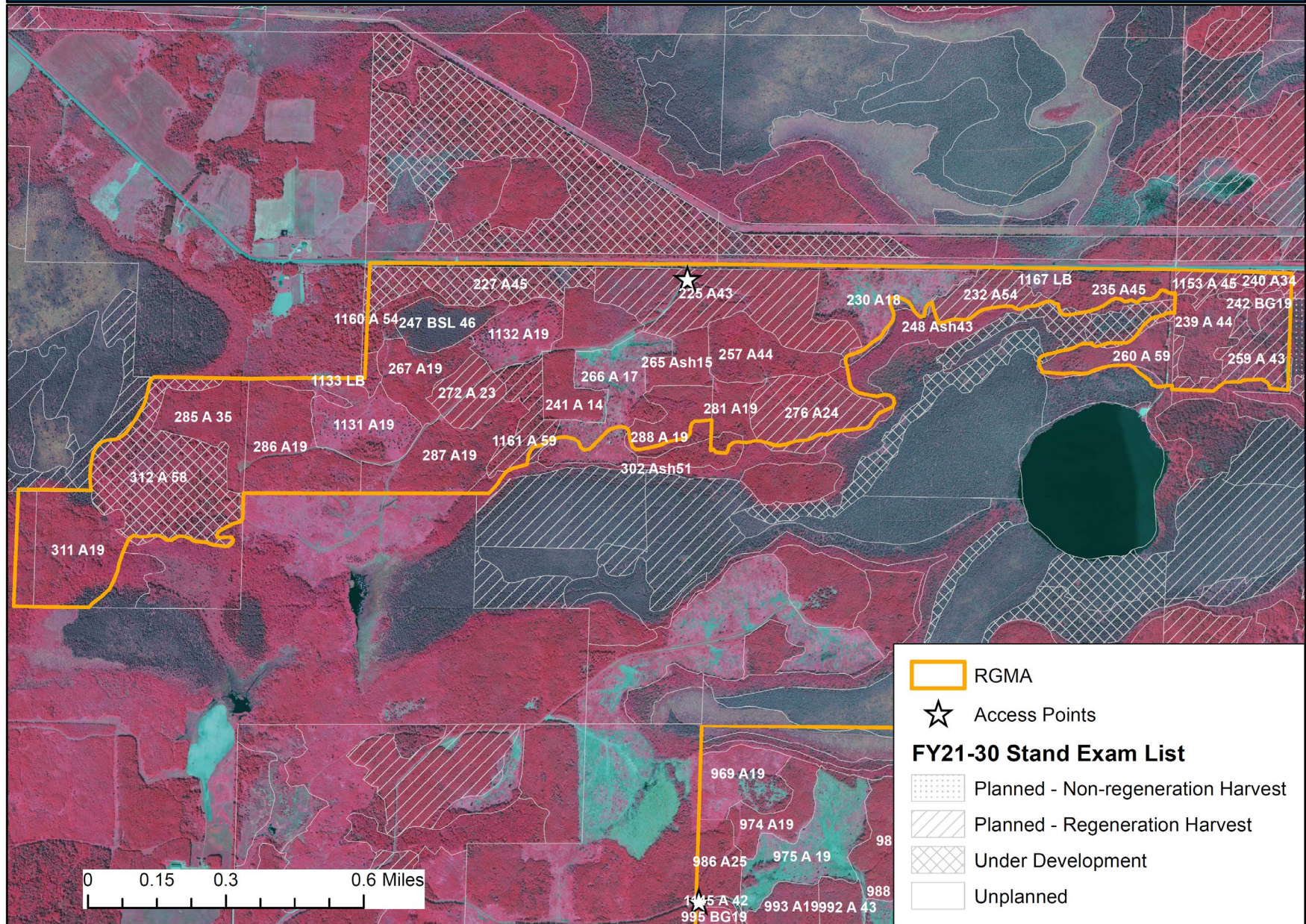
| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Expand Hunter Walking Trail network. |

List of stands by Stand ID from FIM

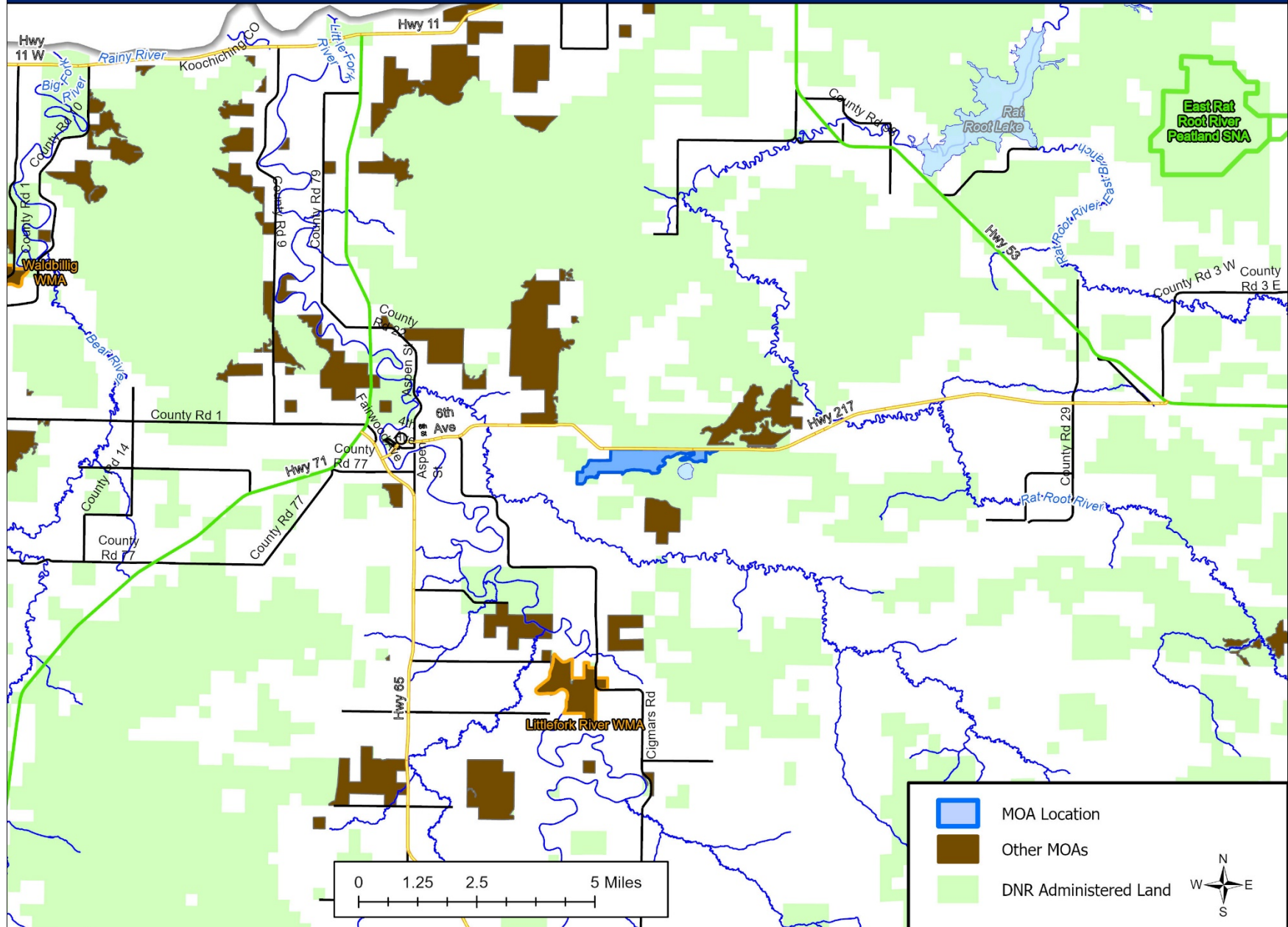
t06824w1070285
t06824w1080227
t06824w1080241
t06824w1080247
t06824w1080265
t06824w1080266
t06824w1080267
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t06824w1080286
t06824w1080287
t06824w1080288
t06824w1081131
t06824w1081132
t06824w1081133
t06824w1081160
t06824w1081161
t06824w1081162
t06824w1090225
t06824w1090230
t06824w1090232
t06824w1090235
t06824w1090248
t06824w1090257
t06824w1090260
t06824w1090276
t06824w1090281
t06824w1090302
t06824w1090305
t06824w1091167
t06824w1100239
t06824w1100240

t06824w1100242
t06824w1100259
t06824w1101153
t06824w1180311
t06824w1180312

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

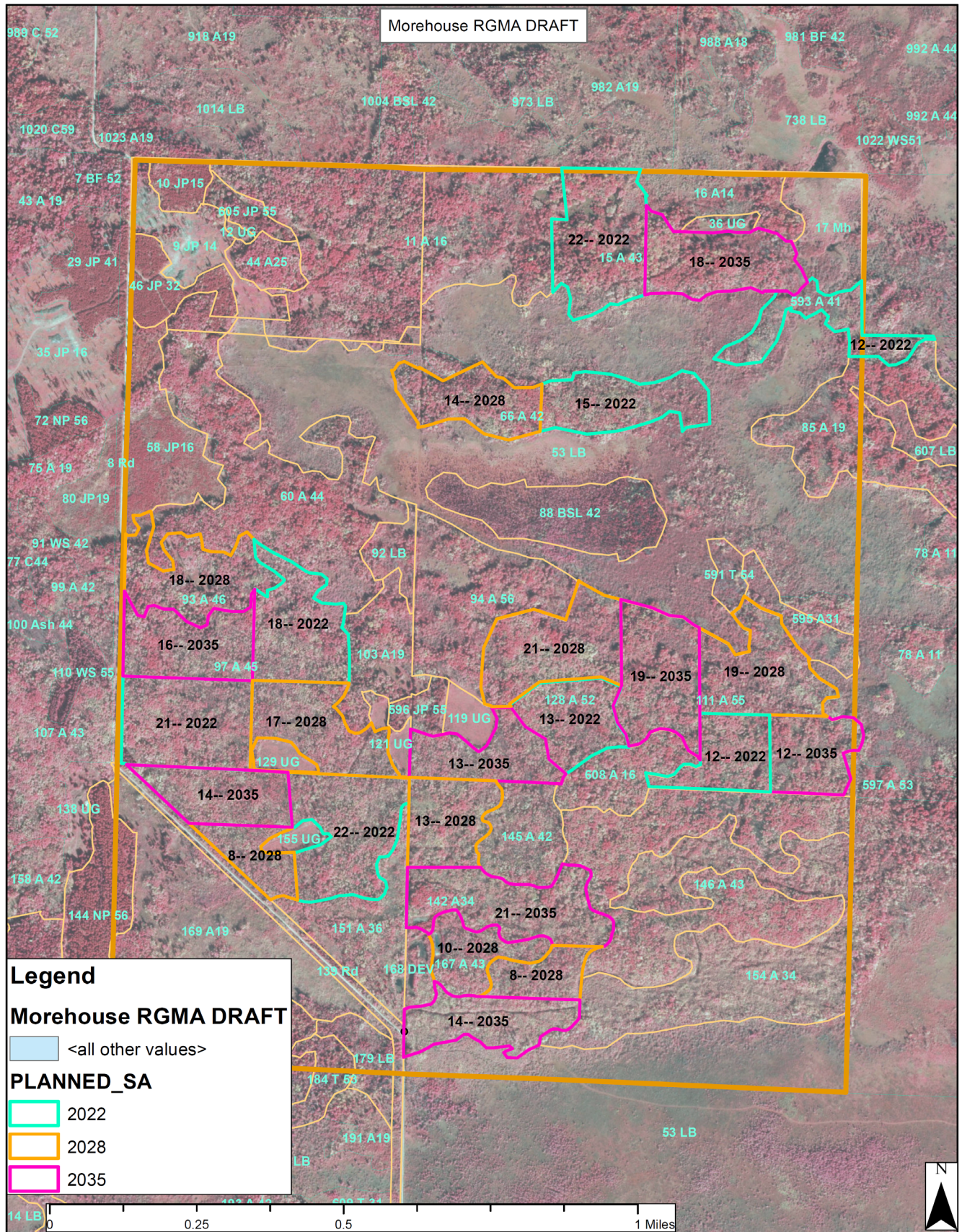
| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Morehouse Road Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R37W, Secs 4, 5, 8, 9 |
| NPC System | Beltrami-Pine Island Peatlands |
| Acres by Land Status (approx.) | 1,140 acres total; 1,045 acres ConCon, 95 acres LUP |
| Current Conditions | This area is dominated by aspen and lowland brush types and many of the aspen stands have a diverse understory. Mixed-age aspen stands, a variety of stand sizes, and a diverse understory make this ideal habitat for ruffed grouse and it is a popular hunting destination. |

| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (< 20 acres preferred) and allowing other areas to mature. Some stands or parts of some stands on Wildlife administered lands could be allowed to passively convert, provided the wildlife manager and forester agree that the prescription would achieve conversion goals. Other stands should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. It will take multiple planning periods to develop the desired characteristics of this RGMA. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (< 20 acres preferred), and allowing other areas to mature up to 60 years• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers”• Note: it may take more than 10 years to be able to implement all strategies to achieve the intent of this MOA. |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.• Ensure young, early-successional forest is distributed across the landscape over time. |

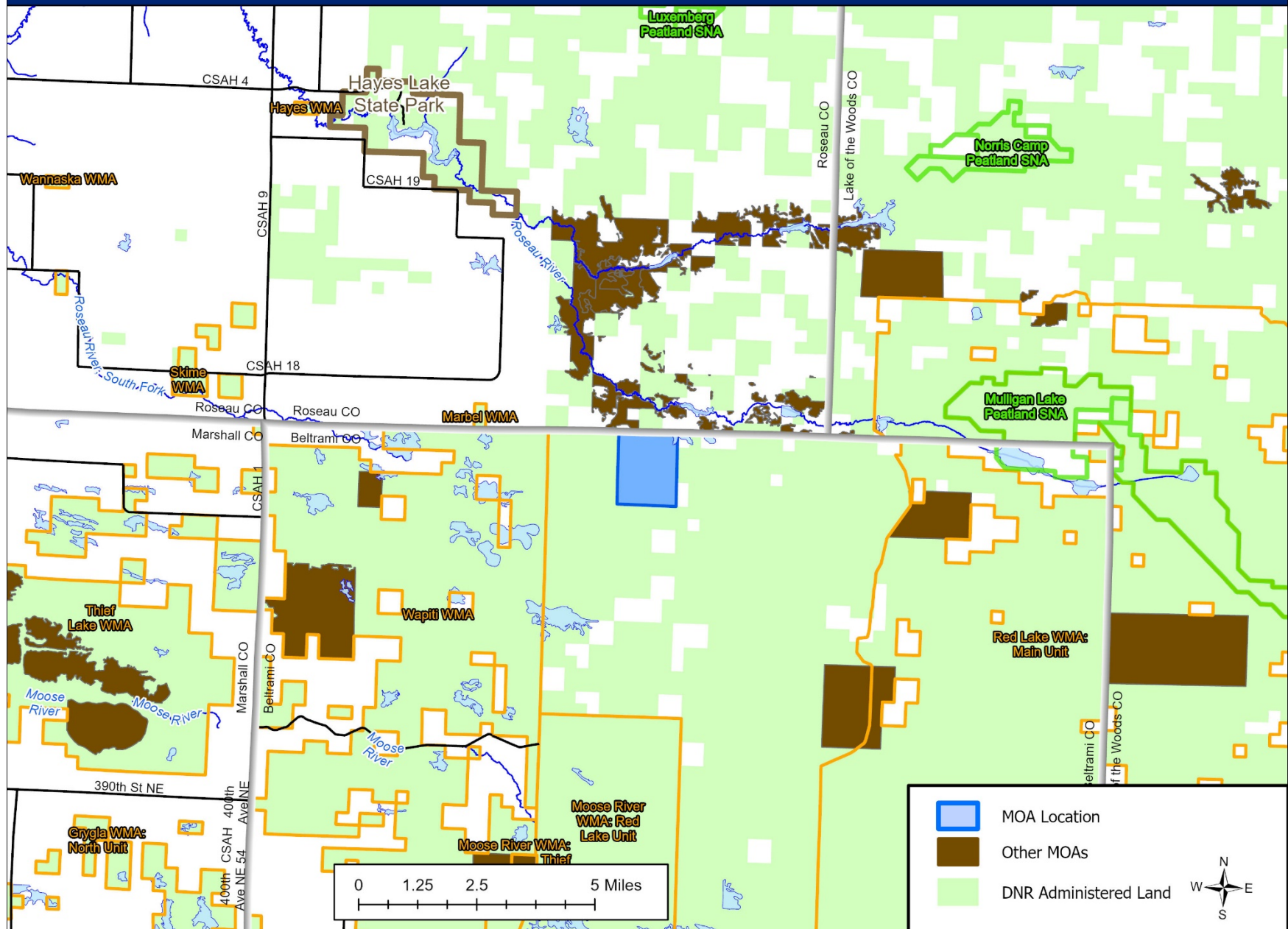
| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance (cont.) | <ul style="list-style-type: none"> Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <p>Efforts will be made where feasible and possible to break larger stands such as 66A42 (t15837w1040066), 44A43 (t15837w1050044), 15A43 (t15837w1040015), 94A43 (t15837w1040094), and 111A41 (t15837w1040111) in to smaller stands through strip and small block harvests. Significant retention of conifers for cover trees will occur where possible and desirable.</p> |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Improve hunter access by creating a Hunter Walking Trail along timber harvest access routes. |

List of stands by Stand ID from FIM

| | |
|----------------|----------------|
| t15837w1030085 | t15837w1050605 |
| t15837w1040015 | t15837w1080139 |
| t15837w1040016 | t15837w1080144 |
| t15837w1040017 | t15837w1080151 |
| t15837w1040036 | t15837w1080155 |
| t15837w1040053 | t15837w1080165 |
| t15837w1040066 | t15837w1080169 |
| t15837w1040088 | t15837w1080172 |
| t15837w1040094 | t15837w1080179 |
| t15837w1040111 | t15837w1080180 |
| t15837w1040119 | t15837w1080181 |
| t15837w1040128 | t15837w1080184 |
| t15837w1040591 | t15837w1090142 |
| t15837w1040593 | t15837w1090145 |
| t15837w1040595 | t15837w1090146 |
| t15837w1040596 | t15837w1090154 |
| t15837w1040608 | t15837w1090167 |
| t15837w1050009 | t15837w1090168 |
| t15837w1050010 | |
| t15837w1050011 | |
| t15837w1050012 | |
| t15837w1050044 | |
| t15837w1050046 | |
| t15837w1050058 | |
| t15837w1050060 | |
| t15837w1050092 | |
| t15837w1050093 | |
| t15837w1050097 | |
| t15837w1050103 | |
| t15837w1050121 | |
| t15837w1050129 | |



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

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| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Mud Hole Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T60N, R21W, Secs 1 |
| NPC System | Rauch Till Plain |
| Acres by Land Status (approx.) | 230 acres, all School Trust Lands |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area is comprised of productive aspen, with small areas of lowland conifer. There are 2.4 miles of Hunter Walking Trails present. The RGMA currently lacks any stands under the age of 13; stand ages range from 13-39 years, with one stand 45 years old just to the north. Four stands are larger than 20 acres and could be divided into multiple smaller stands. |

