HCV 4 (Critical ecosystem services) - Drinking Water

Process

Purpose of the Document

This document describes the identification, mapping, management and monitoring of High Conservation Value (HCV) 4 forests related to community drinking water.

HCVs - Defined

Principle 9 of the 2015 Forest Stewardship Council (FSC) Standard, requires us to identify, map, and maintain or enhance high conservation values (HCVs) that may be present on the FSC certified management unit (FMU). The organization (Minnesota DNR), through engagement with stakeholders and other means and sources shall assess and record the presence and status of the following HCVs proportionate to the scale, intensity, and risk of impacts of management activities.

1. HCV 1 – Species Diversity**.** Concentrations of biological diversity, including endemic species and rare, threatened, or endangered species, that are significant at global, regional, or national levels.
2. HCV 2 – Landscape level ecosystems and mosaics. Intact forest landscapes and large landscape level ecosystems that are significant at the global, regional, or national levels and contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
3. HCV 3 – Ecosystems and habitats. Rare, threatened, or endangered ecosystems.
4. **HCV 4 – *Critical ecosystem services.*** *Basic ecosystem services in critical situations including protection of water catchments* and control of erosion of vulnerable soils and slopes.*
5. HCV 5 – Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.)
6. HCV 6 – Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples.

* The national guidance for HCV 4 further identified these as "*forest areas that are part of a local drinking water catchment or irrigation supply system, or is a critical source for a remote location may be considered a 'critical situation' particularly when people are dependent on the guarantee of water for drinking….".*

How HCV 4 - pertaining to community drinking water protection - is identified in Minnesota

The identification of forests that crosswalk to HCV 4 on Minnesota DNR certified lands was completed through consultation with program staff from the Minnesota DNR's Hydrogeology and Groundwater Unit, Minnesota Department of Health's (MDH) Source Water Protection Unit, and Minnesota Department of Agriculture. The team identified three primary spatial datasets to inform the identification of HCV 4 forests pertaining to community drinking water protection.

- Minnesota DNR Certified Forests
- Wellhead Protection Areas (WHPA)
- Drinking Water Supply Management Areas (DWSMA)

Data Sources Defined

Minnesota DNR Certified Forest:

This layer was developed in 2016 to map the extent of MN DNR Certified Lands, including; 1) Forestry and Wildlife administered lands outside of the Prairie Parkland Province, and 2) Fisheries Lands in Lake County. The layer was developed through the merging of the Public Lands Records Layer and the Forest Inventory Layer (FIM). This layer is maintained by MN DNR.

Wellhead Protection Areas:

WHPAs are scientifically derived by licensed geologists using delineation criteria specified in MR 4720.5510, subparts 2 to 6 (Criteria for Wellhead Protection Delineations) including time of travel, daily volume water used, groundwater flow field, flow boundaries, and aquifer transmissivity. As such, WHPA boundaries have limited spatial relationship to human ground features. In addition, an Inner Wellhead Management Zone (IWMZ) is designated for every public water supply well and consists of a 200-foot radius around the well. IWMZs also serve to protect the drinking water supplies for non-community water systems. Wellhead protection areas are developed to assist public water supplies with identifying and managing potential contaminant sources to protect their drinking water quality from degradation. This layer, maintained by MDH, is found on Quicklayers.

Drinking Water Supply Management Areas:

DWSMAs are delineated around WHPAs, fully enclosing them and extend out to boundaries that are easy to identify and thus manage at the ground surface. DWSMAs and WHPAs have been recognized in many water resource management programs and rules in Minnesota such as the MPCA's Feedlot, Subsurface Sewage Treatment Systems, and Stormwater Rules; EQB's Environmental Review Rules, and Silica Sand Mining Model Ordinance; and BWSR's CWF grants and RIM program. There is a state rule defining the process by which WHPAs and DWSMAs are established (MR 4720.5100-4720.5590). Currently WHPAs and DWSMAs are in the process of being generated for all 960 community public water systems and all - non-community PWS (about 1500-1600 in total). This layer, also maintained by MDH, is found on Quicklayers.

HCV 4 Areas Identified

Intersecting the MN DNR Certified Lands Layer with the Drinking Water Supply Management Area layer identified 1310 acres of DNR certified lands (see Attachment B).

DWSMA	ID	Forestry Admin Area	Wildlife Admin Area	DNR_AC	Type	Admin	Own_Type
McGregor	481	Aitkin	Aitkin	50	LG, LB	Wildlife	Trust
Kelliher	937	Bemidji	Bemidji	80	A, LG	Forestry	Trust
Cloquet South	666	Cloquet	Cloquet	9	DEV	Forestry	Acquired
Rochester	306	Lewiston	Rochester	342	Mh, O, LH	Wildlife	Acquired
Rushford East	924	Lewiston	Rochester	16	NP, O	Forestry	Acquired
Rushford Village	789	Lewiston	Rochester	175	O, LH	Forestry	Acquired
Zimmerman 3	924	Little Falls	Sauk Rapids	130	LG, OX	Wildlife	Acquired
Nevis	824	Park Rapids	Park Rapids	110	NP, A	Forestry	Trust
Park Rapids	853	Park Rapids	Park Rapids	20	DEV	Forestry	Acquired
Osakis	793	Park Rapids	Glenwood	30	L, LB	Wildlife	Acquired
Sturgeon Lake	479	Sandstone	Cloquet	4	A, JP	Wildlife	Acquired
Hugo North	708	Sandstone	Forest Lake	80	L	Wildlife	Acquired
Oak Park Heights	645	Sandstone	Forest Lake	70	UG, O	Wildlife	Acquired
Stacy 1	624	Sandstone	Cambridge	30	Mh	Wildlife	Acquired
Wyoming	638	Sandstone	Cambridge	36	Mh	Wildlife	Acquired
Orr	591	Tower	International Falls	6	DEV	Forestry	Acquired
Babbitt West	841	Tower	Tower	122	JP, NP	Forestry	Trust
Total Acres				**1310**			

Stakeholder Consultation and Management Planning

When areas are defined as a WHPA or DWSMA a public notice is required under MN Rule. Notices are mailed to surrounding local government units (LGUs). A public information meeting is conducted by the public water supply after Part 1 (delineation and vulnerability assessment) of the Wellhead Protection Plan (WHPP) is approved by MDH. When a final draft of Part 2 (potential contaminant source inventory and management strategies to address them, and a contingency plan) is complete, copies are sent to the same LGUs requesting their review and comment during a 60-day comment period. After the 60-day comment period is over, the public water supply (PWS) considers any comments received and conducts a public hearing to receive any comments from the public. After the public hearing, copies of the WHPP are sent to state agencies for another 60-day review and comment period. Once the state comment period is over, the MDH Planner considers any comments received and either approves or disapproves of the WHPP, based on whether the WHPP meets the requirements of MN Rule. Planners typically make short presentations at the public information meeting and public hearing, and answer any questions that the public may have. When the WHPP receives final MDH approval, a notice is sent to the same LGUs notifying them of the approval and thanking them for their participation. Lastly, WHPP management strategies typically include a source water protection (SWP) educational component targeting the public.

Monitoring of WHPA's and DWSMA's

There are three aspects of the monitoring efforts for Community PWSs. The first one is for WHPP development and implementation. Before the Part 1of the WHPP is developed, the source water is sampled and analyzed for its water chemistry, and age (based on tritium content). This information helps inform the Part 1 regarding aquifer and DWSMA vulnerability. Based on the Public Water Supply situation, additional sampling or ongoing monitoring may be (hydro-recommended) activities in the Part 2. When a WHPP is nearing year 7 of its 10-year life, another round of sampling is completed to initiate the Part 1 amendment process. If a contaminant (like nitrate) or WQ indicator (like chloride) is detected during sampling, the hydro may recommend quarterly or annual sampling for a specified length of time during WHPP implementation to confirm the testing results over time.

The second aspect requires Community PWSs to provide all consumers of their drinking water with an annual Consumer Confidence Report. The CCR summarizes information regarding source water, detected contaminants per the federal Safe Drinking Water Act, compliance, and educational information. More information can be found here:
https://www.epa.gov/sites/production/files/2014-05/documents/guide_qrg_ccr_2011.pdf.

The third aspect is compliance-related and is overseen by the MDH engineer assigned to that community PWS. Community systems are sampled either every 3, 6, or 9 years, depending on their vulnerability, for the roughly 100 contaminants identified in the federal Safe Drinking Water Act, including VOCs. If a contaminant is detected, and depending on what it is, the community PWS may move to quarterly, and then annual sampling for that contaminant.