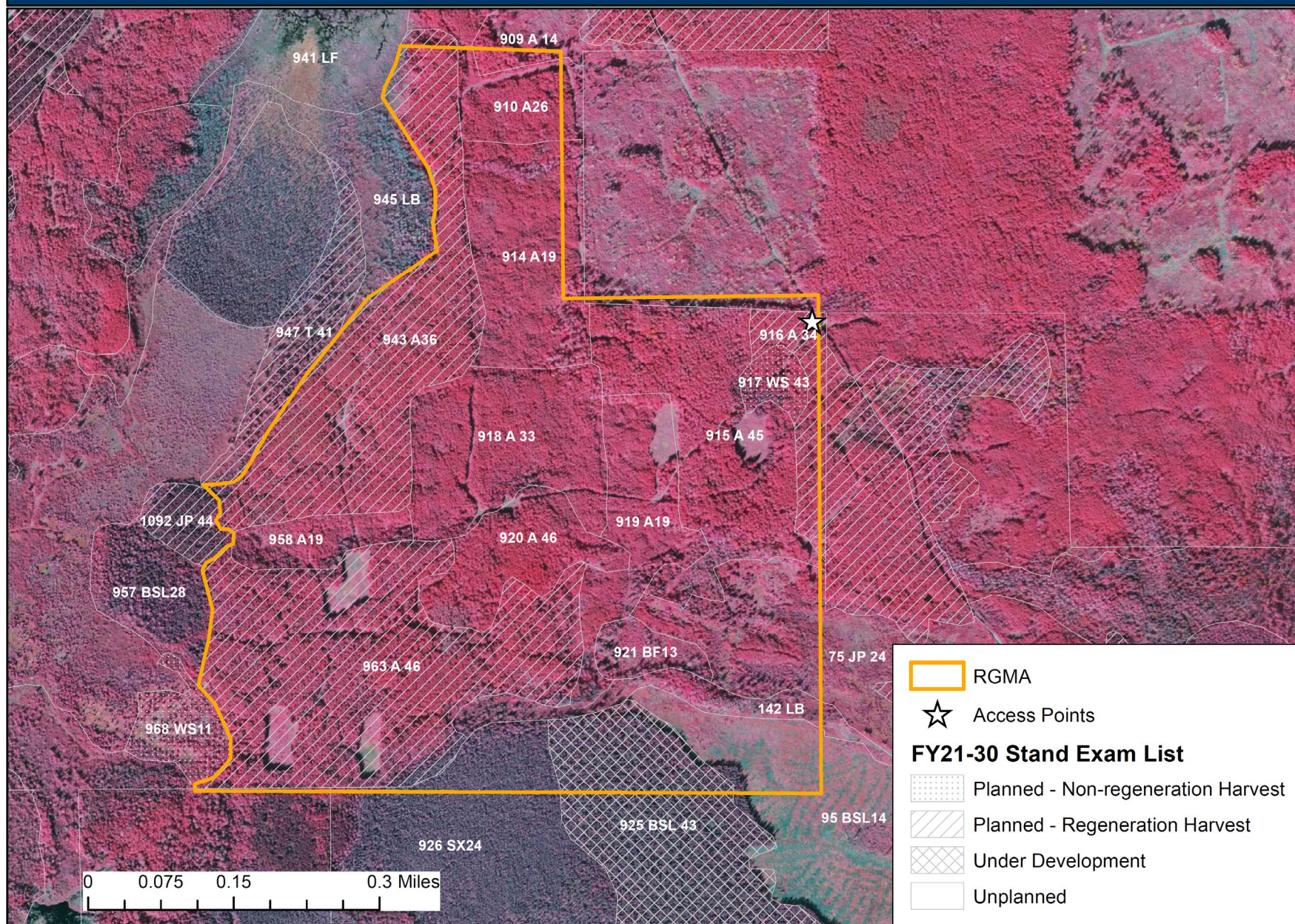
| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen by harvesting in small blocks. Harvest should regenerate aspen but also retain allowable balsam, spruce, and cedar where appropriate for use as predator/thermal cover where feasible. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Attempt to maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 -20 acres or less preferred). • Coordinate on consolidated placement of 1-5 acre reserves (while following STH regimes) to help maintain within-stand age and structural diversity. • Regenerate aspen and retain some conifers for grouse cover • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <p>Stands t06021w1010915, t06021w1010920, and t06021w1010908 should be harvested in the next 10 years. Stand t06021w1010963 (45.7 ac) should be divided into three smaller stands the next time it comes up for harvest, with 10 years between each harvest. Stand t06021w1010943 (32.7 acres) should be divided in half the next time it comes up for harvest, with 10 years between harvesting the two halves.</p> |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Improve hunter access by creating a Hunter Walking Trail along timber harvest access routes. • Consideration should be given to expanding the RGMA to include the 69.35 acres to the north up to CR 652 (Sturgeon SFR). |

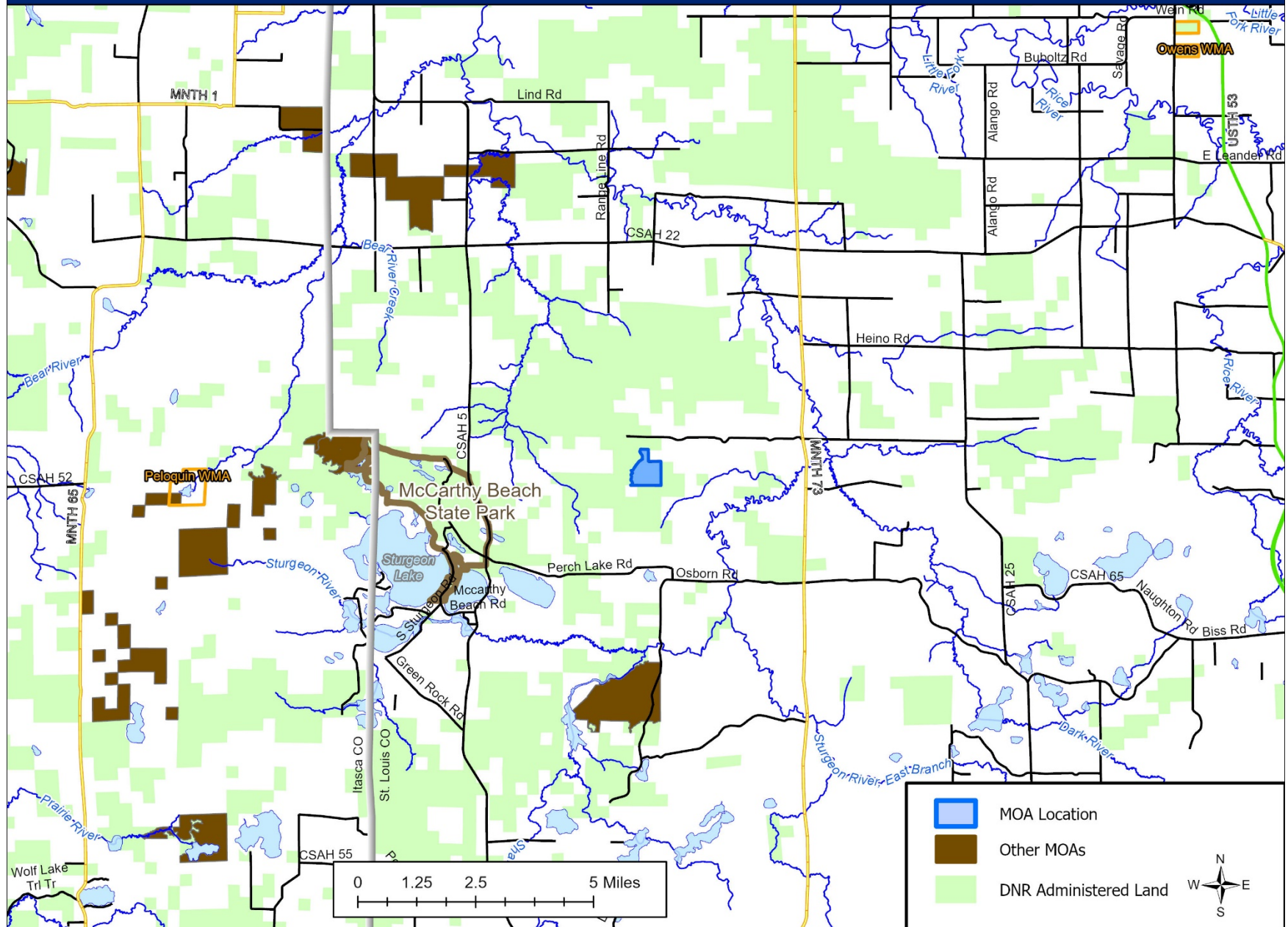
List of stands by Stand ID from FIM

t06020w1060075
t06021w1010142
t06021w1010909
t06021w1010910
t06021w1010914
t06021w1010915
t06021w1010916
t06021w1010917
t06021w1010918
t06021w1010919
t06021w1010920
t06021w1010921
t06021w1010943
t06021w1010958
t06021w1010963
t06021w1011033
t06021w1011092

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Saum Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T152N, R32W, Secs 25, 26, 27, 35, 36 |
| NPC System | Redby Lake Plain LTA(212Mb19); Effie Till Plain (212Ma18) |
| Acres by Land Status (approx.) | 1230 acres, all ConCon |
| Current Conditions | This small block MOA is comprised of a matrix of predominately of aspen stands of various ages, ash, northern hardwood, and conifer stands. Currently, 70 percent of aspen stands on the unit are in the 0-30 age class. Approximately 5% of the aspen stands are greater than 70 years old. Hunter Walking trails (HWTs) maintained by the Section of Wildlife traverse the area. There is an OG Ash stand in the northwest part of the MOA. |

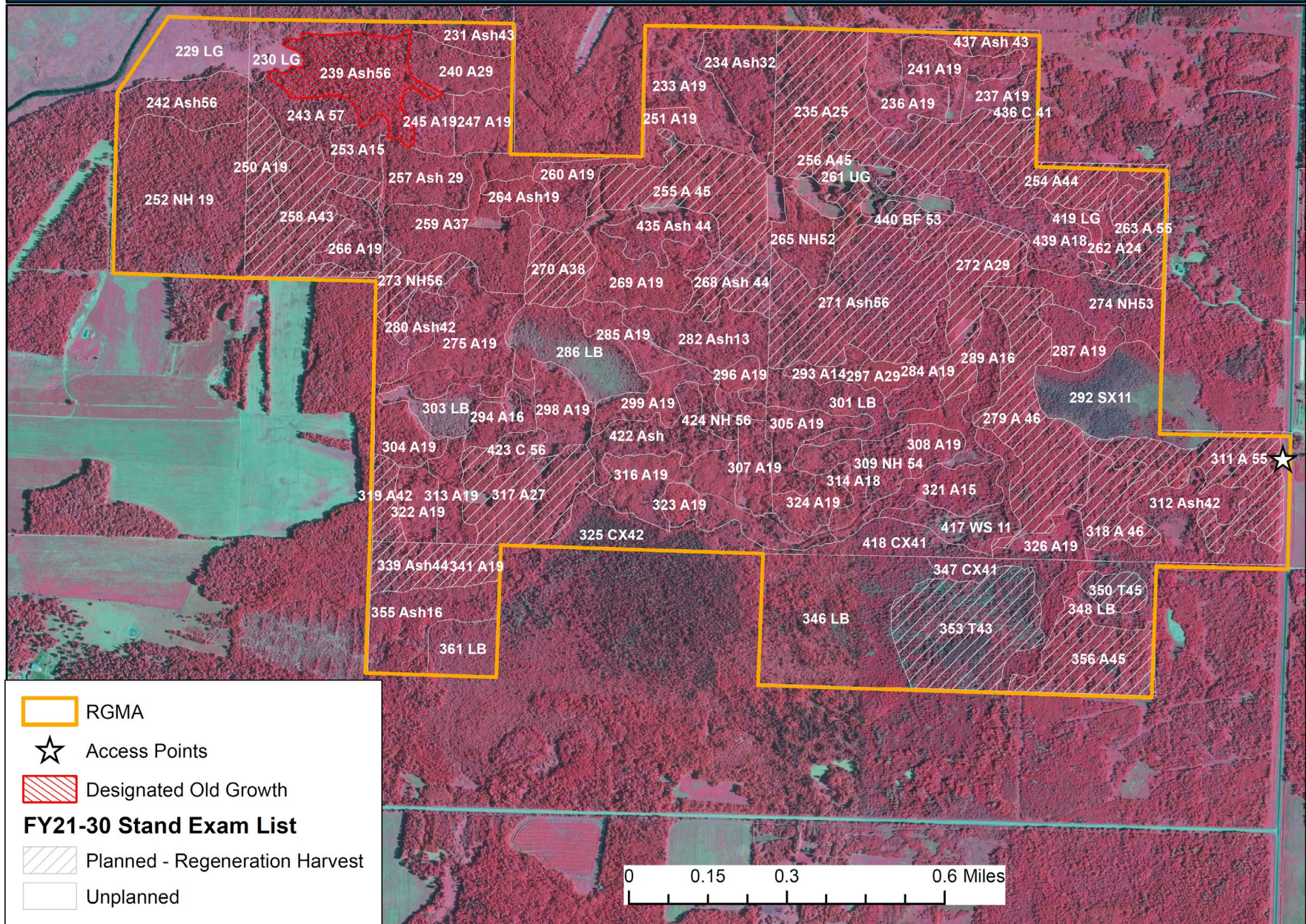
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 acres preferred).• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers”• Look for opportunities to balance APA acres from outside of the RGMA by placing deferrals inside this RGMA |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.• Ensure young, early-successional forest is distributed across the landscape over time.• Ensure older forest characteristics within stands are distributed across the landscape. |

| FUTURE DIRECTION | |
|--|---|
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> The following stands are within the OG SMZ for stand 239 Ash56: 243 A57, 253 A15, 257 Ash29, 245 A19, 247 A19, 240 A29, 231 Ash43. Stand t15223w1260273 is a 9-acre undesignated but primary old growth northern hardwoods stand (dating to 1842) that should be reserved from harvest and managed for ruffed grouse nesting habitat (note: this applies only to the portion of the stand east of the HWT) |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Improve hunter access by creating a Hunter Walking Trail along timber harvest access routes. |

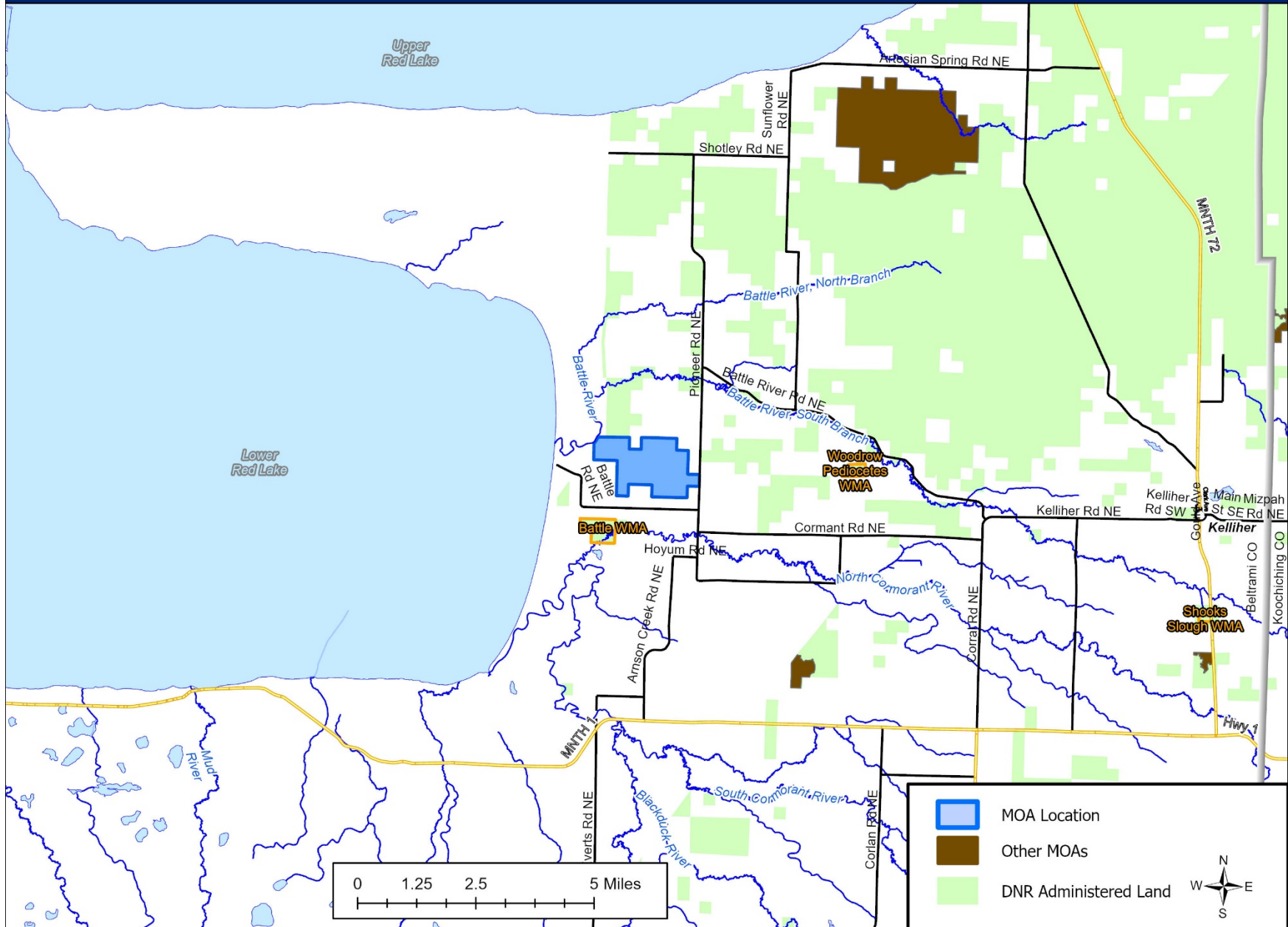
List of stands by Stand ID from FIM

| | | |
|----------------|----------------|----------------|
| t15232w1250235 | t15232w1250419 | t15232w1260294 |
| t15232w1250236 | t15232w1250436 | t15232w1260296 |
| t15232w1250237 | t15232w1250437 | t15232w1260298 |
| t15232w1250241 | t15232w1250439 | t15232w1260299 |
| t15232w1250254 | t15232w1250440 | t15232w1260303 |
| t15232w1250256 | t15232w1260230 | t15232w1260304 |
| t15232w1250261 | t15232w1260231 | t15232w1260307 |
| t15232w1250262 | t15232w1260233 | t15232w1260313 |
| t15232w1250263 | t15232w1260234 | t15232w1260316 |
| t15232w1250265 | t15232w1260239 | t15232w1260317 |
| t15232w1250271 | t15232w1260240 | t15232w1260319 |
| t15232w1250272 | t15232w1260243 | t15232w1260322 |
| t15232w1250274 | t15232w1260245 | t15232w1260323 |
| t15232w1250279 | t15232w1260247 | t15232w1260325 |
| t15232w1250284 | t15232w1260250 | t15232w1260422 |
| t15232w1250287 | t15232w1260251 | t15232w1260423 |
| t15232w1250289 | t15232w1260253 | t15232w1260424 |
| t15232w1250292 | t15232w1260255 | t15232w1260435 |
| t15232w1250293 | t15232w1260257 | t15232w1270229 |
| t15232w1250297 | t15232w1260258 | t15232w1270242 |
| t15232w1250301 | t15232w1260259 | t15232w1270252 |
| t15232w1250305 | t15232w1260260 | t15232w1350339 |
| t15232w1250308 | t15232w1260264 | t15232w1350341 |
| t15232w1250309 | t15232w1260266 | t15232w1350355 |
| t15232w1250311 | t15232w1260268 | t15232w1350361 |
| t15232w1250312 | t15232w1260269 | t15232w1360346 |
| t15232w1250314 | t15232w1260270 | t15232w1360347 |
| t15232w1250318 | t15232w1260273 | t15232w1360348 |
| t15232w1250321 | t15232w1260275 | t15232w1360350 |
| t15232w1250324 | t15232w1260280 | t15232w1360353 |
| t15232w1250326 | t15232w1260282 | t15232w1360356 |
| t15232w1250417 | t15232w1260285 | |
| t15232w1250418 | t15232w1260286 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Seven-Mile Corner Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T159N, R36W, Secs 16-18 |
| NPC System | Beltrami Pine Island Beach Ridges |
| Acres by Land Status (approx.) | 1,500 acres total: 1,100 LUP, 400 ConCon |
| Current Conditions | This area is dominated by aspen but also includes other cover types and many of the aspen stands have a diverse understory. The aspen age structure and block management on the site are a relic of 1980s aspen shearing projects. Mixed age aspen stands, small harvest blocks, and a diverse understory make this ideal habitat for ruffed grouse and it is a popular hunting destination. A hunter walking trail also runs through the area. |

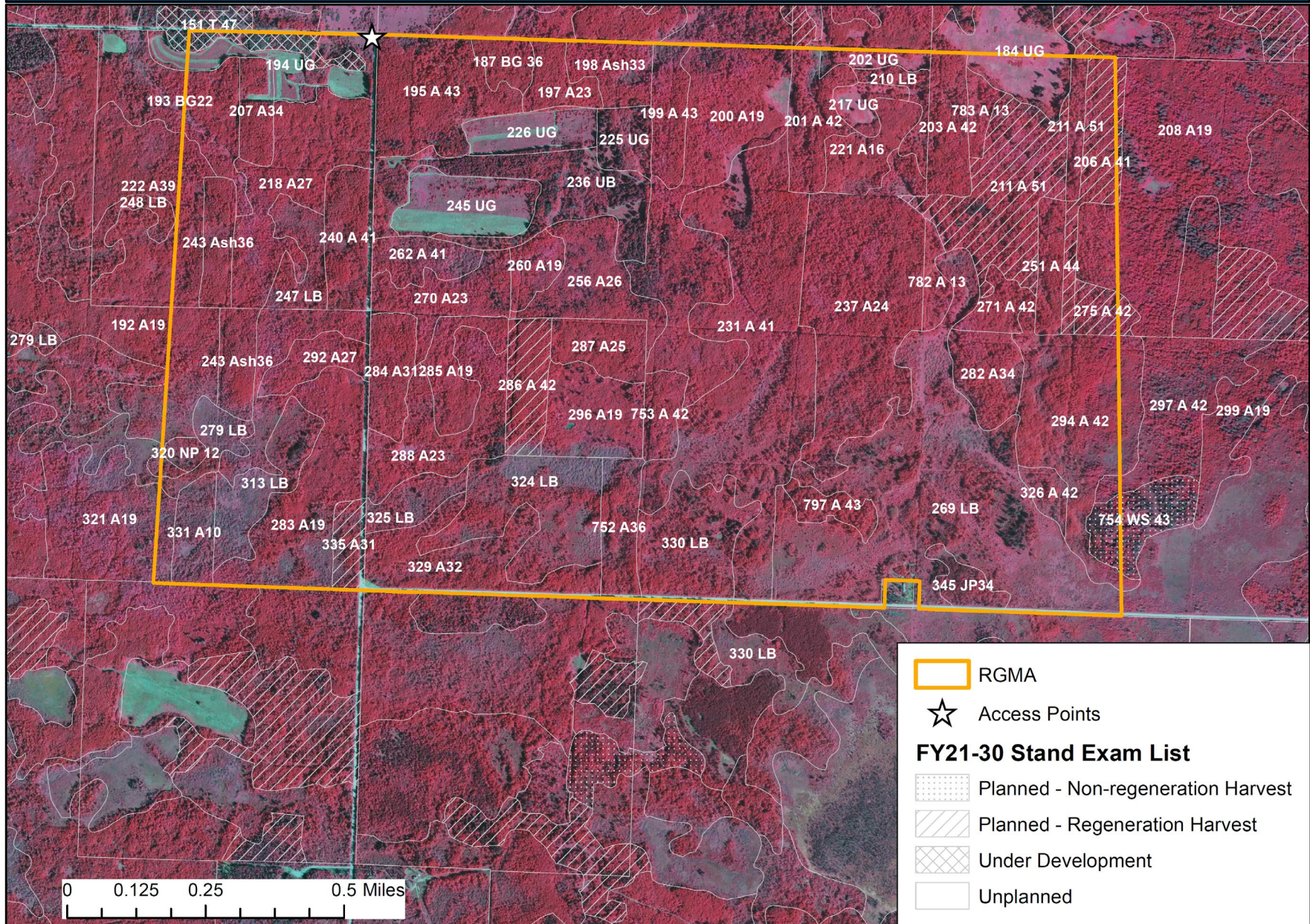
| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Some stands or parts of some stands on Wildlife administered lands could be allowed to passively convert, provided the wildlife manager and forester agree that the prescription would achieve conversion goals. Other stands should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks and allowing other areas to mature up to 60 years.<ul style="list-style-type: none">○ 10 acres preferred, however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <p>Stand t15936w1160211 contains large cavity trees and advanced aspen regeneration and consideration should be given for passive conversion. Stands t15936w1160783 and t15936w1160782 were formerly part of stand t15936w1160211 which has been identified for passive conversion. These stands should also be passively converted unless a timber sale is coordinated with wildlife staff to optimize grouse habitat and achieve the above stated goals. Other stands may be harvested providing that sufficient mature aspen remains within the MOA.</p> |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. |

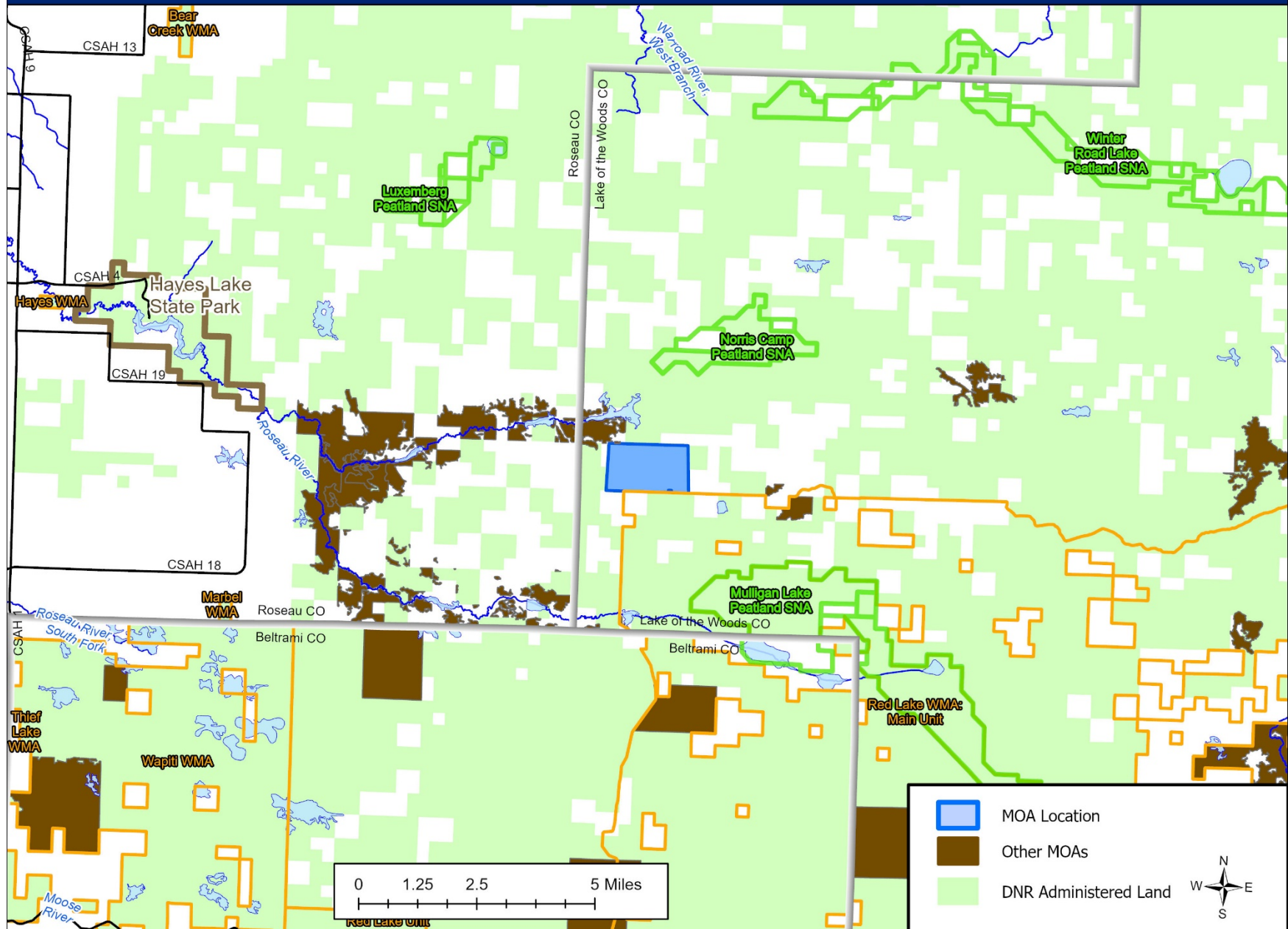
List of stands by Stand ID from FIM

| | | |
|----------------|----------------|----------------|
| t15936w1070151 | t15936w1170200 | t15936w1170329 |
| t15936w1080187 | t15936w1170201 | t15936w1170330 |
| t15936w1090184 | t15936w1170202 | t15936w1170752 |
| t15936w1160203 | t15936w1170210 | t15936w1170753 |
| t15936w1160206 | t15936w1170217 | t15936w1170797 |
| t15936w1160208 | t15936w1170221 | t15936w1180192 |
| t15936w1160211 | t15936w1170225 | t15936w1180193 |
| t15936w1160251 | t15936w1170226 | t15936w1180194 |
| t15936w1160269 | t15936w1170231 | t15936w1180207 |
| t15936w1160271 | t15936w1170236 | t15936w1180218 |
| t15936w1160275 | t15936w1170237 | t15936w1180222 |
| t15936w1160282 | t15936w1170245 | t15936w1180240 |
| t15936w1160294 | t15936w1170256 | t15936w1180243 |
| t15936w1160297 | t15936w1170260 | t15936w1180247 |
| t15936w1160299 | t15936w1170262 | t15936w1180248 |
| t15936w1160326 | t15936w1170270 | t15936w1180279 |
| t15936w1160345 | t15936w1170284 | t15936w1180283 |
| t15936w1160754 | t15936w1170285 | t15936w1180292 |
| t15936w1160782 | t15936w1170286 | t15936w1180313 |
| t15936w1160783 | t15936w1170287 | t15936w1180320 |
| t15936w1170195 | t15936w1170288 | t15936w1180321 |
| t15936w1170197 | t15936w1170296 | t15936w1180331 |
| t15936w1170198 | t15936w1170324 | t15936w1180335 |
| t15936w1170199 | t15936w1170325 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Shotley Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T153N, R31W, Secs 13-15, 22-27 |
| NPC System | Redby Lake Plain LTA (212Mb19) |
| Acres by Land Status (approx.) | 3,200 acres, all ConCon |
| Current Conditions | This MOA has been managed for many years in small patches, primarily in the core 640 acres. Seventy-seven percent of the aspen is less than 40 years old and 12% is greater than 70 years. While composed primarily of aspen stands in a variety of age classes, other forest stands within this forest matrix include ash, lowland hardwoods and several conifers stands. Hunter Walking Trails (HWTs) maintained by section of WL traverse the area. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10 acres preferred)• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers”• Break larger stands up into smaller components• Look for opportunities to balance APA acres from outside of the RGMA by placing deferrals inside this RGMA |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.• Ensure young, early-successional forest is distributed across the landscape over time.• Ensure older forest characteristics within stands are distributed across the landscape. |

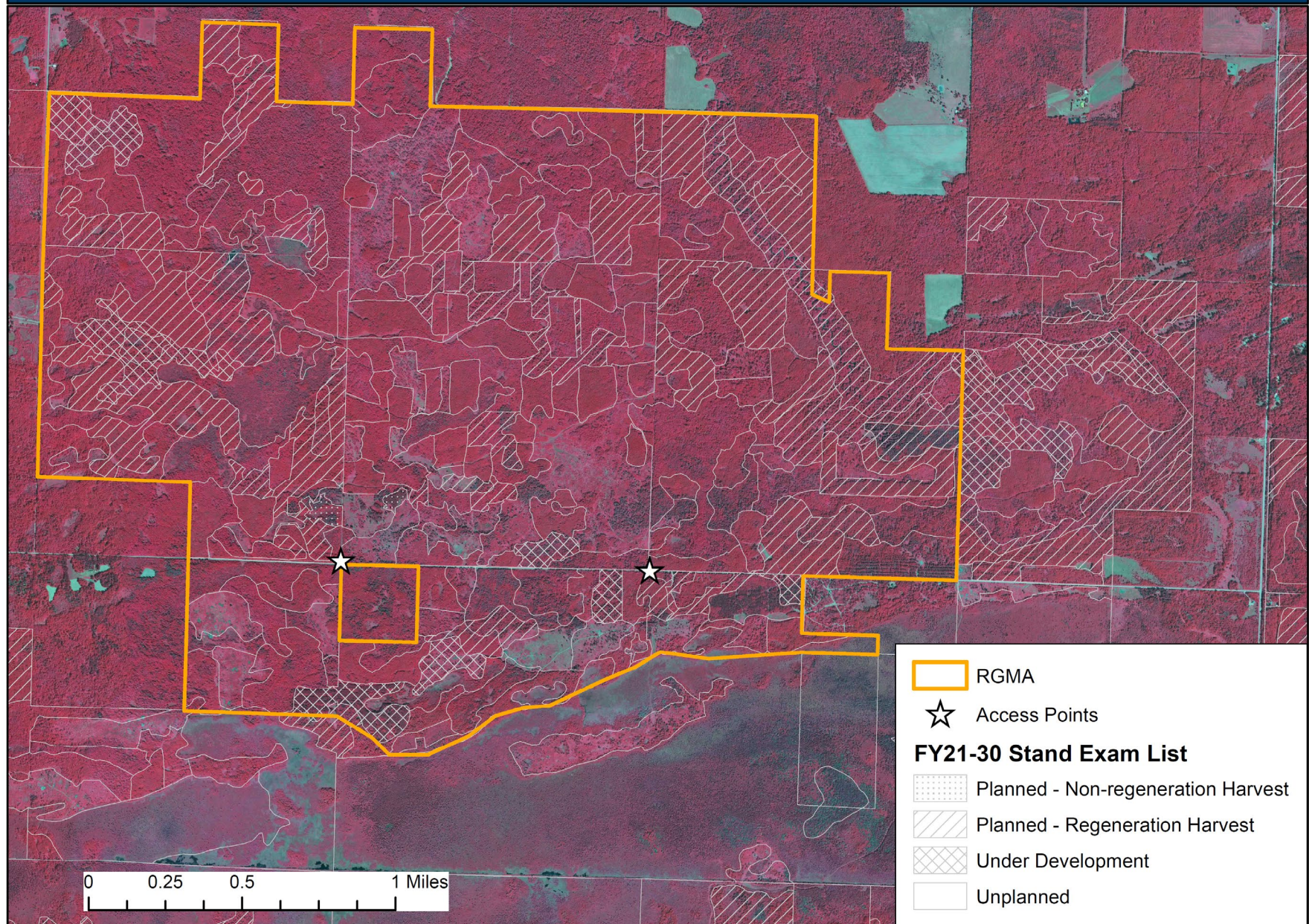
| FUTURE DIRECTION | |
|---|---|
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. Expand Hunter Walking Trail network. |

List of stands by Stand ID from FIM

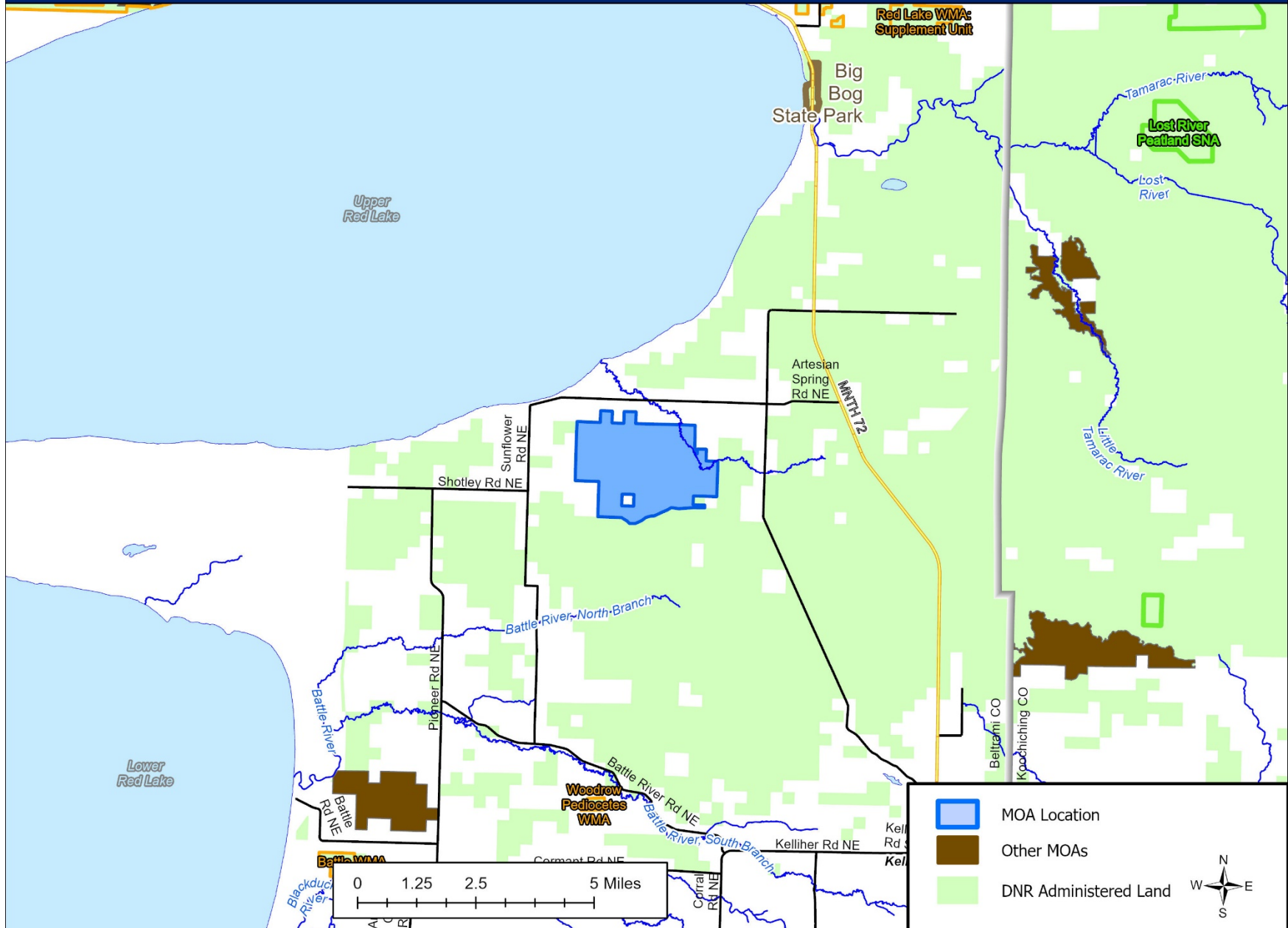
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| t15331w1130035 | t15331w1150399 | t15331w1220419 | t15331w1230453 | t15331w1240340 |
| t15331w1130160 | t15331w1150404 | t15331w1220427 | t15331w1230456 | t15331w1240425 |
| t15331w1130161 | t15331w1150406 | t15331w1220429 | t15331w1230457 | t15331w1240437 |
| t15331w1130167 | t15331w1150409 | t15331w1220430 | t15331w1230459 | t15331w1240440 |
| t15331w1130172 | t15331w1150410 | t15331w1220442 | t15331w1230461 | t15331w1240441 |
| t15331w1130403 | t15331w1150411 | t15331w1220444 | t15331w1230463 | t15331w1240443 |
| t15331w1130408 | t15331w1150412 | t15331w1220462 | t15331w1230464 | t15331w1240447 |
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| t15331w1140032 | t15331w1150414 | t15331w1230057 | t15331w1230466 | t15331w1240451 |
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| t15331w1140332 | t15331w1220076 | t15331w1230210 | t15331w1230528 | t15331w1250093 |
| t15331w1140333 | t15331w1220085 | t15331w1230336 | t15331w1230530 | t15331w1250221 |
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| t15331w1150396 | t15331w1220388 | t15331w1230446 | t15331w1240205 | t15331w1260234 |