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MN DNR's Management Considerations in DWSMAs

The following recommendations are to maintain the values of those areas identified as HCV 4s. These recommended BMPs should be applied in addition to existing BMPs found in department policies or the Minnesota Forest Resources Councils (MFRC) Forest Management Guidelines.

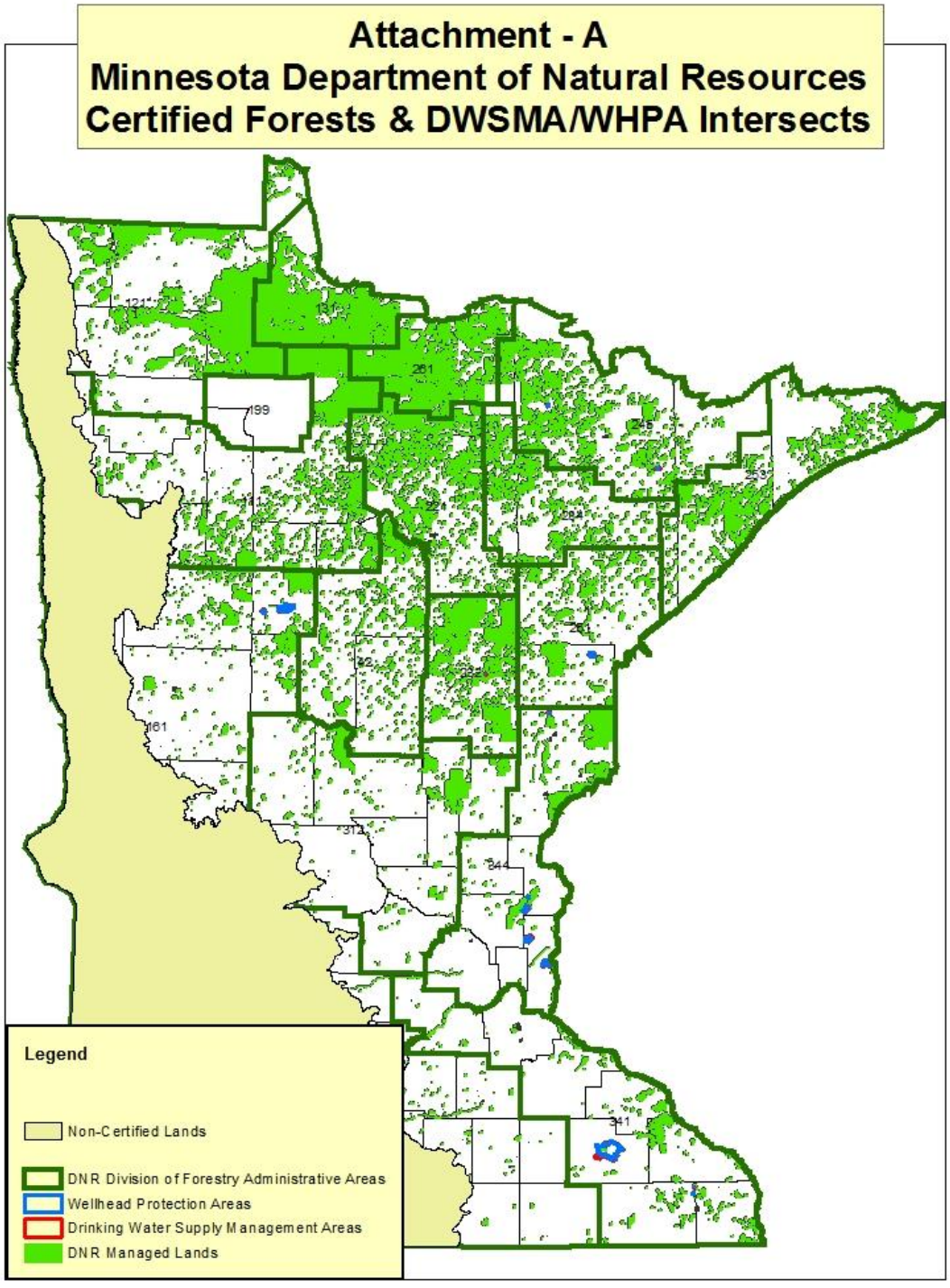
- Contact the local Wellhead Protection Manager and become familiar with the Wellhead Protection Plan (see Attachment C – Contact List)
- Apply the appropriate management constraint code in FIM.
- Make sure a spill kit is present during all operations using potential contaminants,
- Avoid the use of chemicals known to contaminate groundwater,
- Avoid placement of fueling and chemical mixing sites in these areas,
- Develop road closure plans to minimize uncontrolled access and illegal dumping,
- Regenerate sites promptly following regeneration harvests,
- Keep the sites vegetated and avoid conversion to non-forest.
- Consider hayfield management vs. row cropping on areas managed for agricultural use.

Staff Roles and Responsibilities

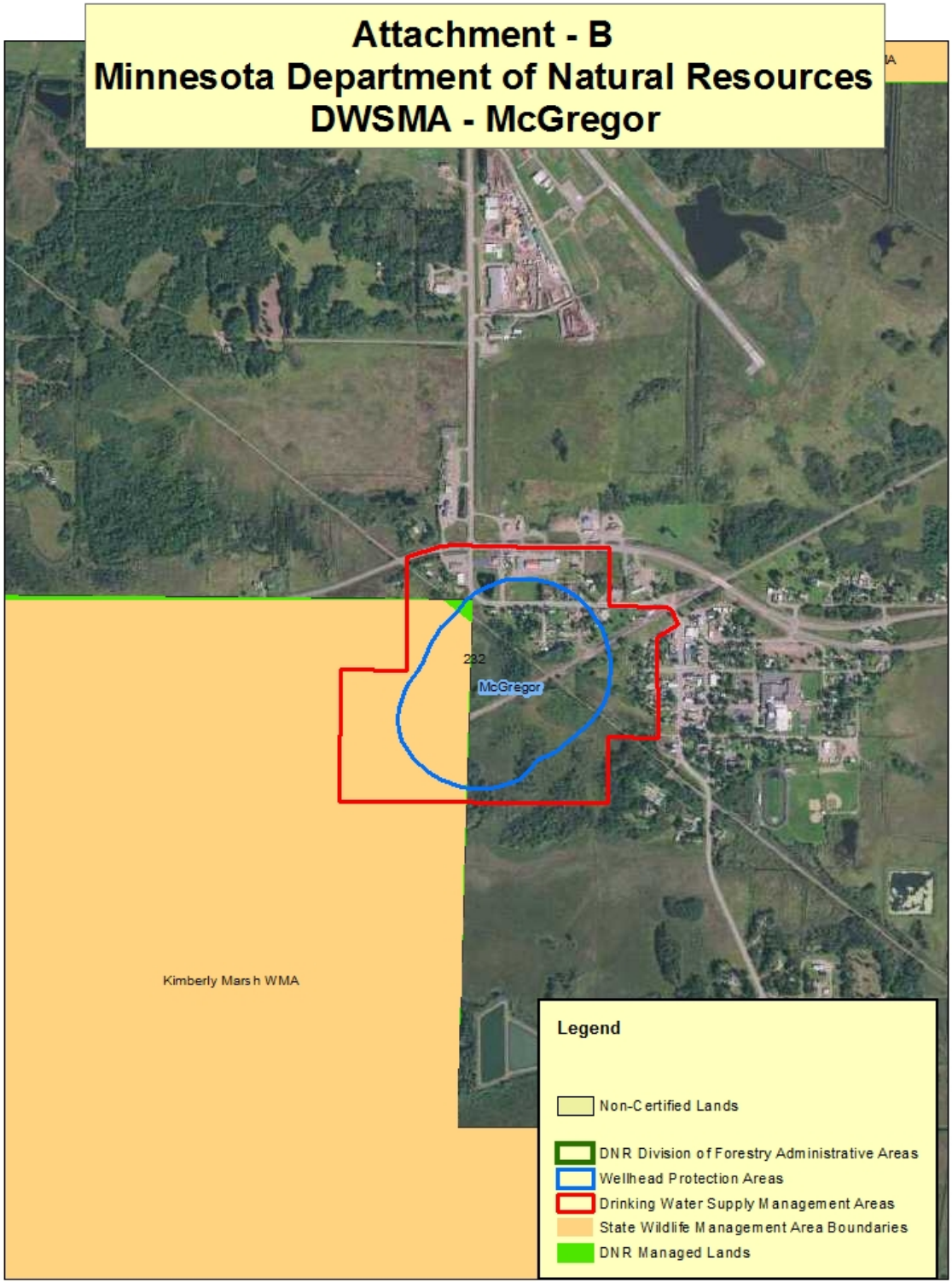
While a complete evaluation was completed in early 2018 of intersects between DNR-certified lands and WHPAs and DWSMAs, changes may occur through changes in DNR ownership or newly generated WHPAs and DWSMAs.