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
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| t15331w1260241 | t15331w1260483 | t15331w1270215 | t15331w1270480 | |
| t15331w1260472 | t15331w1260484 | t15331w1270220 | t15331w1270488 | |
| t15331w1260473 | t15331w1260485 | t15331w1270223 | t15331w1270489 | |
| t15331w1260474 | t15331w1260529 | t15331w1270232 | t15331w1270492 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Wapiti North Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R38W, Sec 9 |
| NPC System | Williams-Skime Lake Plain (primary) and Beltrami-Pine Island Peatlands (secondary) |
| Acres by Land Status (approx.) | 285 acres, all WMA ConCon |
| Current Conditions | Forest and brushland areas within the Wapiti Wildlife Management Area are dominated by aspen stands and lowland brush. The northern portion of the area has been previously managed as a Ruffed Grouse Management Area with aspen harvests occurring primarily in 10 acre blocks. It contains a mixed age class of aspen (57 acres of age 13-14 aspen, 102 acres of age 25 aspen, 23 acres of age 62 aspen, 7 acres of age 71 aspen, and 25.5 acres of age 95 aspen (ages as of 2014), 10 acres of lowland brush, and about 24.5 acres of upland grass. |

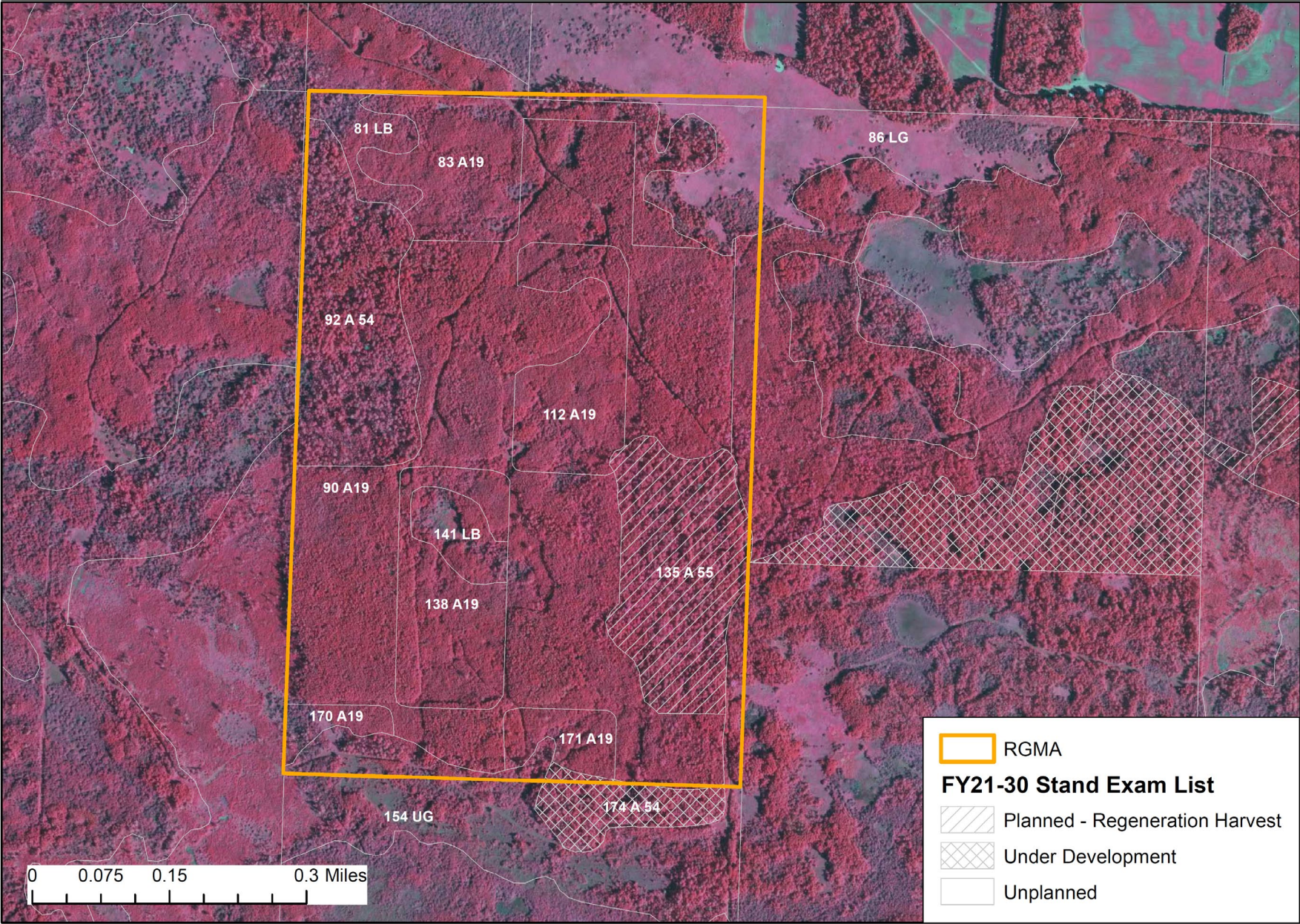
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature.</p> <p>Some stands or parts of some stands could be allowed to passively convert, provided the wildlife manager’s prescription can achieve conversion goals, and others should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks and allowing other areas to mature up to 60 years. 10 acres preferred, however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable.• Leave reserve trees where they create “activity centers” around which diverse age classes are distributed• Regenerate aspen and retain some conifers for grouse cover• Increase within-stand age and structural diversity• Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Expand Hunter Walking Trail network. |

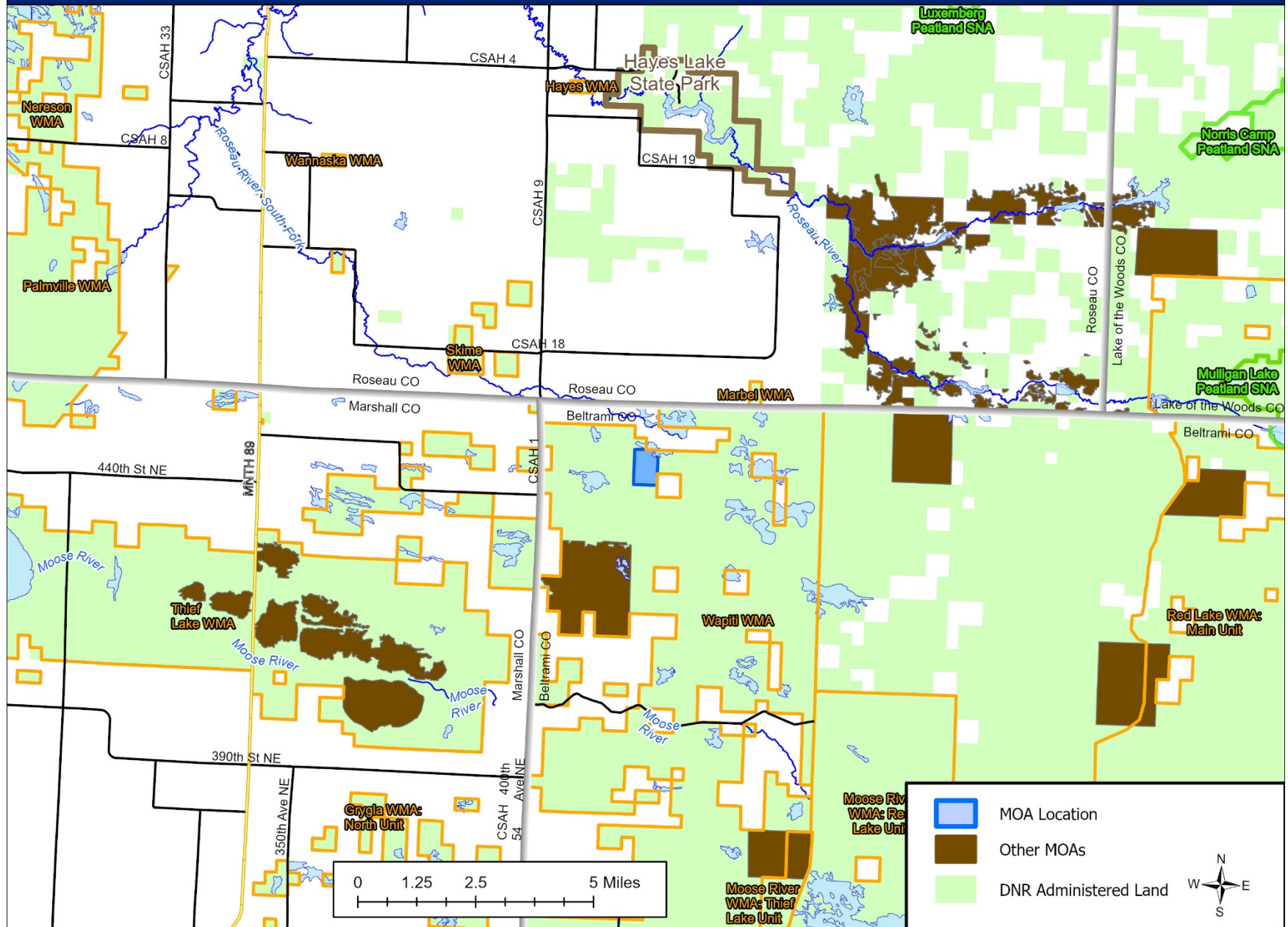
List of stands by Stand ID from FIM

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t15838w1090141
t15838w1090154
t15838w1090170
t15838w1090171
t15838w1090174

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Wapiti South Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T157N, R38W, Sec 23-24 |
| NPC System | Beltrami-Pine Island Peatlands |
| Acres by Land Status (approx.) | 1,175 acres; 1,115 WMA ConCon, 60 WMA Acquired |
| Current Conditions | This Ruffed Grouse Management Area is located on the west shore of the North Pool of the Moose River Impoundment, and is accessible by the Dike Forest Road. It contains a mixed and imbalanced age class of aspen (95.5 acres of age 11-12 aspen, 143 acres of age 17 aspen, 81 acres of age 21 aspen, 36 acres of age 43-53 aspen, and 89 acres of age 56-61 aspen [ages as of 2014]), 280 acres of lowland brush, and 274 acres of marsh. |

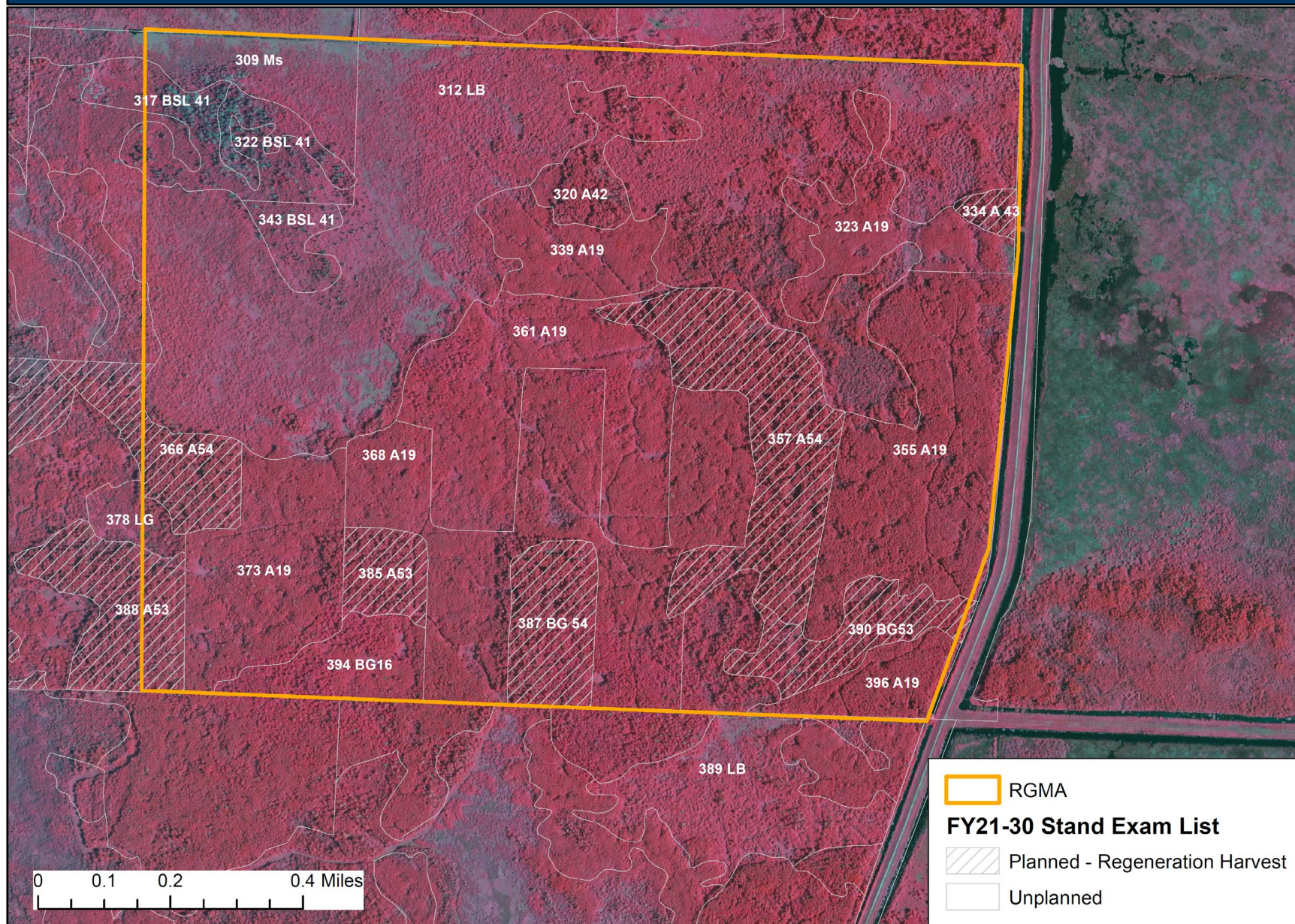
| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | <p>Maintain evenly distributed multiple age classes of aspen centered around small “activity centers” by harvesting in small blocks (10 acres preferred) and allowing other areas to mature.</p> <p>Some stands or parts of some stands could be allowed to passively convert, provided the wildlife manager’s prescription can achieve conversion goals, and other stands should be harvested. Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover.</p> |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks, and allowing other areas to mature up to 60 years. 10 acres preferred, however, harvest acres may need to be greater than 10 acres in the vicinity, either as one patch or in combination, to make sales merchantable. • Leave reserve trees where they create “activity centers” around which diverse age classes are distributed • Regenerate aspen and retain some conifers for grouse cover • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within “activity centers” |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Consider developing more detailed, longer-term management plans to address the current age class imbalance. • Expand Hunter Walking Trail network. |

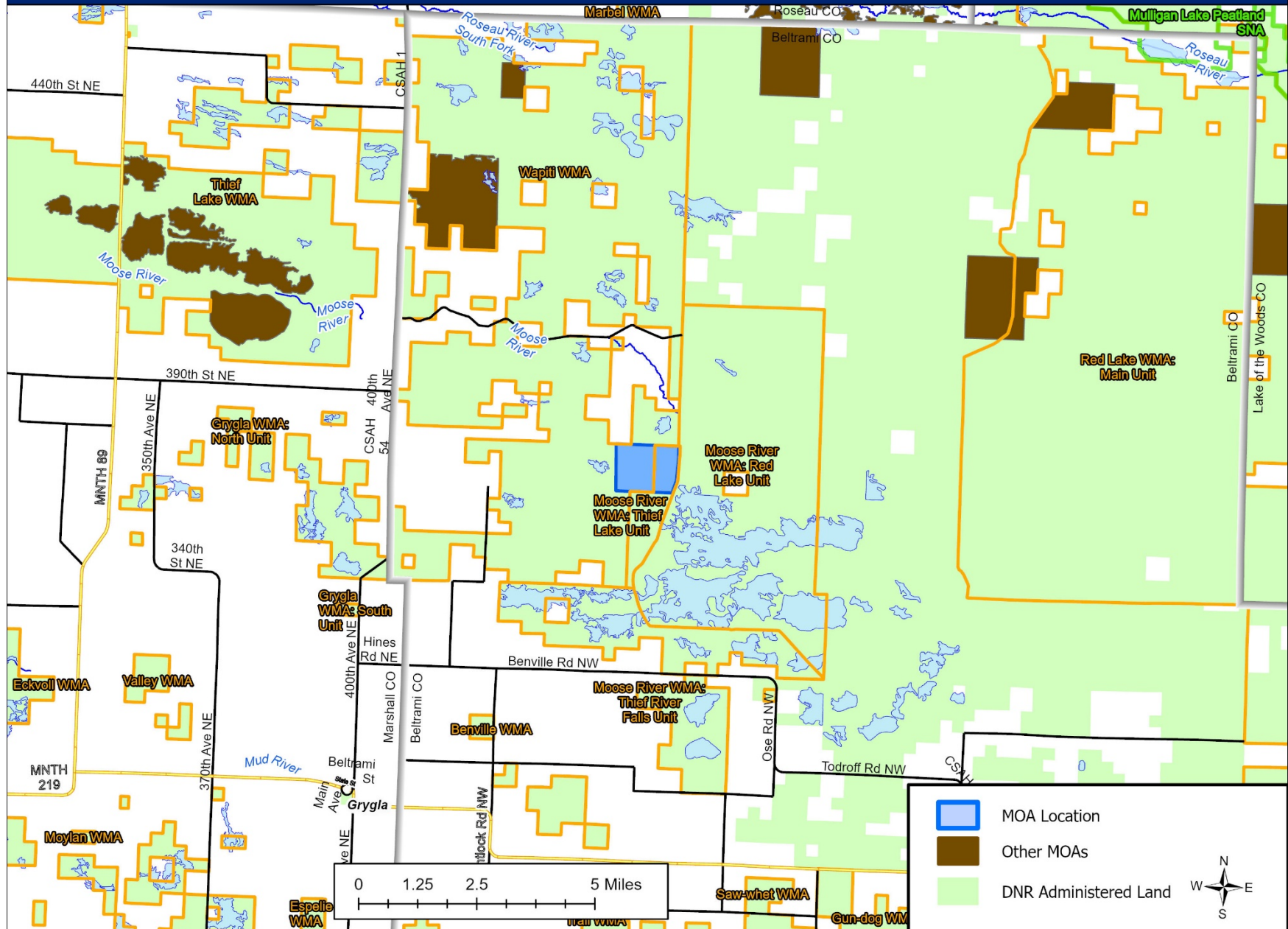
List of stands by Stand ID from FIM

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t15738w1240312
t15738w1240320
t15738w1240323
t15738w1240334
t15738w1240339
t15738w1240355
t15738w1240357
t15738w1240361
t15738w1240368
t15738w1240385
t15738w1240387
t15738w1240389
t15738w1240390
t15738w1240394
t15738w1240396

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Wapiti Young Forest Management Opportunity Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T158N, R38W, Sec 19, 20, 29, 30 |
| NPC System | Beltrami-Pine Island Beach Ridges |
| Acres by Land Status (approx.) | 1,930 acres, all WMA ConCon |
| Current Conditions | Forest and brushland areas within the Wapiti Wildlife Management Area are dominated by younger hardwoods with a couple of stands of older aspen (e.g. A 53). Approximately 40% of the MOA is identified as Lowland Brush or Upland Grass. Many of the stands in the NE part of this area regenerated after a fire in 1981. Few stands currently meet the mature conditions described in recent studies that species in this MOA (e.g., golden-winged warbler) use during parts of their lifecycles, but stands will mature over the next couple of decades. |