- The Forest Certification Program Consultant shall update the intersect evaluation biennially.
- The Forest Certification Program Consultant shall alert Property Managers and Regional Managers of intersects between certified lands and DWSMAs.
- Property Managers shall make contact with Community Wellhead Protection Managers to discuss best management practices on lands within DWSMAs.

Attachment A – Certified Forests & DWSMA/WHPA Intersects

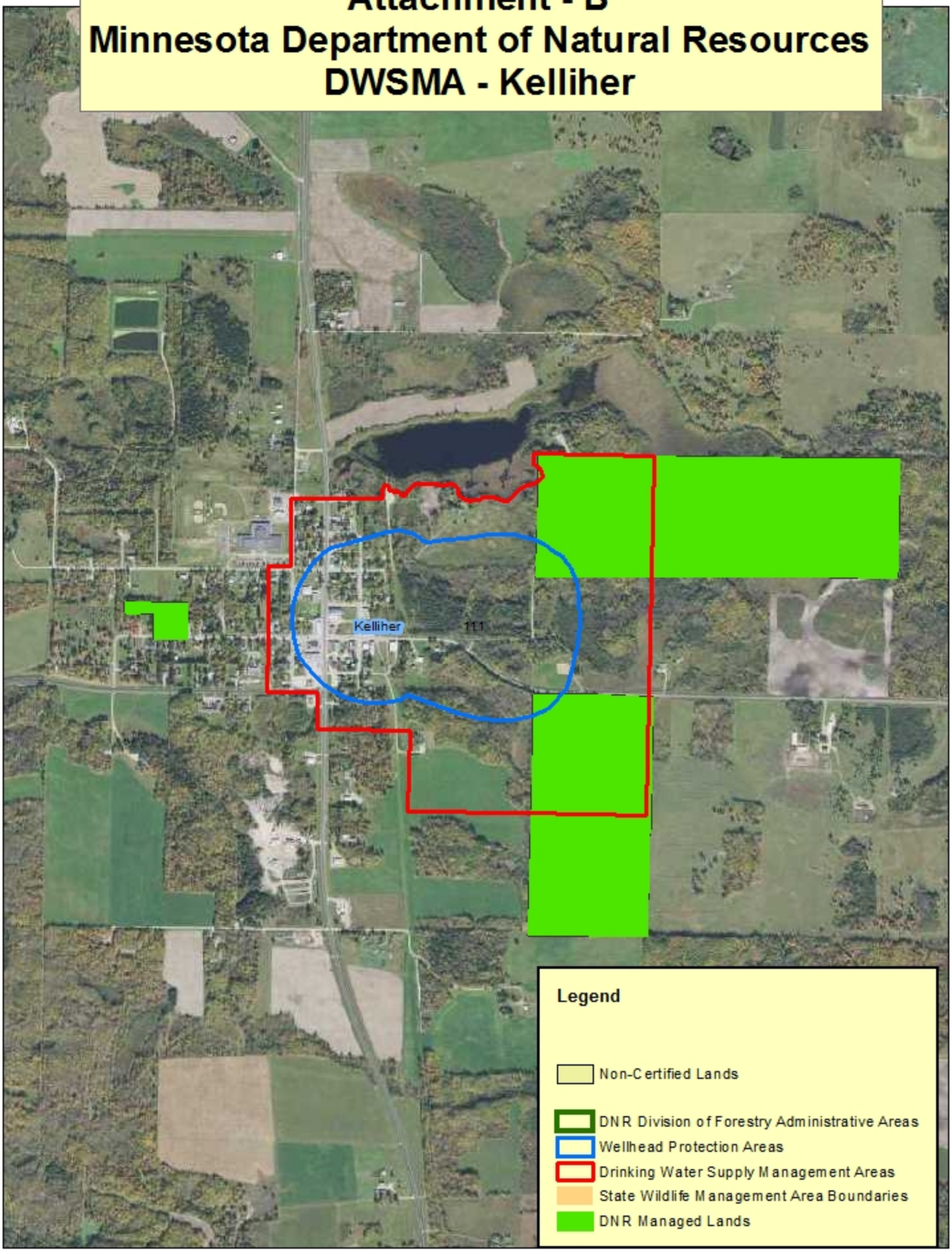


Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)



Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA - Kelliher



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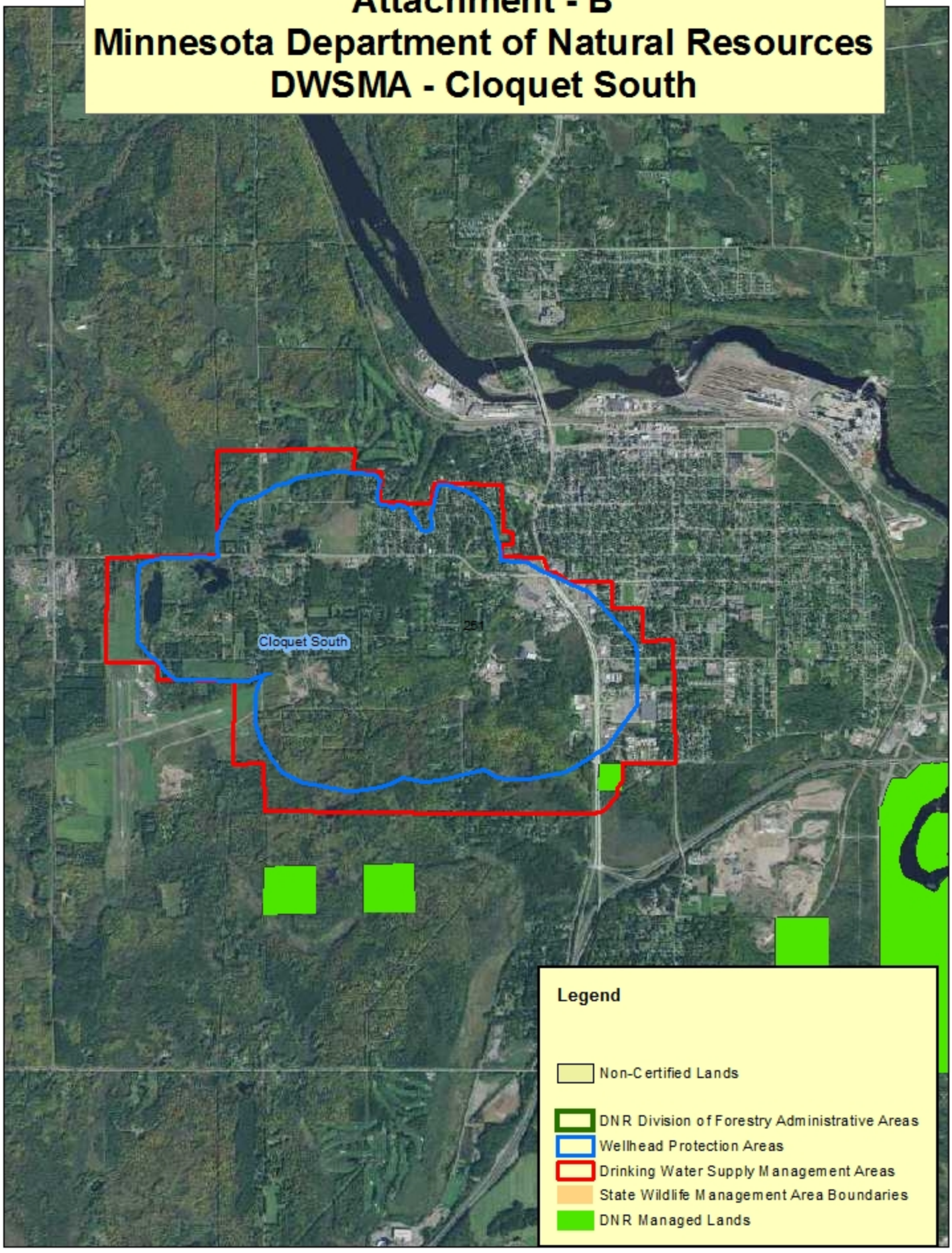
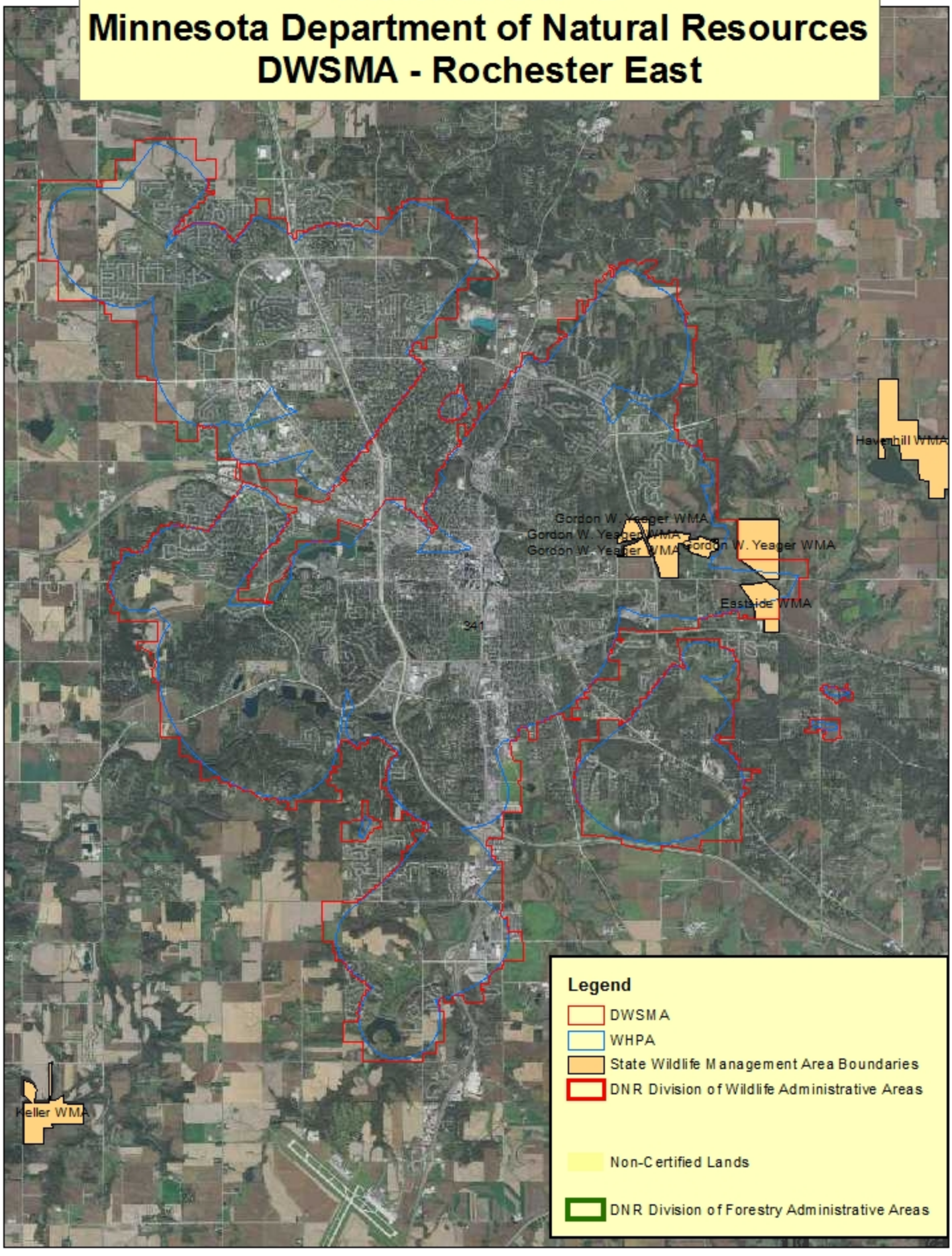
Attachment - B
Minnesota Department of Natural Resources
DWSMA - Cloquet South



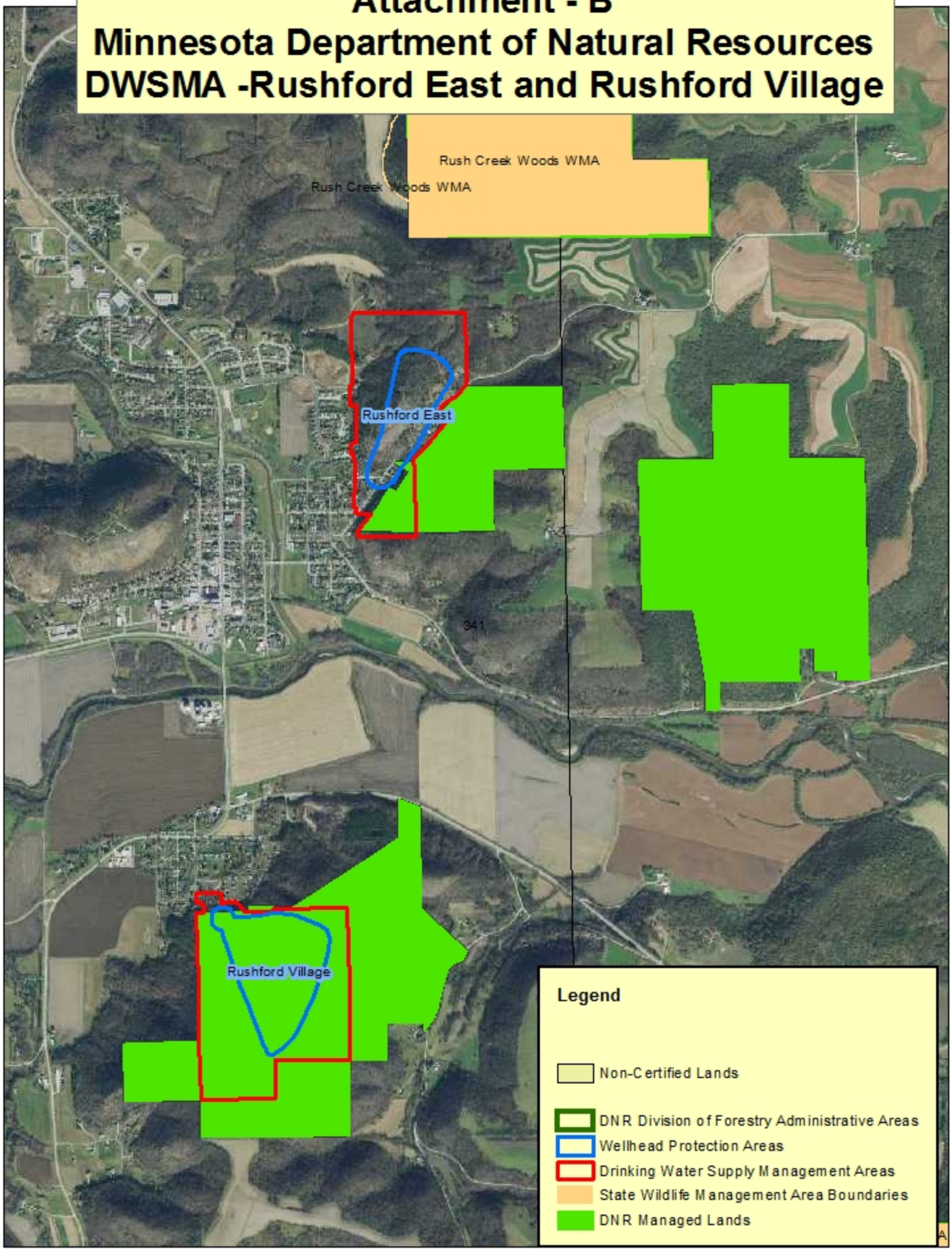
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachement - B
Minnesota Department of Natural Resources
DWSMA - Rochester East



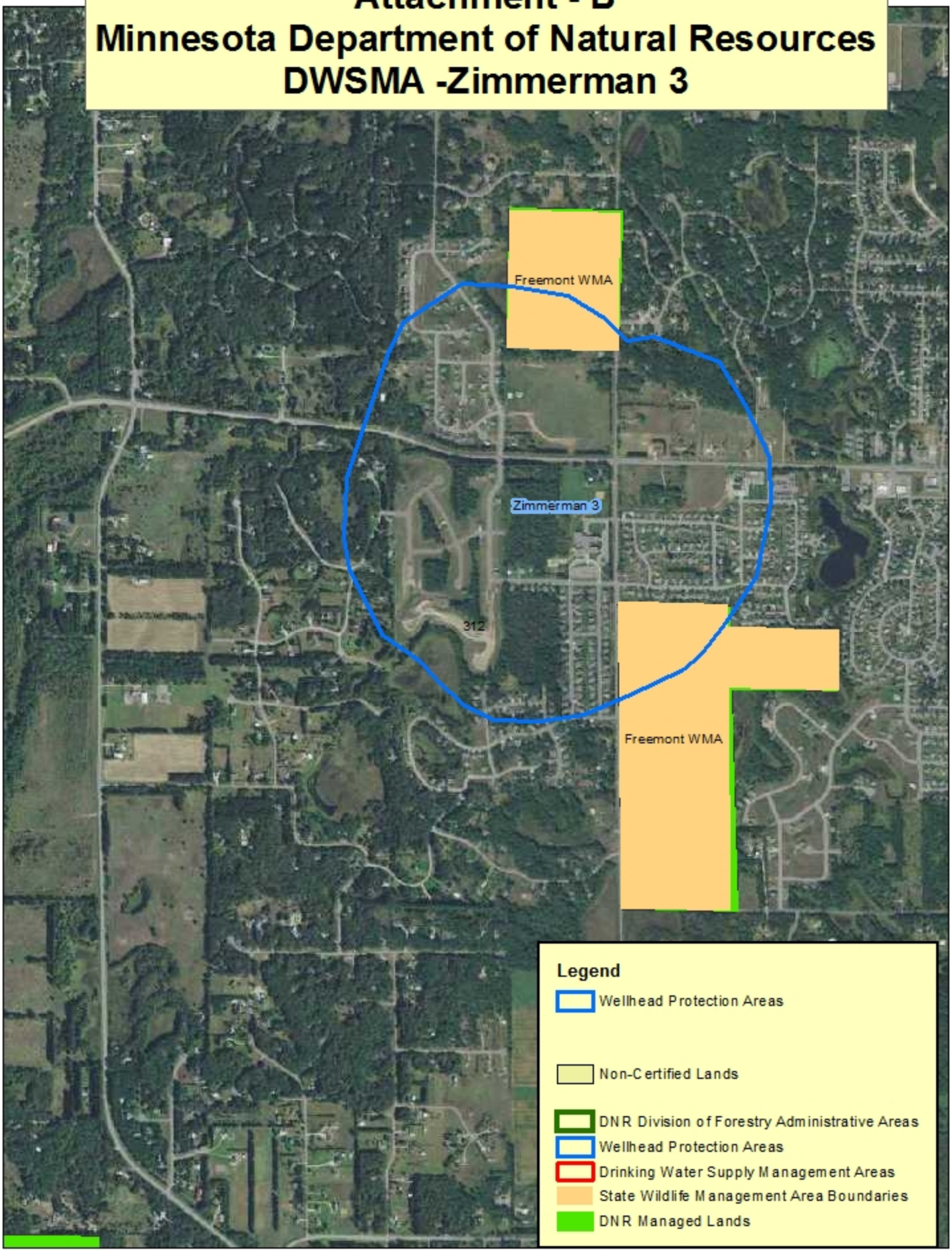
Created by Tim Beyer, Forest Certification Program Consultant, 8/6/16 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA -Rushford East and Rushford Village



Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA -Zimmerman 3



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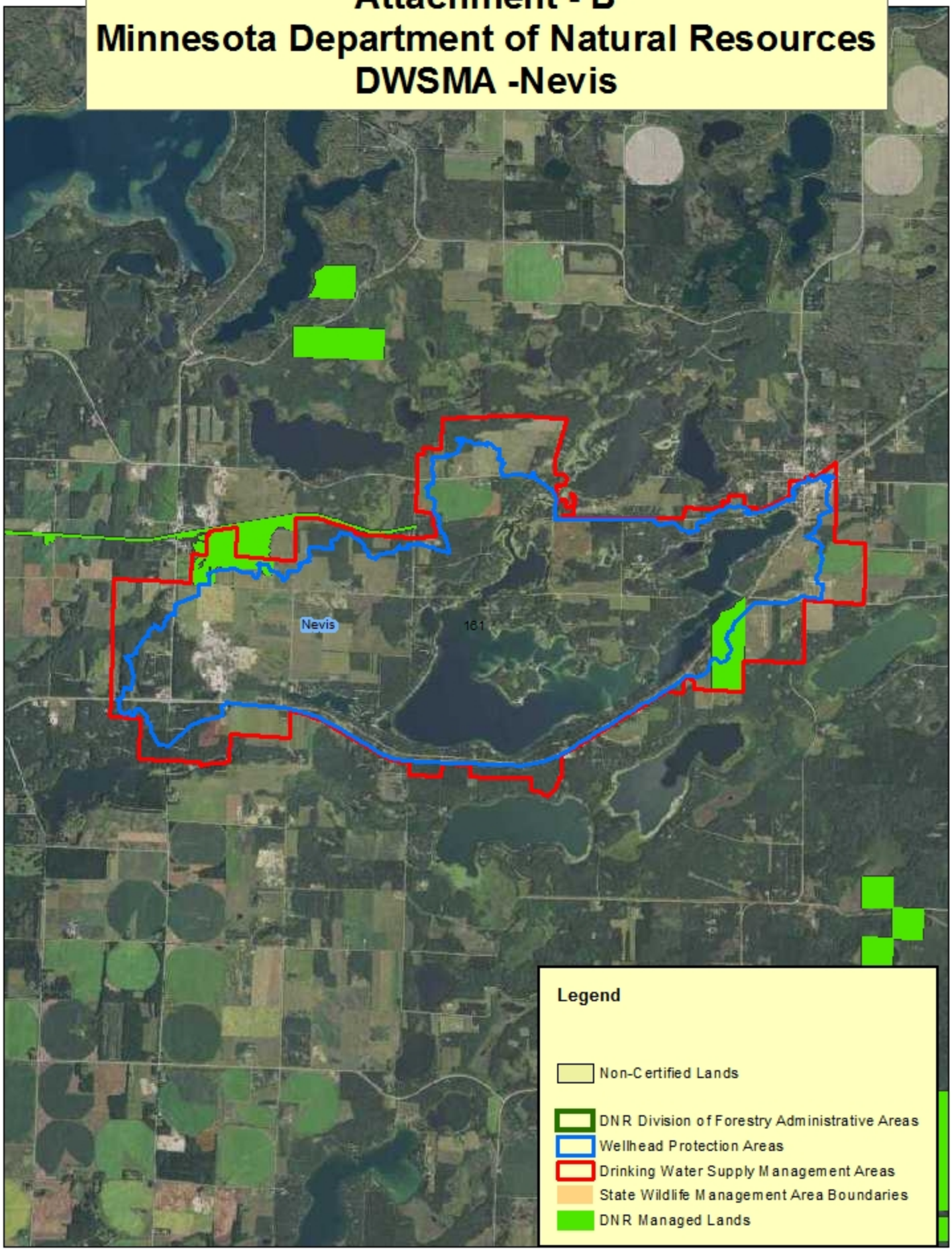
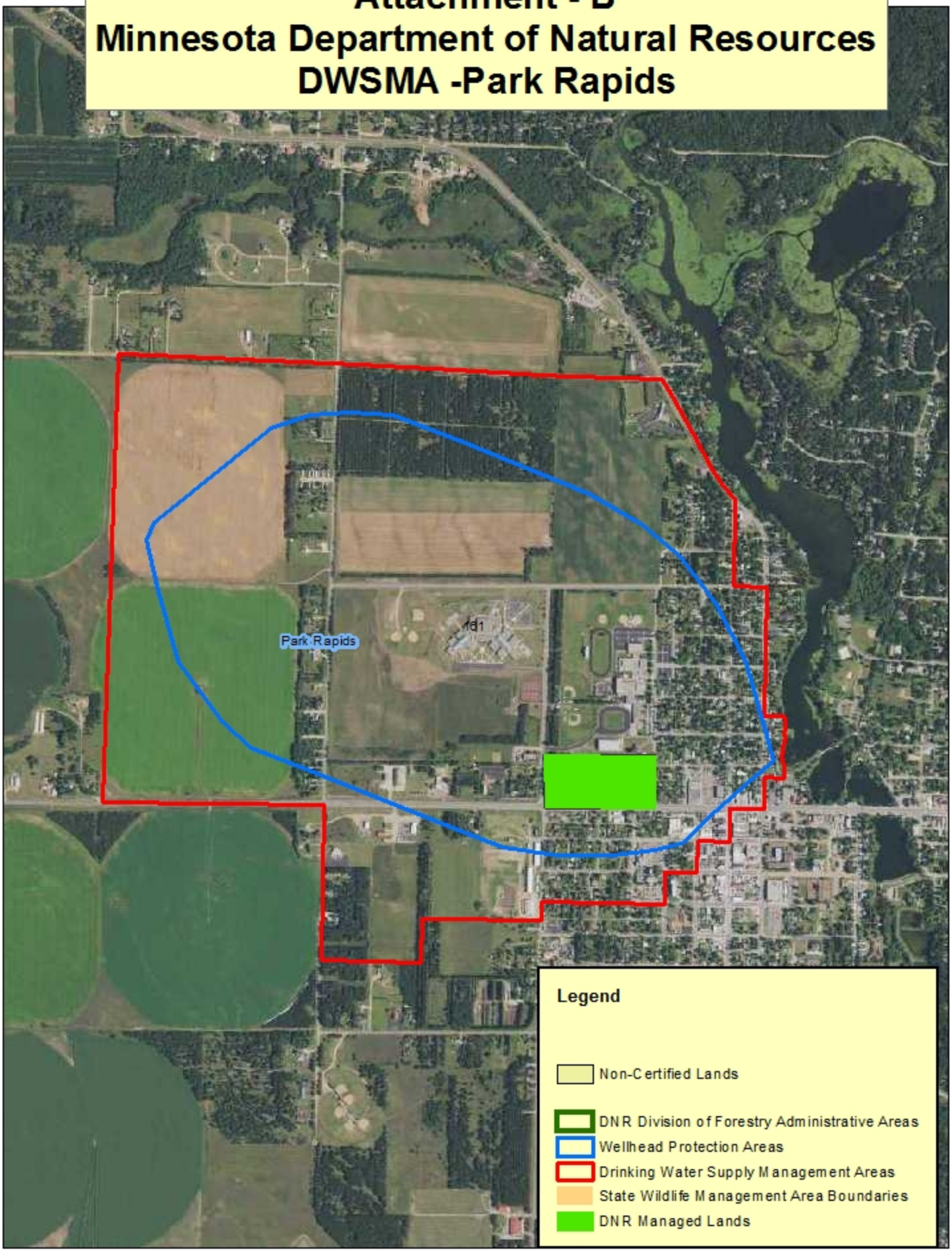
Attachment - B
Minnesota Department of Natural Resources
DWSMA -Nevis