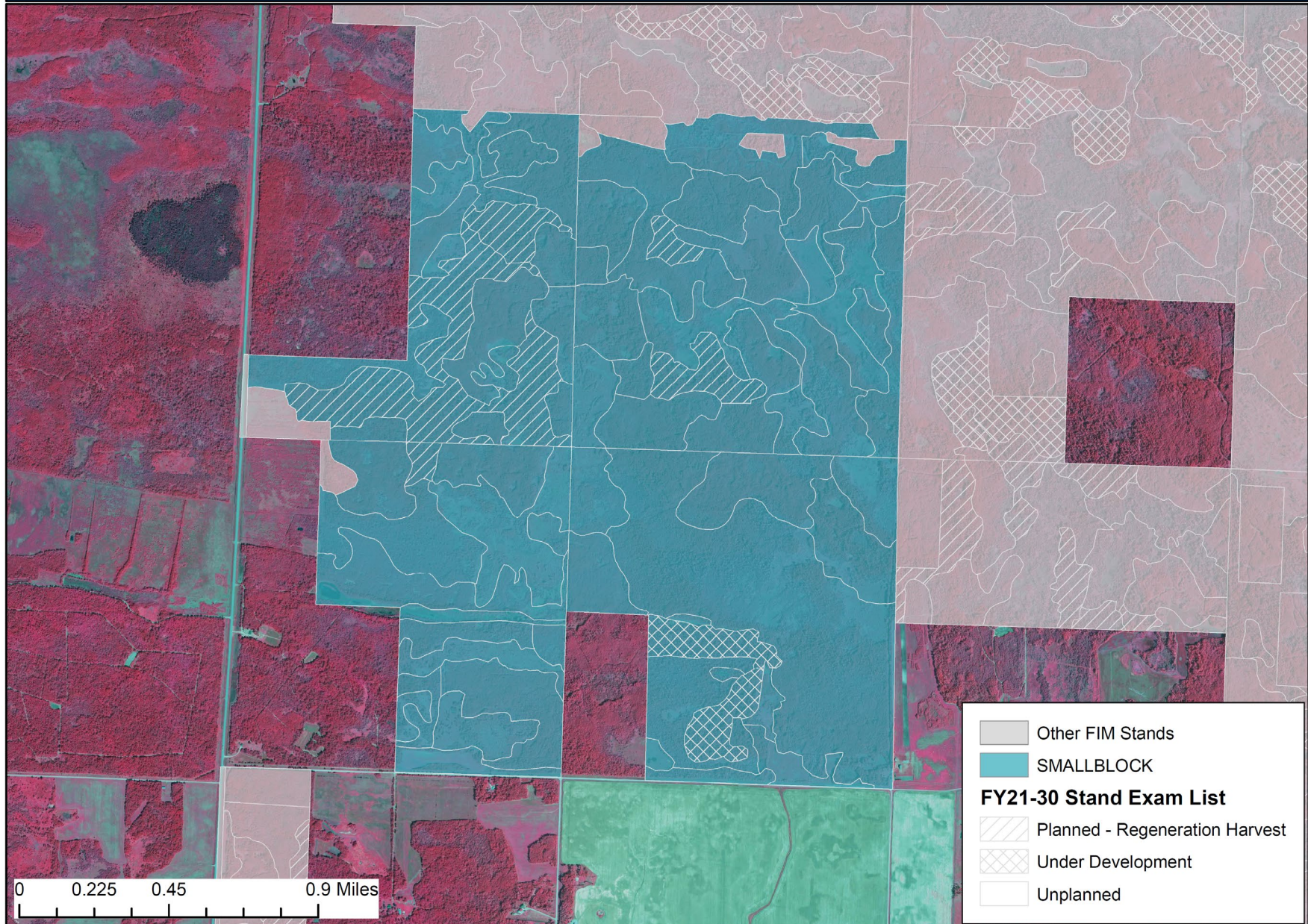
| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | Manage for high quality nesting habitat and brood-rearing habitat for golden-winged warblers and American woodcock. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Retain mature trees during brush shearing operations to ensure song perches for male songbirds to claim territory and attract females. Project sites are located adjacent to deciduous forest coetypes of pole size classes or greater.• Plan harvest locations to allow for suitable pole size stands adjacent to early successional sites and sufficient residual timber (scattered leave trees or reserve islands) within the harvest area to meet target species needs. The focus is managing existing timber stands, not breaking up stands into smaller units.• Time shearing projects in coordination with timber stand management. Shearing project sites were chosen because of their potential to become high quality nesting habitat for golden winged warbler and/or American woodcock and due to their proximity to adjacent mature forest stands for post-fledging forage and cover.• Consider harvesting upland areas adjacent to wetlands to regenerate vegetation in wet soil areas and provide foraging habitat for woodcock. |

| FUTURE DIRECTION | |
|--|--|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Stand 387 A32 (T158 R38w 1290387) should be considered for a future anchor point to provide mature interior conditions. Consider utilizing this stand to provide reserve areas for smaller adjacent stands. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • Conduct point count monitoring for priority species. |

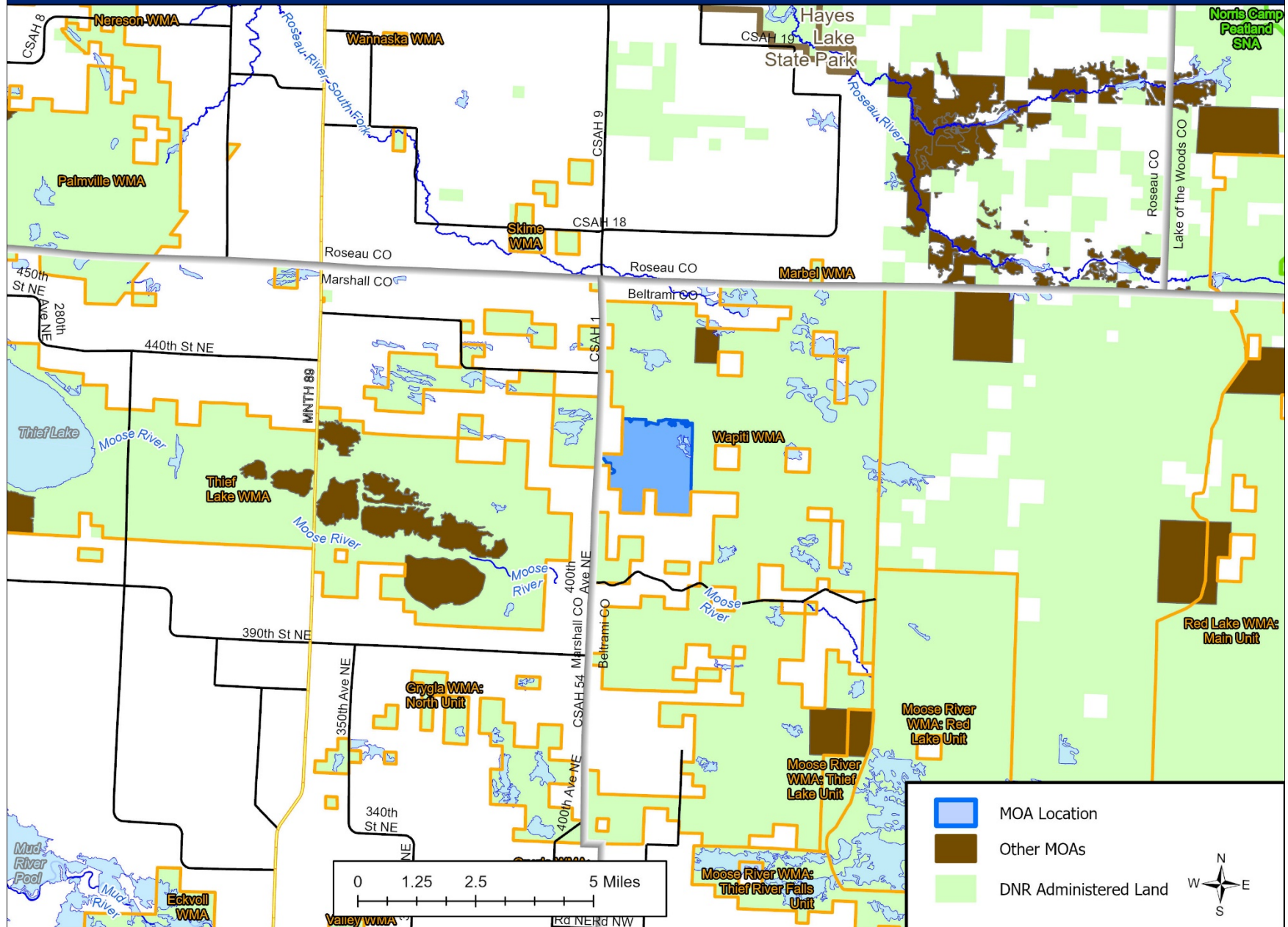
List of stands by Stand ID from FIM

| | | |
|----------------|----------------|----------------|
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| t15838w1190272 | t15838w1200345 | t15838w1300441 |
| t15838w1190273 | t15838w1200347 | t15838w1300448 |
| t15838w1190298 | t15838w1200352 | t15838w1300454 |
| t15838w1190311 | t15838w1200354 | t15838w1300458 |
| t15838w1190313 | t15838w1200358 | t15838w1300462 |
| t15838w1190322 | t15838w1200360 | t15838w1300470 |
| t15838w1190326 | t15838w1200361 | t15838w1300471 |
| t15838w1190330 | t15838w1200371 | t15838w1300483 |
| t15838w1190340 | t15838w1290385 | t15838w1300612 |
| t15838w1190346 | t15838w1290387 | |
| t15838w1190350 | t15838w1290388 | |
| t15838w1190362 | t15838w1290389 | |
| t15838w1190369 | t15838w1290402 | |
| t15838w1190375 | t15838w1290422 | |
| t15838w1190377 | t15838w1290450 | |
| t15838w1200282 | t15838w1290463 | |
| t15838w1200283 | t15838w1290622 | |
| t15838w1200293 | t15838w1290623 | |
| t15838w1200296 | t15838w1290624 | |
| t15838w1200301 | t15838w1290625 | |
| t15838w1200306 | t15838w1290626 | |
| t15838w1200309 | t15838w1290627 | |
| t15838w1200314 | t15838w1290628 | |
| t15838w1200315 | t15838w1300381 | |
| t15838w1200318 | t15838w1300382 | |
| t15838w1200320 | t15838w1300383 | |
| t15838w1200321 | t15838w1300384 | |
| t15838w1200323 | t15838w1300405 | |
| t15838w1200332 | t15838w1300418 | |

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Willow River Ruffed Grouse Management Area |
| MOA Type | Small Block Habitat |
| Location (Eco. Section, TRS) | NMOP; T63N, R20W, Sec 7, 8, 9, 16, 17 |
| NPC System | Smith Road Till Plain |
| Acres by Land Status (approx.) | 1,350 acres, all School Trust |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | This Management Opportunity Area includes about 1,350 acres of state land (within an area of about 2,000 acres of public land). It is comprised of productive aspen and a diverse mix of lowland brush and conifer species. There are two hunter walking trails and one 13.4 acre designated old growth stand located within the boundaries of this MOA. This area is also used as deer yard during winter. |

| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | Maintain evenly distributed multiple age classes of aspen by harvesting in small blocks (10-40 acres preferred). Harvest should regenerate aspen but also retain significant conifer cover where appropriate for use as predator/thermal cover. Management may incorporate additional measures to benefit deer where possible. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Strive to maintain multiple age classes (3-5 classes in 10-15 year increments) of aspen by harvesting in small blocks (10-40 acres preferred).• Coordinate on consolidated placement of 1-5 acre reserves (while following STH regimes) to help maintain within-stand age and structural diversity.• Regenerate aspen and retain some conifers for grouse cover |

| FUTURE DIRECTION | |
|--|--|
| Strategies to Achieve 10-year Intent (cont.) | <ul style="list-style-type: none"> • Increase within-stand age and structural diversity • Provide coarse woody debris for drumming logs by retaining downed logs and standing snags, especially within reserves • For deer, avoid harvesting white cedar; okay to leave more conifer cover than in other ruffed grouse management areas; maximize edge near conifer covers; enhance preferred browse where present |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Ensure young, early-successional forest is distributed across the landscape over time. • Ensure older forest characteristics within stands are distributed across the landscape. |
| Direction or Consideration for Specific Stands (optional) | <ul style="list-style-type: none"> • Stand t06320w1160175 is partially SMZ and cannot be harvested entirely due to previous recent extensive harvest within the SMZ, therefore only the northwestern half of the stand should be harvested. |
| Future Planning Considerations (optional) | <ul style="list-style-type: none"> • During stand selection on 10-year stand exam lists, strive to ensure 3-5 age classes of aspen 10-15 years apart will remain distributed throughout the MOA. • Expand Hunter Walking Trail network. |

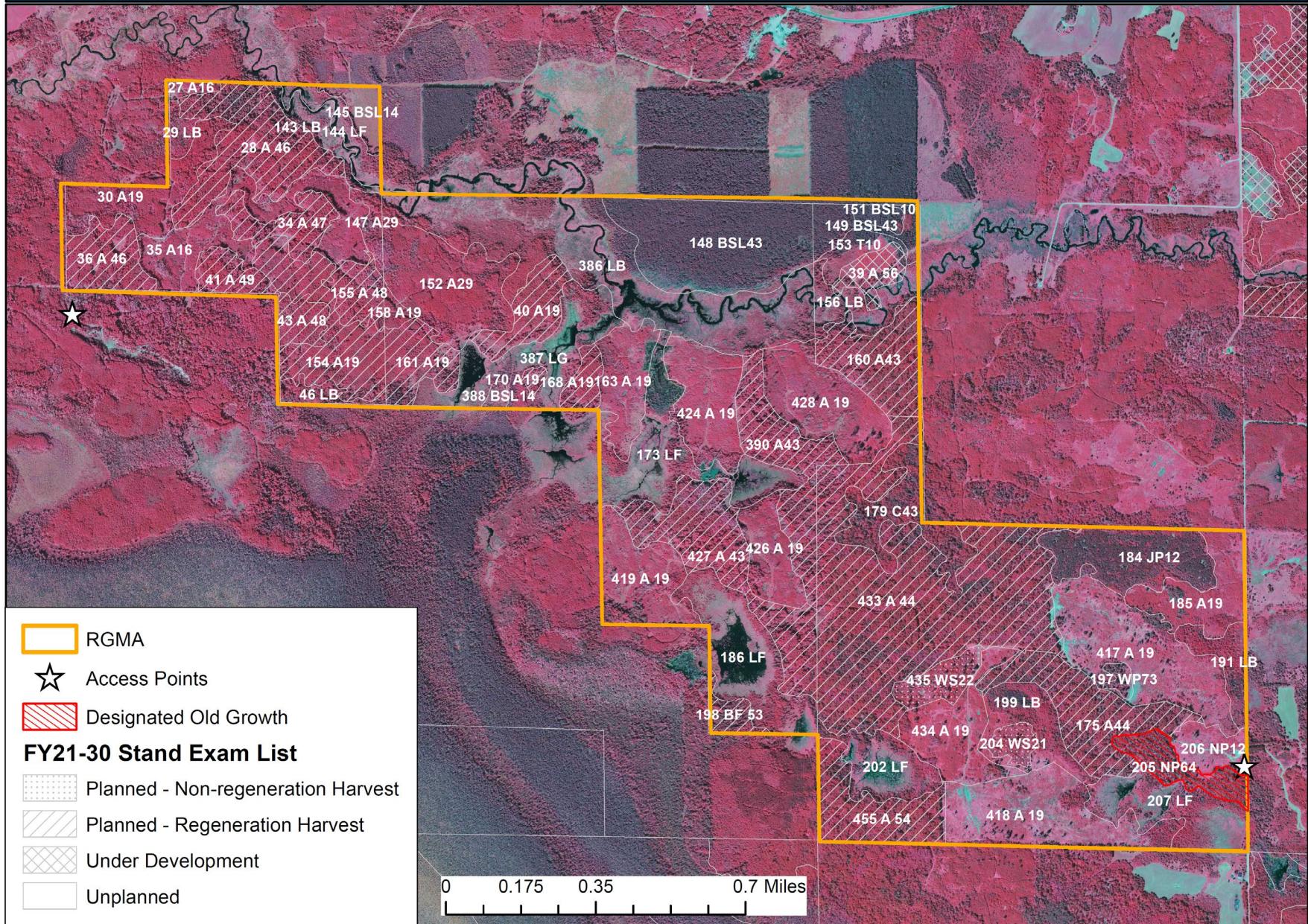
List of stands by Stand ID from FIM

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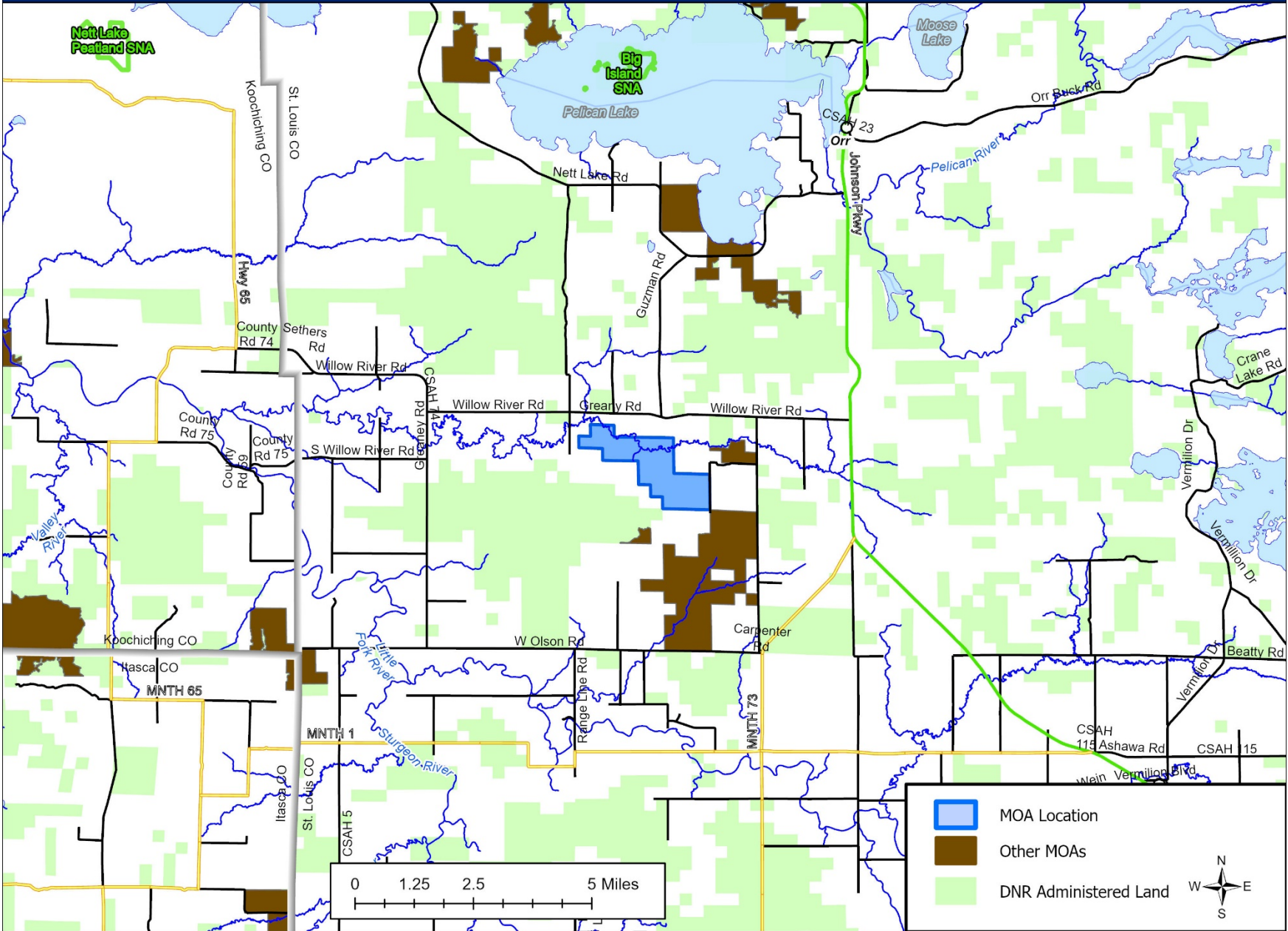
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LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

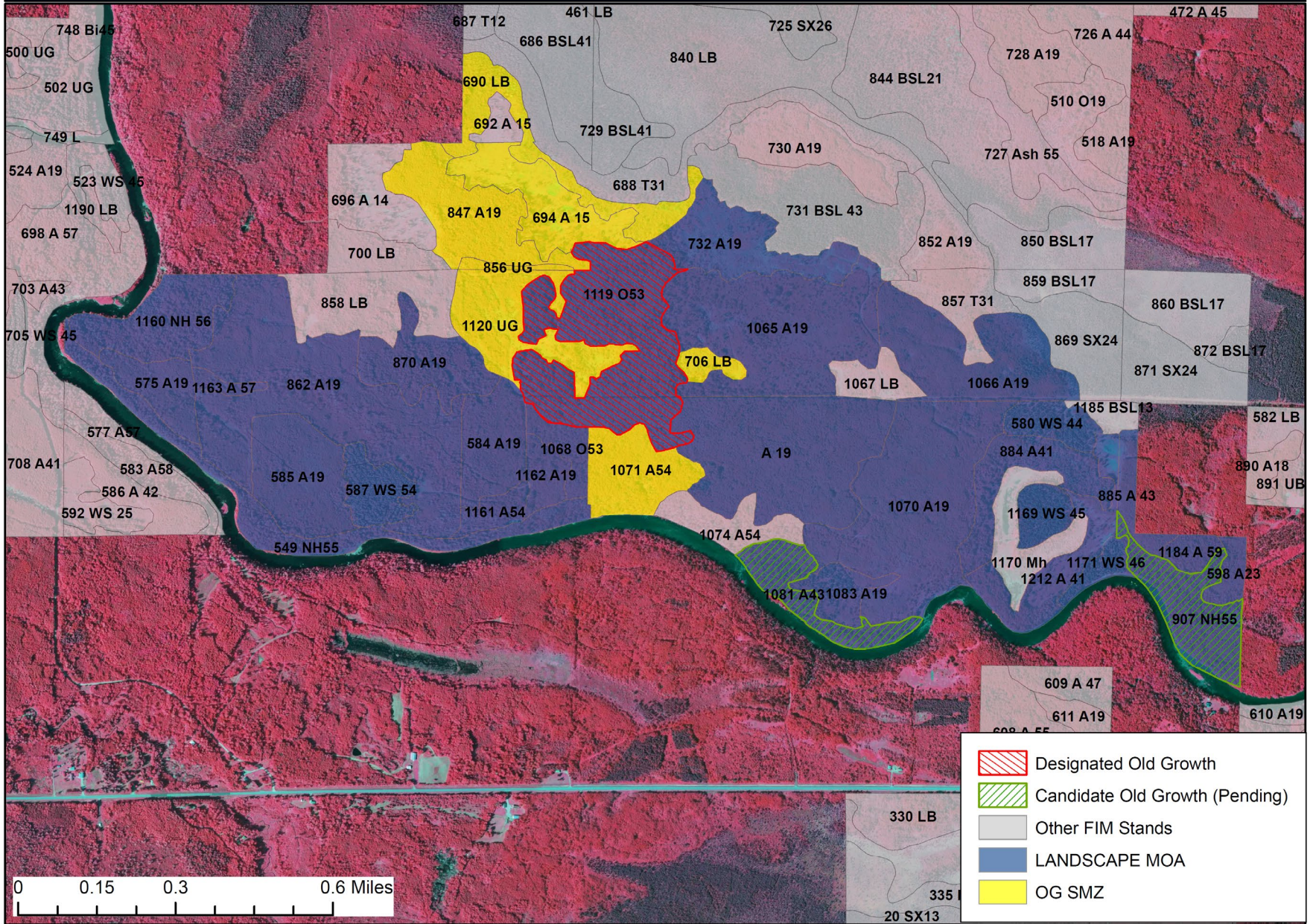
| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Bigfork Hardwoods Management Opportunity Area |
| MOA Type | Landscape MOA |
| Location (Eco. Section, TRS) | NMOP; T155N R25W Secs 28-29, 32-34 |
| NPC Systems | Mesic Hardwood, Floodplain Forest, |
| Acres by Land Status (approx.) | 590 acres; 484 ac acquired, 106 ac School Trust land; all FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | Area of mostly high site index aspen (SI>65), in younger to intermediate-aged condition, with several designated or candidate old growth northern hardwood and oak stands. The MOA is located ~3 miles west of Big Falls, along the Big Fork River on the Pine Island State Forest. |

| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | The goal of this MOA is to maintain or develop a large area of unfragmented northern hardwood forest through the next 10 years, emphasizing older forest components within stands. This direction will address the extensive riparian corridor and presence of old growth stands in this area, as well as the habitat needs for species that require older forest interior habitat (e.g. northern goshawk, cerulean warbler, fisher, and pine martin). Forest management activities should maintain or increase the development of older forest characteristics and hardwood components of stands within this area (see strategies below). |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> Apply old forest patch reserve amounts modeled during Sustainable Timber Harvest Implementation in this planning period. Within reserves, emphasize hardwoods and older forest components. |

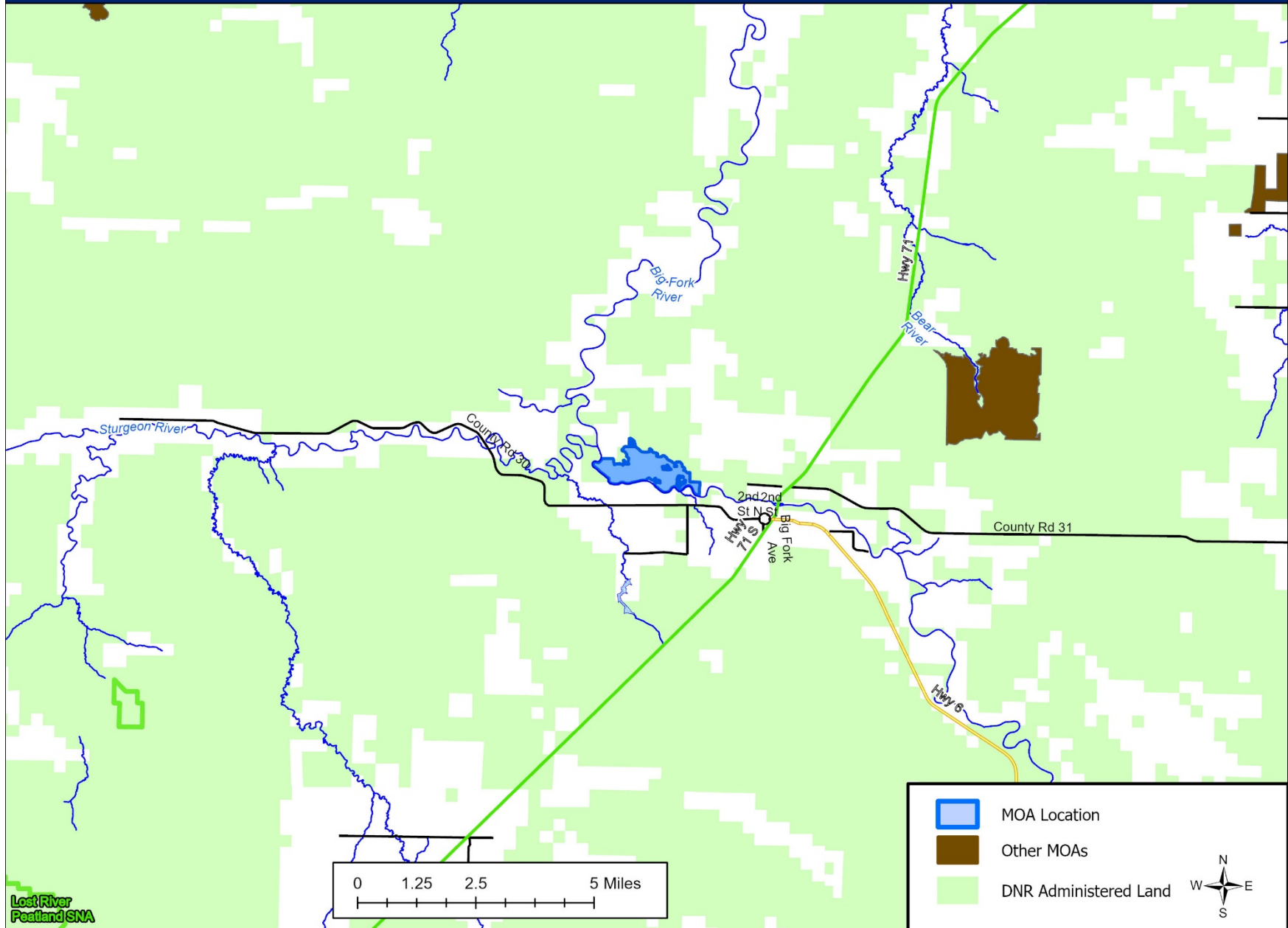
| FUTURE DIRECTION | |
|--|---|
| Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Manage riparian areas to provide vegetation conditions associated with habitat for fish, wildlife, and plant species. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Represent all native plant community class growth stages on state lands to the extent possible. • Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need. |
| Direction or Consideration for Specific Stands (optional) | <p>Several designated and candidate old growth stands occur within this patch, so refer to the old growth ArcGIS QuickLayers resources to appropriately identify and apply special management zones around those stands.</p> |
| Future Planning Considerations (optional) | <p>Long-term goals for future consideration:</p> <ul style="list-style-type: none"> • Within-stand species diversity, structural complexity, and characteristics of the older growth stages increase over time. • Increased dominance or representation of various hardwood species in place of aspen. • Work toward developing this as an older forest patch in the future, in which fragmentation is reduced over time. • Apply older rotation ages to meet MOA objectives during future stand exam list modeling and development, if possible. • Evaluate establishing an old growth old forest management complex (OFMC) in this area to further complement the old growth stands. |

List of stands by Stand ID from FIM

| | |
|----------------|----------------|
| t15525w1280732 | t15525w1331066 |
| t15525w1320549 | t15525w1331069 |
| t15525w1320575 | t15525w1331070 |
| t15525w1320584 | t15525w1331081 |
| t15525w1320585 | t15525w1331083 |
| t15525w1320587 | t15525w1331119 |
| t15525w1320862 | t15525w1331169 |
| t15525w1320870 | t15525w1331171 |
| t15525w1321068 | t15525w1331212 |
| t15525w1321160 | t15525w1340598 |
| t15525w1321161 | t15525w1340885 |
| t15525w1321162 | t15525w1340907 |
| t15525w1321163 | t15525w1341184 |
| t15525w1330580 | |
| t15525w1330884 | |
| t15525w1331065 | |



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|--|
| MOA Name | Rapid River Headwaters Area |
| MOA Type | Landscape Management |
| Location (Eco. Section, TRS) | NMOP; T158N, R34W, Secs 9, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36 |
| NPC System | Beltrami-Pine Island Peatlands, Beltrami-Pine Island Beach Ridges, Rapid River Till Plain |
| Acres by Land Status (approx.) | 4,076 acres LUP lease lands |
| Current Conditions | There is a diverse range of cover types around the headwaters of the north branch of the Rapid River. Small white water lily (<i>Nymphaea leibergii</i>), a state-listed threatened species, is known to occur on a portion of the Rapid River within this area. |

| FUTURE DIRECTION | |
|--------------------------------------|--|
| 10-Year Management Intent | This MOA addresses objective 2.8 in the LUP Comprehensive Conservation Management Plan to manage the Rapid River Headwaters Area to retain its existing wilderness characteristics and values. |
| Strategies to Achieve 10-year Intent | <p>In these 10 years, this MOA's intent was primarily implemented through swapping or dropping model selected stands while developing the 10-year stand exam list. Other strategies include:</p> <ul style="list-style-type: none">• avoiding road construction, rehabilitating roads and skid trails, and blocking access roads to prevent public vehicular traffic• treating some balsam fir by hand via walk-in access |
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Ensure older forest stands and older forest characteristics within stands are distributed across the landscape.• Manage riparian areas to provide vegetation conditions associated with habitat for fish, wildlife, and plant species.• Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.• Represent all native plant community class growth stages on state lands to the extent possible.• Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need.• Protect, maintain, or enhance endangered, threatened, and special concern species and their habitats in the Section. |

| FUTURE DIRECTION | |
|--|--|
| Direction or Consideration for Specific Stands (optional) | Manage stand t15834w1160273 for future white pine old-growth forest by hand thinning balsam understory. |
| Future Planning Considerations (optional) | Only plan timber harvest if it moves stands toward historic distributions of native plant community growth stages and results in diverse, uneven-aged stands (e.g., using methods such as selective harvest or variable density thinning). |

Attach a list of stands by Stand ID from FIM

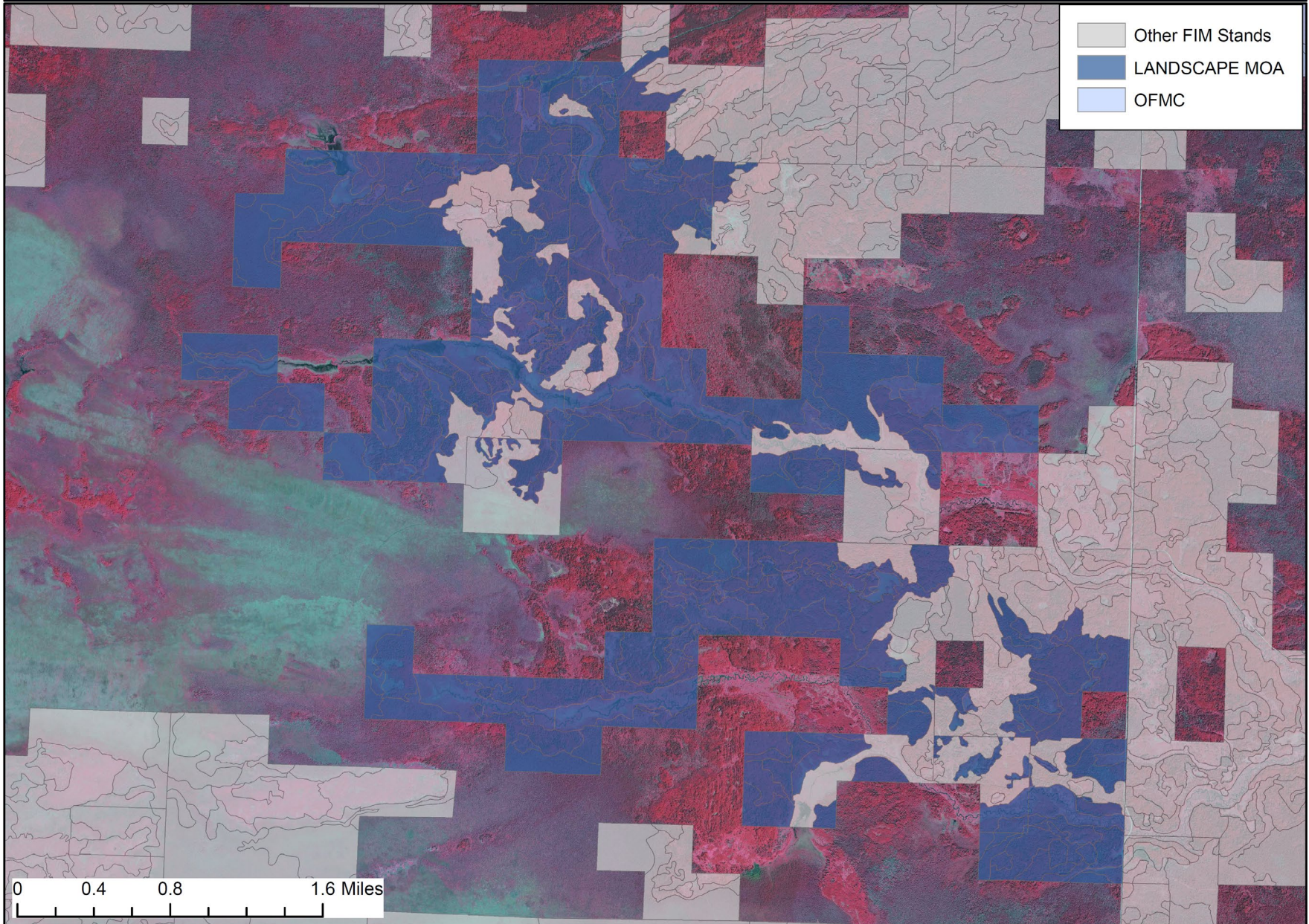
| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| t15834w1090175 | t15834w1150293 | t15834w1160703 | t15834w1210397 | t15834w1240398 |
| t15834w1090179 | t15834w1150295 | t15834w1160776 | t15834w1210402 | t15834w1240408 |
| t15834w1090190 | t15834w1150298 | t15834w1160777 | t15834w1210405 | t15834w1240412 |
| t15834w1090192 | t15834w1150301 | t15834w1170247 | t15834w1210415 | t15834w1250464 |
| t15834w1090195 | t15834w1150312 | t15834w1170248 | t15834w1210416 | t15834w1250466 |
| t15834w1090197 | t15834w1150314 | t15834w1170249 | t15834w1210431 | t15834w1250467 |
| t15834w1090199 | t15834w1150317 | t15834w1170250 | t15834w1210753 | t15834w1250471 |
| t15834w1090201 | t15834w1150323 | t15834w1170256 | t15834w1220351 | t15834w1250472 |
| t15834w1090216 | t15834w1150330 | t15834w1170291 | t15834w1220352 | t15834w1250473 |
| t15834w1090220 | t15834w1150333 | t15834w1170303 | t15834w1220354 | t15834w1250474 |
| t15834w1090222 | t15834w1150338 | t15834w1170305 | t15834w1220355 | t15834w1250475 |
| t15834w1090232 | t15834w1150341 | t15834w1170309 | t15834w1220356 | t15834w1250479 |
| t15834w1090234 | t15834w1150342 | t15834w1170325 | t15834w1220358 | t15834w1250481 |
| t15834w1090243 | t15834w1150343 | t15834w1170704 | t15834w1220381 | t15834w1250482 |
| t15834w1090244 | t15834w1160251 | t15834w1170705 | t15834w1220387 | t15834w1250483 |
| t15834w1090737 | t15834w1160252 | t15834w1170706 | t15834w1220393 | t15834w1250485 |
| t15834w1090738 | t15834w1160253 | t15834w1170707 | t15834w1220395 | t15834w1250489 |
| t15834w1090739 | t15834w1160257 | t15834w1200345 | t15834w1220401 | t15834w1250490 |
| t15834w1100170 | t15834w1160258 | t15834w1200348 | t15834w1220404 | t15834w1250668 |
| t15834w1100187 | t15834w1160260 | t15834w1200353 | t15834w1220406 | t15834w1250669 |
| t15834w1100193 | t15834w1160262 | t15834w1200357 | t15834w1220407 | t15834w1260627 |
| t15834w1100196 | t15834w1160264 | t15834w1200369 | t15834w1230362 | t15834w1260628 |
| t15834w1100200 | t15834w1160273 | t15834w1200375 | t15834w1230363 | t15834w1260630 |
| t15834w1100212 | t15834w1160276 | t15834w1200377 | t15834w1230364 | t15834w1260633 |
| t15834w1100213 | t15834w1160290 | t15834w1200388 | t15834w1230365 | t15834w1260635 |
| t15834w1100221 | t15834w1160299 | t15834w1200411 | t15834w1230372 | t15834w1260636 |
| t15834w1100228 | t15834w1160302 | t15834w1200751 | t15834w1230376 | t15834w1260637 |
| t15834w1140336 | t15834w1160307 | t15834w1200752 | t15834w1230384 | t15834w1260638 |
| t15834w1140339 | t15834w1160313 | t15834w1210347 | t15834w1230385 | t15834w1260640 |
| t15834w1140340 | t15834w1160315 | t15834w1210349 | t15834w1230392 | t15834w1260641 |
| t15834w1150261 | t15834w1160316 | t15834w1210360 | t15834w1230403 | t15834w1260642 |
| t15834w1150263 | t15834w1160320 | t15834w1210366 | t15834w1230418 | t15834w1260651 |
| t15834w1150265 | t15834w1160324 | t15834w1210368 | t15834w1230419 | t15834w1260652 |
| t15834w1150266 | t15834w1160329 | t15834w1210371 | t15834w1230421 | t15834w1260658 |
| t15834w1150267 | t15834w1160332 | t15834w1210379 | t15834w1230422 | t15834w1260662 |
| t15834w1150268 | t15834w1160334 | t15834w1210382 | t15834w1230423 | t15834w1260667 |
| t15834w1150269 | t15834w1160337 | t15834w1210383 | t15834w1230424 | t15834w1260670 |
| t15834w1150287 | t15834w1160689 | t15834w1210386 | t15834w1230427 | t15834w1260686 |
| t15834w1150288 | t15834w1160690 | t15834w1210391 | t15834w1230430 | t15834w1260697 |
| t15834w1150289 | t15834w1160691 | t15834w1210394 | t15834w1240396 | t15834w1260714 |

| | |
|----------------|----------------|
| t15834w1270624 | t15834w1360566 |
| t15834w1270625 | t15834w1360567 |
| t15834w1270626 | t15834w1360569 |
| t15834w1270632 | t15834w1360570 |
| t15834w1270634 | t15834w1360571 |
| t15834w1270639 | t15834w1360577 |
| t15834w1270644 | t15834w1360758 |
| t15834w1270646 | t15834w1360759 |
| t15834w1270648 | t15834w1360760 |
| t15834w1270649 | t15834w1360773 |
| t15834w1270654 | t15834w1360780 |
| t15834w1270656 | |
| t15834w1270657 | |
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| t15834w1270696 | |
| t15834w1270755 | |
| t15834w1280468 | |
| t15834w1280470 | |
| t15834w1280476 | |
| t15834w1280477 | |
| t15834w1280478 | |
| t15834w1280665 | |
| t15834w1280698 | |
| t15834w1280700 | |
| t15834w1330498 | |
| t15834w1330757 | |
| t15834w1340510 | |
| t15834w1340674 | |
| t15834w1350508 | |
| t15834w1350517 | |
| t15834w1350519 | |
| t15834w1350541 | |
| t15834w1350676 | |
| t15834w1350678 | |
| t15834w1350679 | |
| t15834w1350699 | |
| t15834w1350701 | |
| t15834w1360501 | |
| t15834w1360505 | |
| t15834w1360511 | |
| t15834w1360513 | |
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| t15834w1360536 | |
| t15834w1360543 | |
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| t15834w1360553 | |
| t15834w1360559 | |
| t15834w1360564 | |