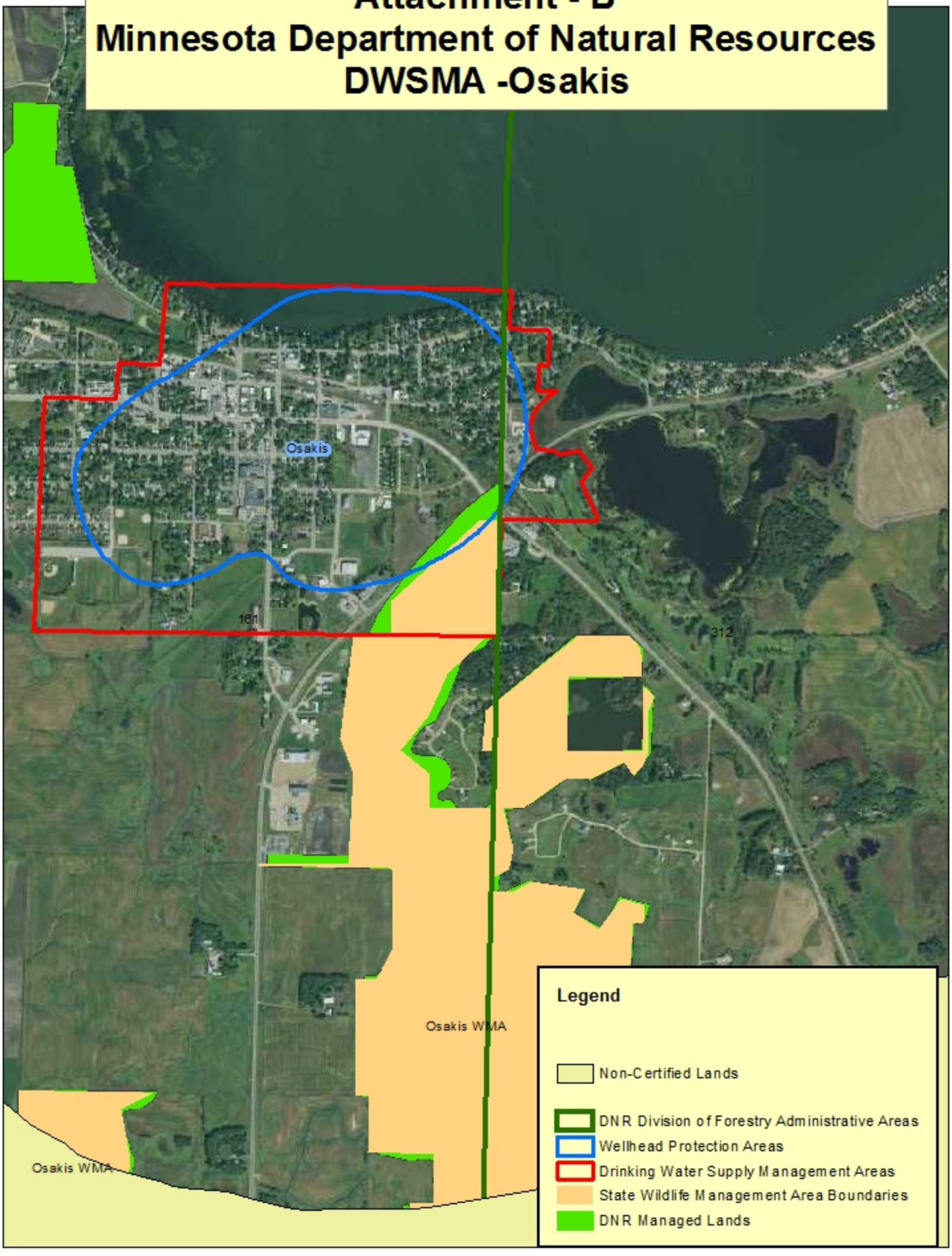
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA -Park Rapids



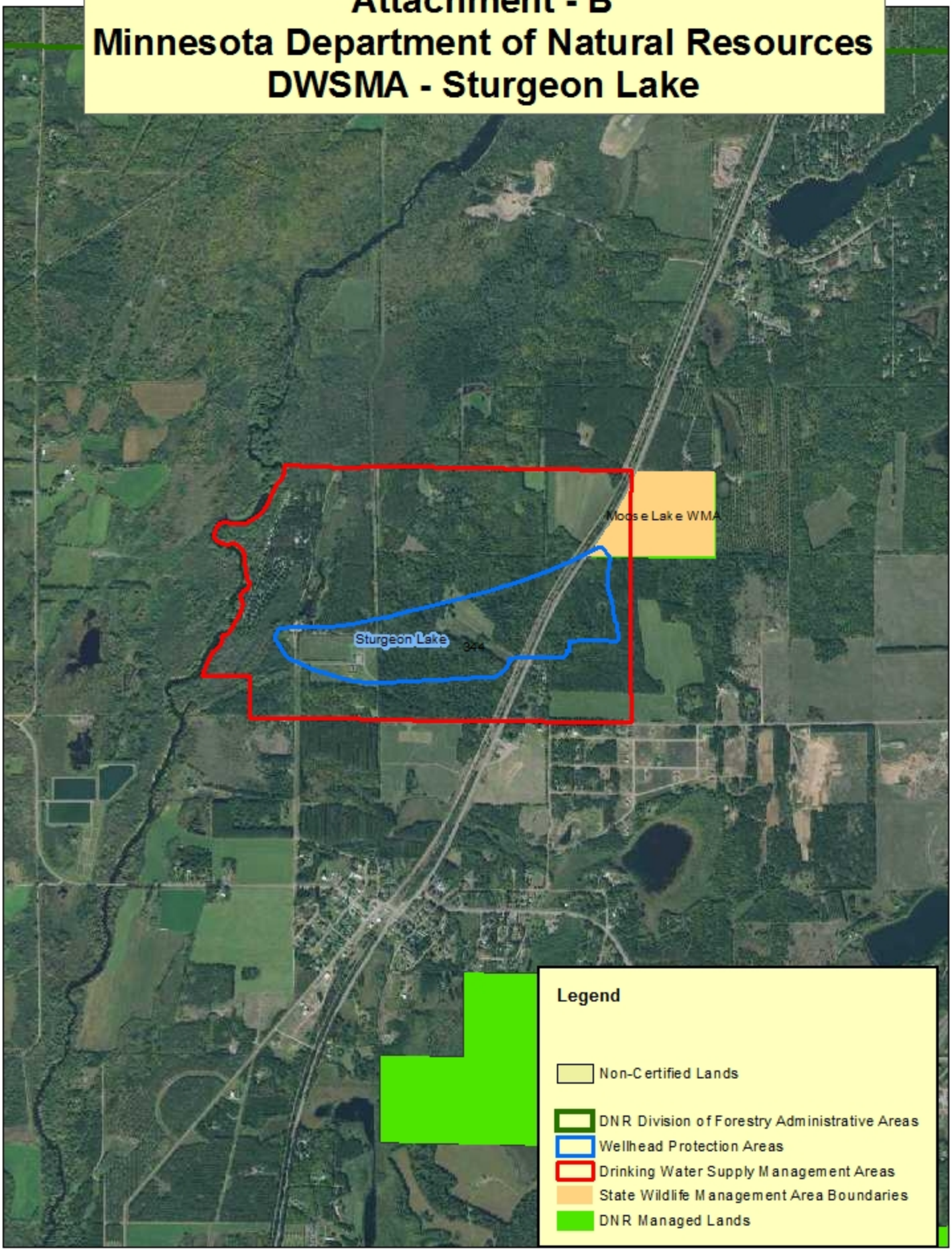
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA -Osakis