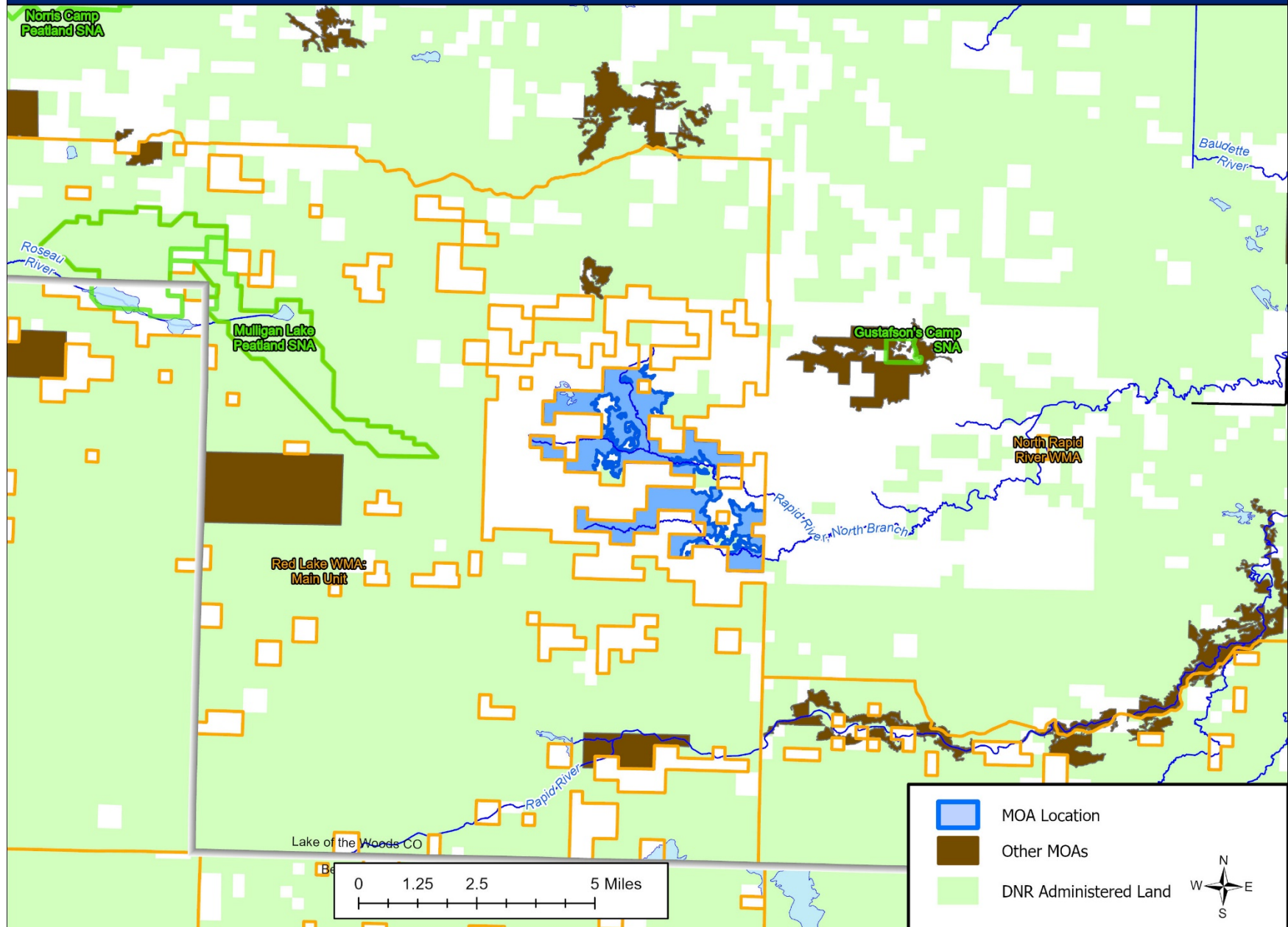
LOCAL MOA MAP

- Other FIM Stands
- LANDSCAPE MOA
- OFMC

0 0.4 0.8 1.6 Miles



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | River Road Conifers |
| MOA Type | Landscape, Cover Type Emphasis, Upland Conifer |
| Location (Eco. Section, TRS) | NMOP; T65N R24W Sec 15-16, 21-22, 27 |
| NPC Systems | Mesic Hardwood, Fire Dependent, Floodplain Forest, Forested Rich Peatland |
| Acres by Land Status (approx.) | 215 acres; all School Trust land and FOR administered |
| School trust lands within this MOA | The establishment of MOAs does not supersede any current DNR policy or guideline, including school trust lands policy. Any MOA-specific management on school trust lands must occur within the parameters of the DNR's <i>Operational Order 121: Management of School Trust Lands</i> , including <i>Appendix B: Best Management Practices for Forest Management on School Trust Lands</i> . The operational order specifies maximum reserve allowances on all school trust lands, including those within MOAs. In addition, regeneration of harvested stands on school trust lands must yield fully stocked stands to ensure their future economic productivity. The DNR's <i>MOA Definition and Implementation Direction</i> documentation provides more information for managers on how to implement MOAs while also following all current DNR policy. |
| Current Conditions | A mix of aspen, white spruce, balsam fir, and red pine cover types across a wide range of stand ages, with additional inclusions of black spruce and tamarack lowlands and black ash forests along the Little Fork River. The emphasis for conifer dominance in this area has been driven by a combination of factors including the riparian corridor, adjacency to old growth stands, and difficult accessibility due to steep topography. The MOA is located between Hwy 65 and the Myrtle Lake Peatland SNA along the west side of the Little Fork River. This area qualifies for the SFRMP patch size class 1 category (>640 ac). |

| FUTURE DIRECTION | |
|--------------------------------------|---|
| 10-Year Management Intent | The goal of this MOA is to maintain or increase the conifer composition of stands within this area, while looking for opportunities to increase stand sizes and maintain or increase within-stand diversity. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">Focus management activities on maintaining or increasing conifer dominance, and refer to native plant community information for direction on suitable tree species at the site-level. |

FUTURE DIRECTION

Strategies to Achieve 10-year Intent (cont.)

- In general, increase long-lived conifer species such as white cedar, white spruce, and white pine on mesic sites especially in the river corridor. On drier, sandier sites, favor jack pine and red pine as suitable.
- Different from SFRMP patches, there is no specific age goal for this MOA. Maintaining a range of age classes and growth stage conditions would be appropriate as long as the MOA develops into a contiguous area of conifer habitat.
- While promoting conifer components, look for opportunities to increase or maintain structural diversity as well, including large snags, downed logs, and varying size canopy gaps and levels of shrub layer development, which benefit bird and small mammal species diversity. Species of Greatest Conservation Need (SGCN) such as black-backed woodpecker, blackburnian warbler, bay-breasted warbler, northern goshawk would benefit from these older conifer forest characteristics.
- Evaluate the potential for intermediate treatments in the stands in this MOA to accelerate the development of conifer dominance in this area, including underplanting or seeding, and competition control projects.
- Attempt to discriminate against aspen encroachment, and look for opportunities for site conversion back to conifer cover types where appropriate. Maintain overall native plant community compositional and structural diversity while attempting any active cover type conversions or competition control activities.

SFRMP Goals this MOA Will Advance

This MOA offers opportunities to address section-wide SFRMP goals:

- Maintain or increase the diversity of species, ages, and structure within stands
- Manage riparian areas to provide vegetation conditions associated with habitat for fish, wildlife, and plant species.
- Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section.
- Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need.

Direction or Consideration for Specific Stands (optional)

Several designated old growth stands are present within the southeastern portion of this MOA. Refer to the old growth ArcGIS QuickLayers resources to appropriately identify and apply special management zones around these stands.

Future Planning Considerations (optional)

Long-term goals for future consideration:

- Stand boundaries dissolve over time as similar stands are managed based on NPC boundaries.
- Maintain this area as a conifer-dominated landscape, but refer to the latest climate change science on projected tree species adaptability.
- Monitor for invasive insect or disease issues that may affect a conifer-dominant patch (e.g. mountain pine beetle, shoot blights, etc.)

Attach a list of stands by Stand ID from FIM

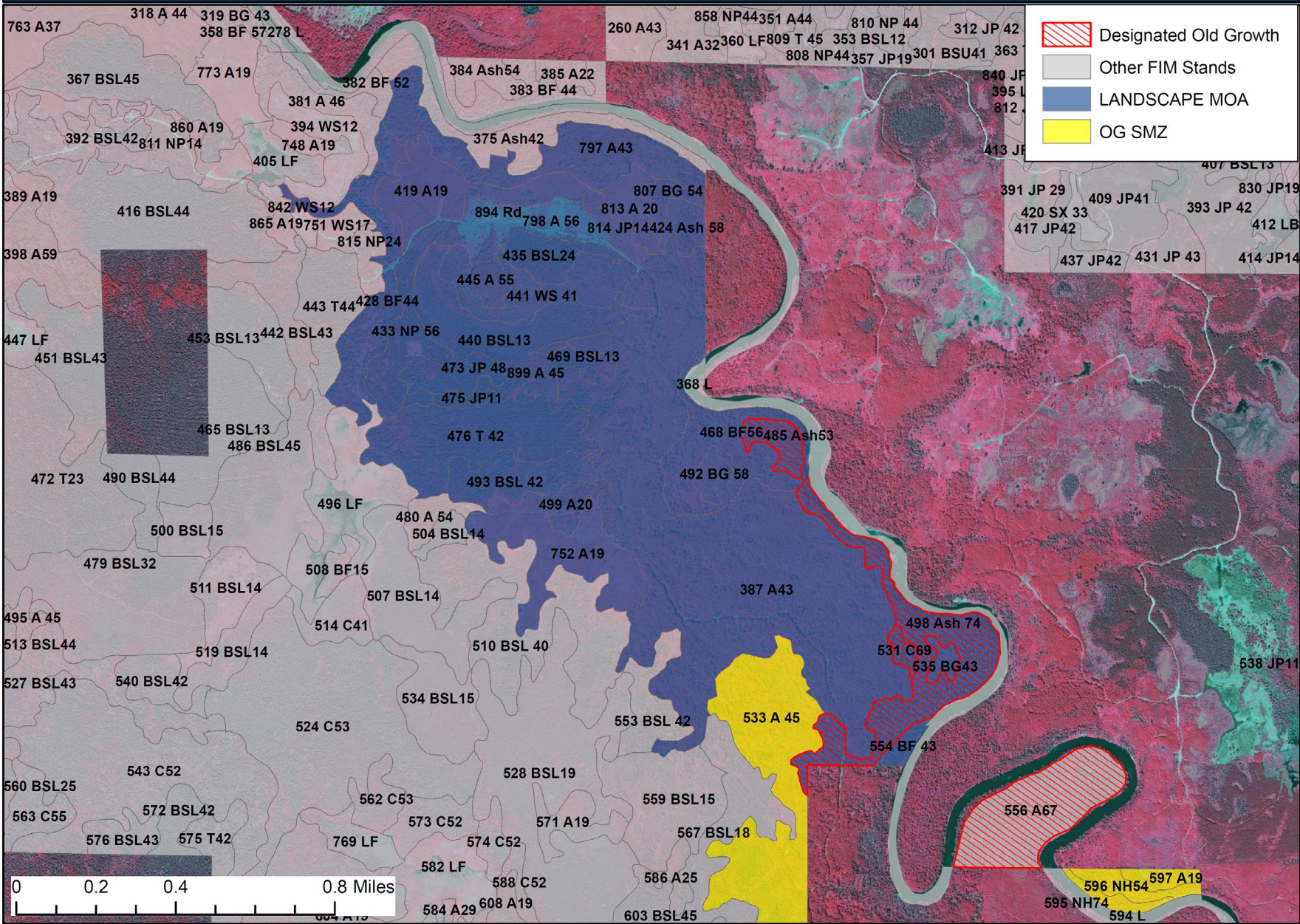
t06524w1150468
t06524w1150485
t06524w1150813
t06524w1150814
t06524w1160419
t06524w1160433
t06524w1160435
t06524w1160473
t06524w1160475
t06524w1220492
t06524w1220498
t06524w1220531
t06524w1220535
t06524w1220554

LOCAL MOA MAP

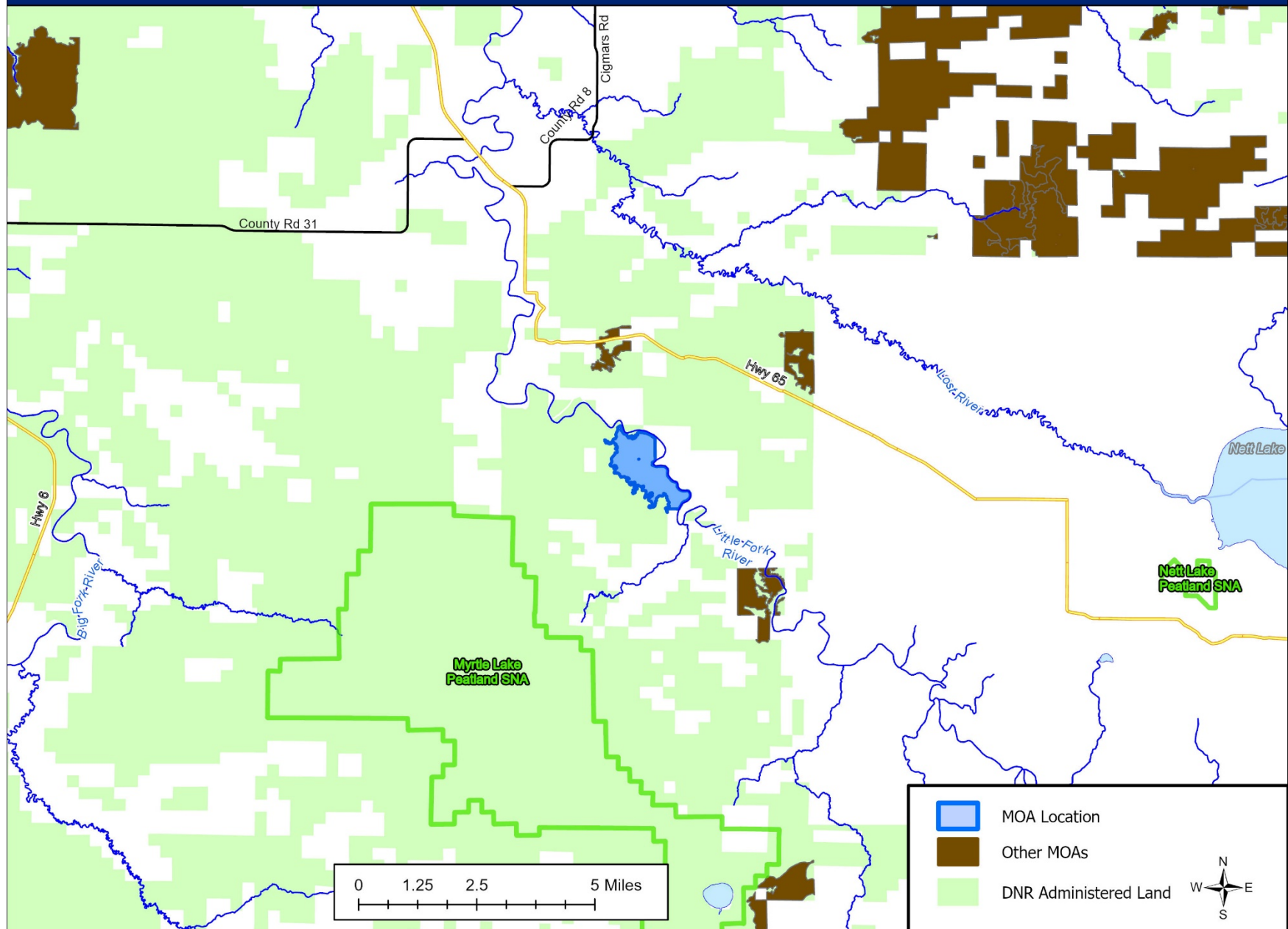
This map displays the boundaries and designations of various Land Management Overlay (MOA) areas. The legend indicates four categories:

- Designated Old Growth**: Shaded in light green.
- Other FIM Stands**: Shaded in light yellow.
- LANDSCAPE MOA**: Shaded in dark blue.
- OG SMZ**: Shaded in orange.

The map includes numerous labels for specific stands or areas, such as 318 A 44, 319 BG 43, 358 BF 57, 278 L, 260 A43, 858 NP44, 351 A44, 810 NP 44, 312 JP 42, 341 A32, 360 LF, 809 T 45, 353 BSL12, 808 NP44, 357 JP19, 301 BSU41, 363, 840 JP, 395 L, 812, 413 JP, 407 BSL13, 391 JP 29, 409 JP41, 830 JP19, 420 SX 33, 393 JP 42, 412 LB, 417 JP42, 437 JP42, 431 JP 43, 414 JP14, 447 LF, 451 BSL43, 453 BSL13, 442 BSL43, 433 NP 56, 440 BSL13, 469 BSL13, 473 JP 48, 899 A 45, 475 JP11, 476 T 42, 493 BSL 42, 499 A20, 480 A 54, 504 BSL14, 508 BF15, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19, 367 BSL45, 392 BSL42, 389 A19, 416 BSL44, 842 WS12, 865 A19, 751 WS17, 815 NP24, 443 T44, 428 BF44, 445 A 55, 441 WS 41, 442 BSL43, 465 BSL13, 486 BSL45, 472 T23, 490 BSL44, 500 BSL15, 479 BSL32, 495 A 45, 513 BSL44, 527 BSL43, 540 BSL42, 519 BSL14, 511 BSL14, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19, 367 BSL45, 392 BSL42, 389 A19, 416 BSL44, 842 WS12, 865 A19, 751 WS17, 815 NP24, 443 T44, 428 BF44, 445 A 55, 441 WS 41, 442 BSL43, 465 BSL13, 486 BSL45, 472 T23, 490 BSL44, 500 BSL15, 479 BSL32, 495 A 45, 513 BSL44, 527 BSL43, 540 BSL42, 519 BSL14, 511 BSL14, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19, 367 BSL45, 392 BSL42, 389 A19, 416 BSL44, 842 WS12, 865 A19, 751 WS17, 815 NP24, 443 T44, 428 BF44, 445 A 55, 441 WS 41, 442 BSL43, 465 BSL13, 486 BSL45, 472 T23, 490 BSL44, 500 BSL15, 479 BSL32, 495 A 45, 513 BSL44, 527 BSL43, 540 BSL42, 519 BSL14, 511 BSL14, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19, 367 BSL45, 392 BSL42, 389 A19, 416 BSL44, 842 WS12, 865 A19, 751 WS17, 815 NP24, 443 T44, 428 BF44, 445 A 55, 441 WS 41, 442 BSL43, 465 BSL13, 486 BSL45, 472 T23, 490 BSL44, 500 BSL15, 479 BSL32, 495 A 45, 513 BSL44, 527 BSL43, 540 BSL42, 519 BSL14, 511 BSL14, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19, 367 BSL45, 392 BSL42, 389 A19, 416 BSL44, 842 WS12, 865 A19, 751 WS17, 815 NP24, 443 T44, 428 BF44, 445 A 55, 441 WS 41, 442 BSL43, 465 BSL13, 486 BSL45, 472 T23, 490 BSL44, 500 BSL15, 479 BSL32, 495 A 45, 513 BSL44, 527 BSL43, 540 BSL42, 519 BSL14, 511 BSL14, 507 BSL14, 514 C41, 510 BSL 40, 534 BSL15, 524 C53, 543 C52, 572 BSL42, 576 BSL43, 575 T42, 769 LF, 582 LF, 588 C52, 584 A29, 608 A19, 603 BSL45, 553 BSL 42, 559 BSL15, 567 BSL18, 586 A25, 596 NH54, 597 A19, 595 NH74, 594 L, 531 C69, 535 BG43, 554 BF 43, 556 A67, 498 Ash 74, 492 BG 58, 468 BF56, 485 Ash53, 368 L, 814 JP14, 424 Ash 58, 813 A 20, 807 BG 54, 798 A 56, 797 A43, 375 Ash42, 384 Ash54, 385 A22, 383 BF 44, 382 BF 62, 381 A 46, 394 WS12, 748 A19, 405 LF, 860 A19, 811 NP14, 773 A19,



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP 2020

| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Roseau River Watershed |
| MOA Type | Landscape Management |
| Location (Eco. Section, TRS) | NMOP; T159N, R36W, Secs 5, 7, 18, 31, 32; T159N, R37W, Secs 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36 |
| NPC System | Beltrami-Pine Island Beach Ridges, Pine Island Peatlands and Williams-Skime Lake Plain |
| Acres by Land Status (approx.) | 4,400 acres; 3,900 LUP lease land, 500 ConCon |
| Current Conditions | The North Fork of the Roseau River originates in Mulligan Lake Peatland SNA within Red Lake Wildlife Management Area. Despite an impoundment at Dick's Parkway Forest Road, the North Fork of the Roseau River predominantly maintains natural meander and vegetated characteristics. A caddisfly species of special concern, <i>Oxyethria itasca</i> , that was discovered in 1993 and has never been found outside of northern Minnesota, resides in Hansen Creek. Larvae of many caddisfly species are found in lakes, but this species has only been found in meandering, silt-bottomed streams. Caddisfly species are widely regarded as indicator species for streams of high ecological integrity. |

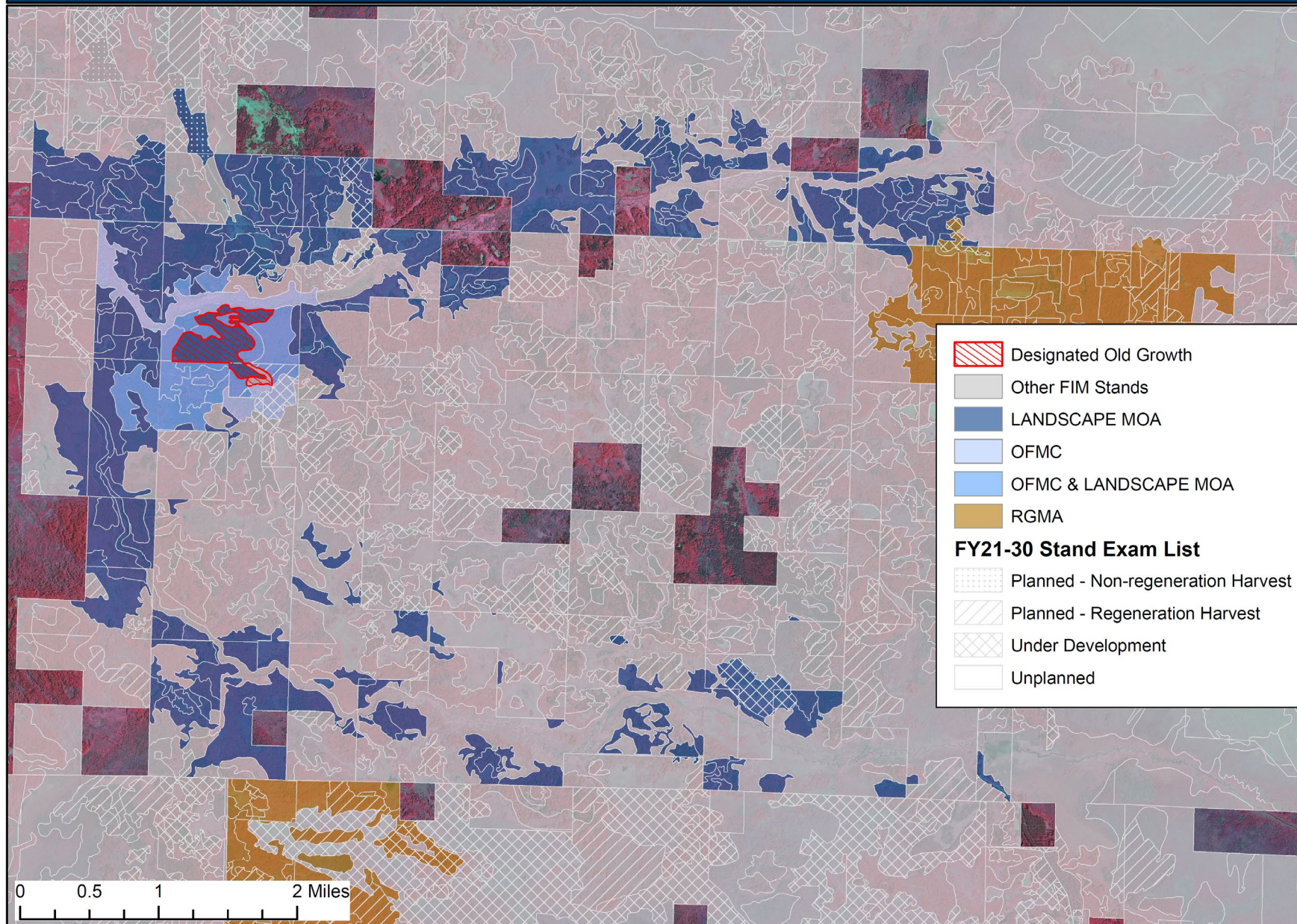
| FUTURE DIRECTION | |
|---|--|
| 10-Year Management Intent | <p>This MOA is designed to implement goals in the LUP CCMP, including:</p> <ul style="list-style-type: none"> • maintaining the ecological and hydrologic functions of the watershed • maintaining forested cover types and increasing conifer cover • retaining the biological integrity of interior-forest and riparian habitat |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none"> • Look for opportunities to implement SFRMP goals for conversion to long-lived species, such as conifers. Consider a variety of conversion strategies, especially passive conversion/natural succession. • Retain conifers during harvest. • Implement wider riparian management zones on LUP land than MFRC site-level guidelines. • Limit harvest and access routes through wet areas with direct downslope connection to Roseau River or Hansen Creek to maintain the integrity of the filter strip and caddisfly habitat (e.g., floodplain areas adjacent to Roseau River or Hansen Creek dominated by sedges or willows, even if the areas are outside of RMZs). • If annual plan additions occur, harvest in a manner consistent with the intent and strategies of this management opportunity area. |

| FUTURE DIRECTION | |
|--|---|
| SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none"> • Ensure older forest stands and older forest characteristics within stands are distributed across the landscape. • Manage riparian areas to provide vegetation conditions associated with habitat for fish, wildlife, and plant species. • Provide a variety of vegetation conditions and habitat components at multiple scales simultaneously to support wildlife species found in the Section. • Represent all native plant community class growth stages on state lands to the extent possible. • Maintain or enhance vegetation conditions associated with known occurrences of Species of Greatest Conservation Need. • Protect, maintain, or enhance endangered, threatened, and special concern species and their habitats in the Section. |
| Direction or Consideration for Specific Stands (optional) | |
| Future Planning Considerations (optional) | <p>To the extent possible, only plan harvest in upland areas to provide wildlife habitat that is lacking in the Agassiz Lowlands subsection.</p> <p>During planning, apply older rotation ages than standard DNR rotation ages for all cover types (preferably at least 20 years older).</p> |

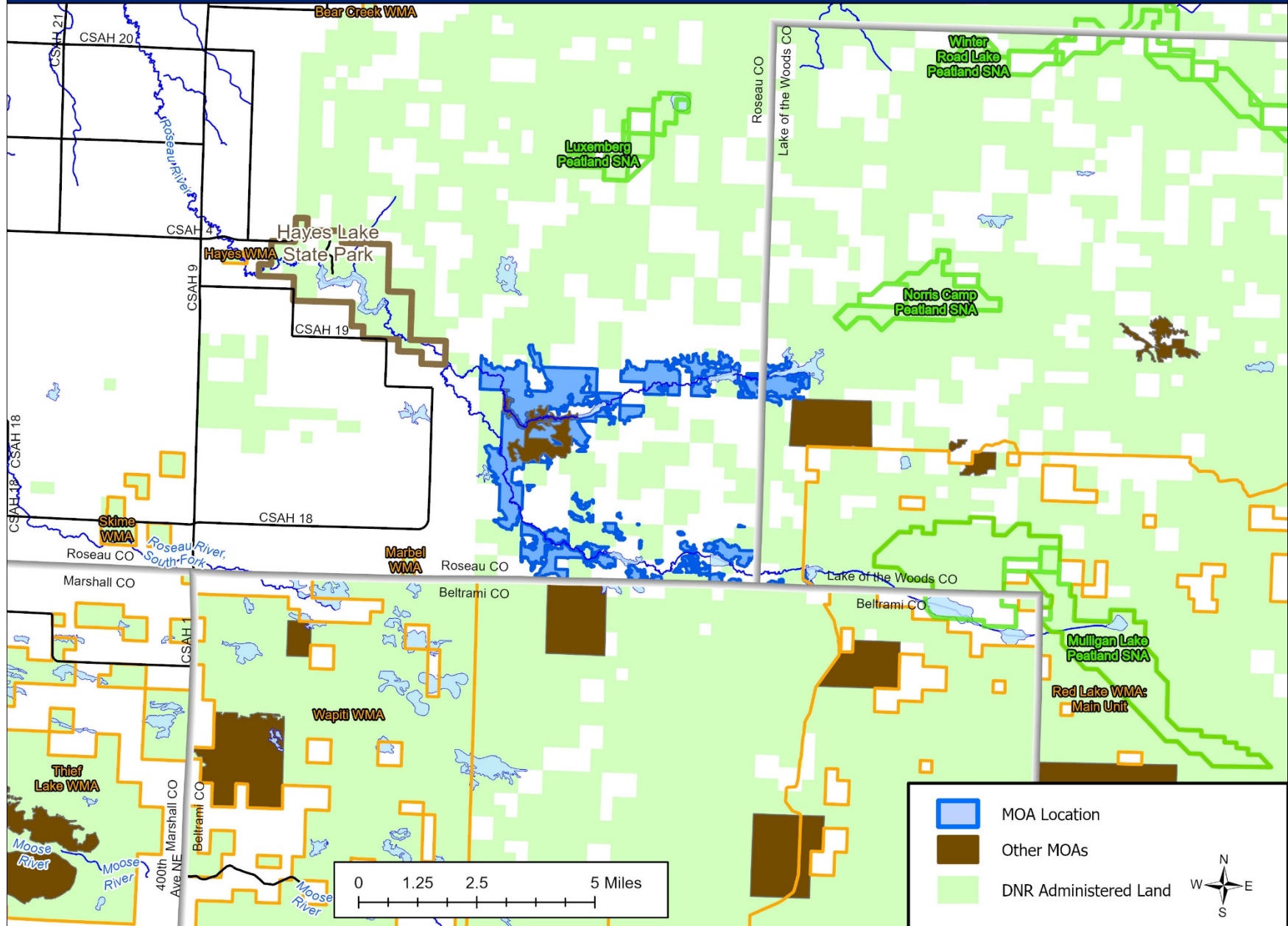
List of stands by Stand ID from FIM

Note: 285 stands in MOA (too many to list)

LOCAL MOA MAP



LANDSCAPE MOA MAP



SFRMP Management Opportunity Area

NMOP SFRMP 2020

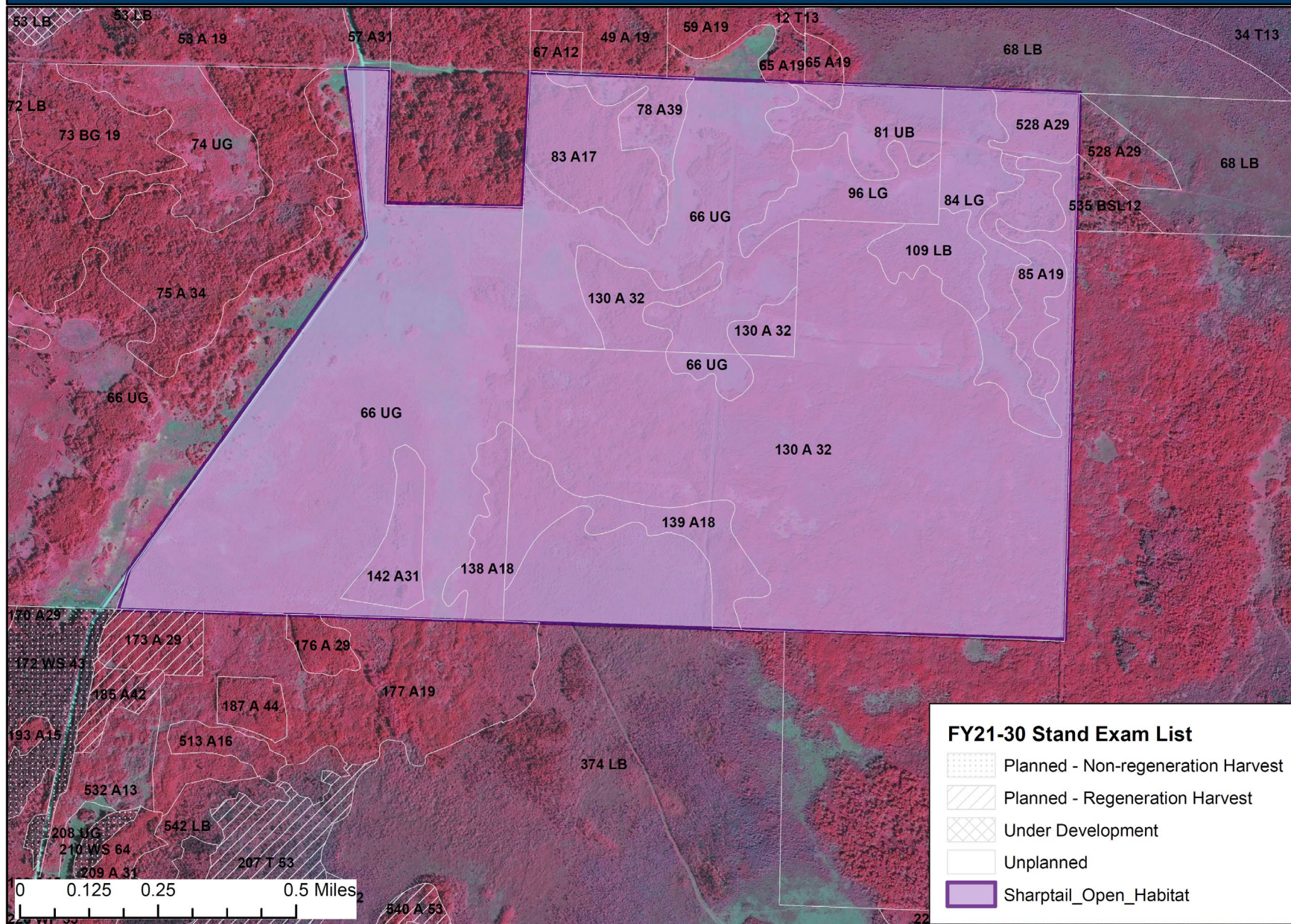
| MANAGEMENT OPPORTUNITY AREA (MOA) DESCRIPTION | |
|---|---|
| MOA Name | Sharptail Open Habitat |
| MOA Type | Open Landscape Management |
| Location (Eco. Section, TRS) | NMOP; T158N, R36W, Secs 8, 9 |
| NPC System | Beltrami-Pine Islands Peatlands |
| Acres by Land Status (approx.) | 400 acres total: 350 LUP, 50 ConCon |
| Current Conditions | <p>This area has been managed under a cooperative agreement between the Section of Wildlife and the Division of Forestry since 1963 as an experimental plot to determine the habitat characteristics required by sharp-tailed grouse. More recently, the area has been managed as a large forest opening to provide habitat for sharp-tailed grouse, openland and early forest species (including golden-winged warblers), and to replicate species assemblages that are typically found in forests disturbed by wind and fire.</p> |

| FUTURE DIRECTION | |
|---|---|
| 10-Year Management Intent | The area will continue to be managed as sharp-tailed grouse and early successional forest habitat. Prescribed fire and shearing will continue to maintain sedge meadows, open habitats, and to inhibit woody encroachment. |
| Strategies to Achieve 10-year Intent | <ul style="list-style-type: none">• Maintain early successional habitat conditions using timber harvest, brush shearing, and prescribed fire.• Harvest aspen before or at normal rotation age with no reserves (except where necessary for managing for golden-winged warblers). |
| Draft SFRMP Goals this MOA Will Advance | <p>This MOA offers opportunities to address section-wide SFRMP goals:</p> <ul style="list-style-type: none">• Provide a variety of habitat types and components at multiple scales simultaneously to support wildlife species found in the section. |
| Direction or Consideration for Specific Stands (optional) | <p>The following stands (or portions of these or any stand that reaches a merchantable size) can be evaluated for harvest at any time to maintain early successional habitat: t15836w1080075, t15836w1080073, t15836w1090083, and t15836w1090528.</p> |
| Future Planning Considerations (optional) | |

Attach a list of stands by Stand ID from FIM

t15836w1040066
t15836w1090085
t15836w1090084
t15836w1090139
t15836w1080142
t15836w1080138
t15836w1090081
t15836w1090096
t15836w1040066
t15836w1090130
t15836w1090528
t15836w1090109
t15836w1040066
t15836w1090130
t15836w1090130
t15836w1040065
t15836w1090083
t15836w1090078

LOCAL MOA MAP



LANDSCAPE MOA MAP