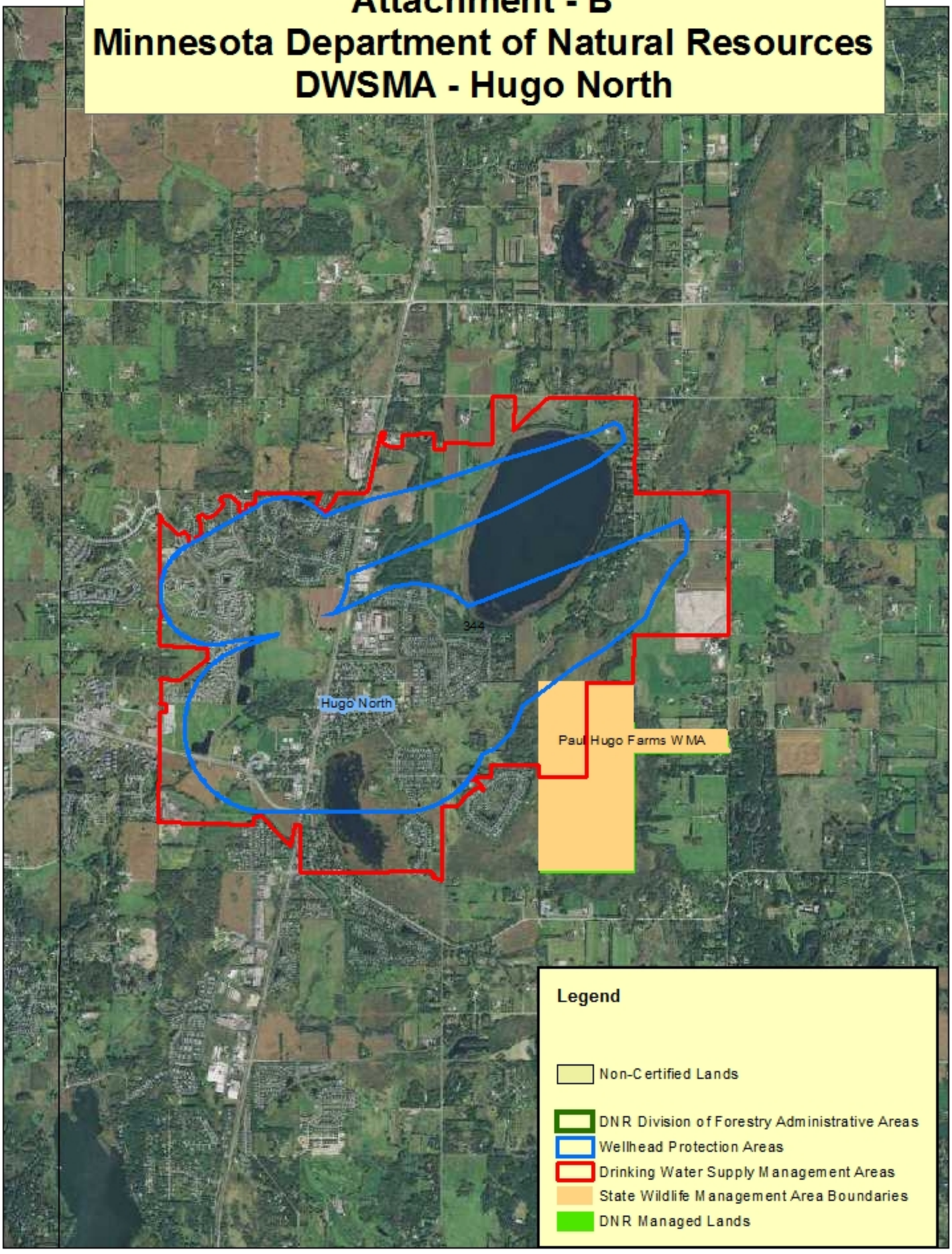
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA - Sturgeon Lake



Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA - Hugo North



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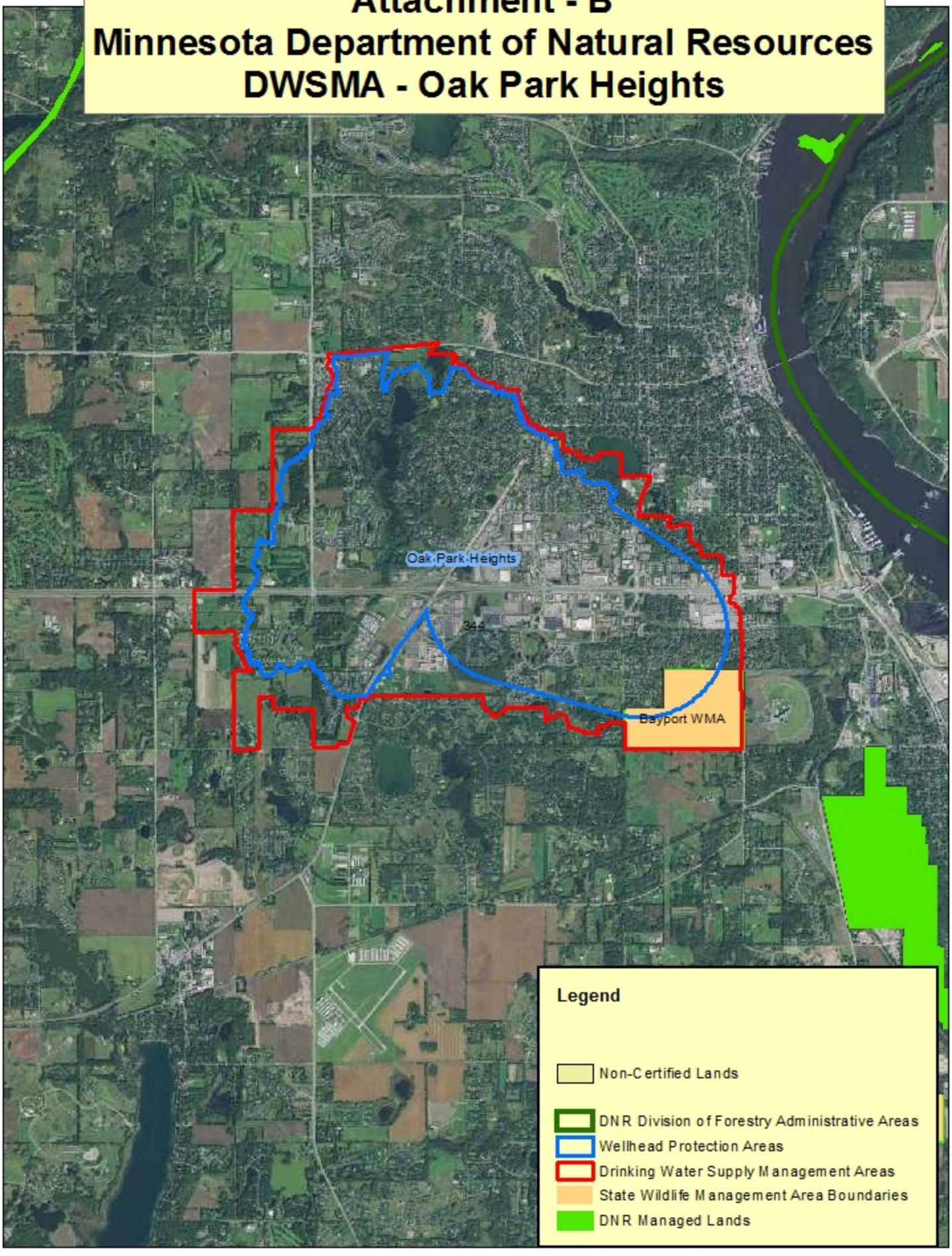
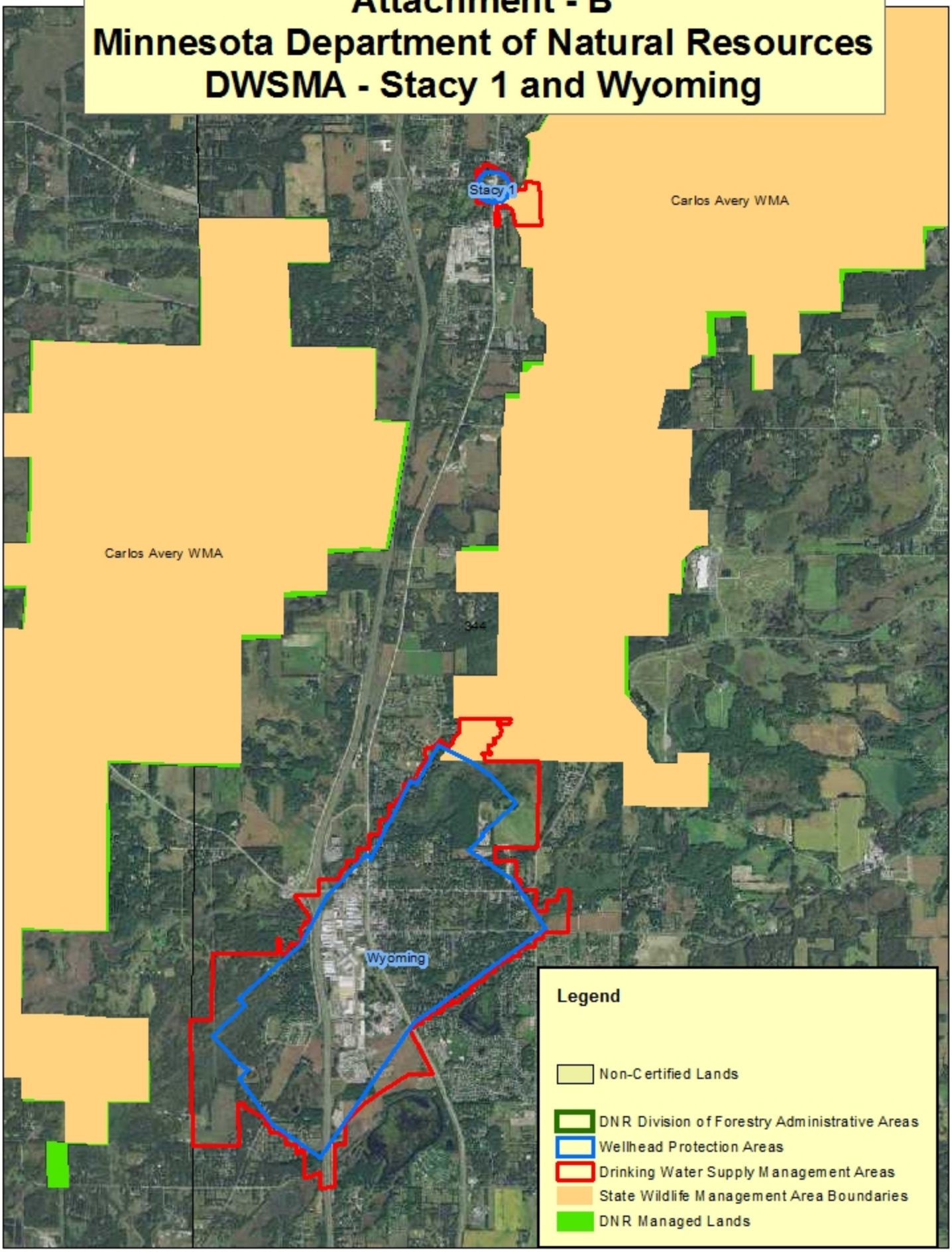
Attachment - B
Minnesota Department of Natural Resources
DWSMA - Oak Park Heights



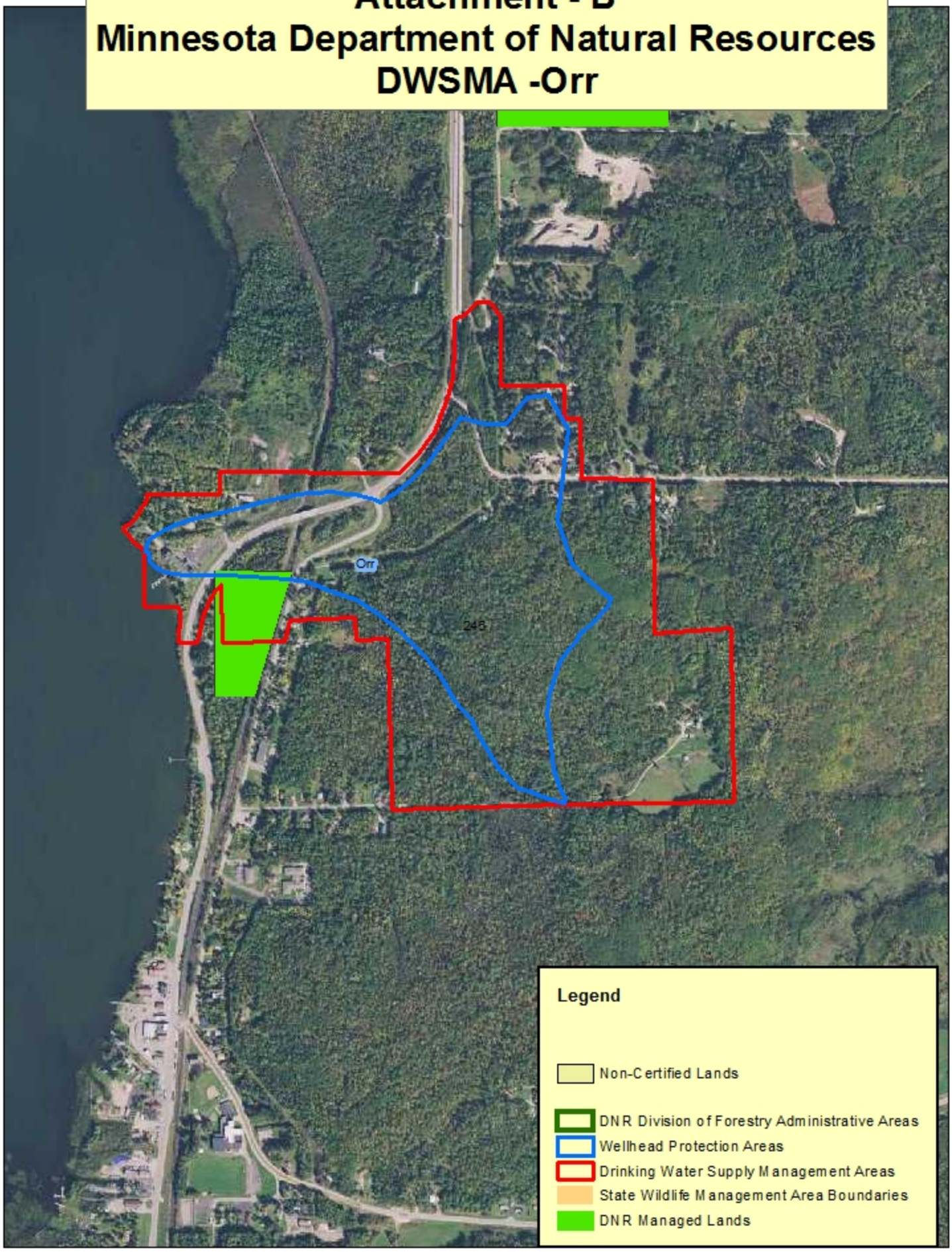
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA - Stacy 1 and Wyoming



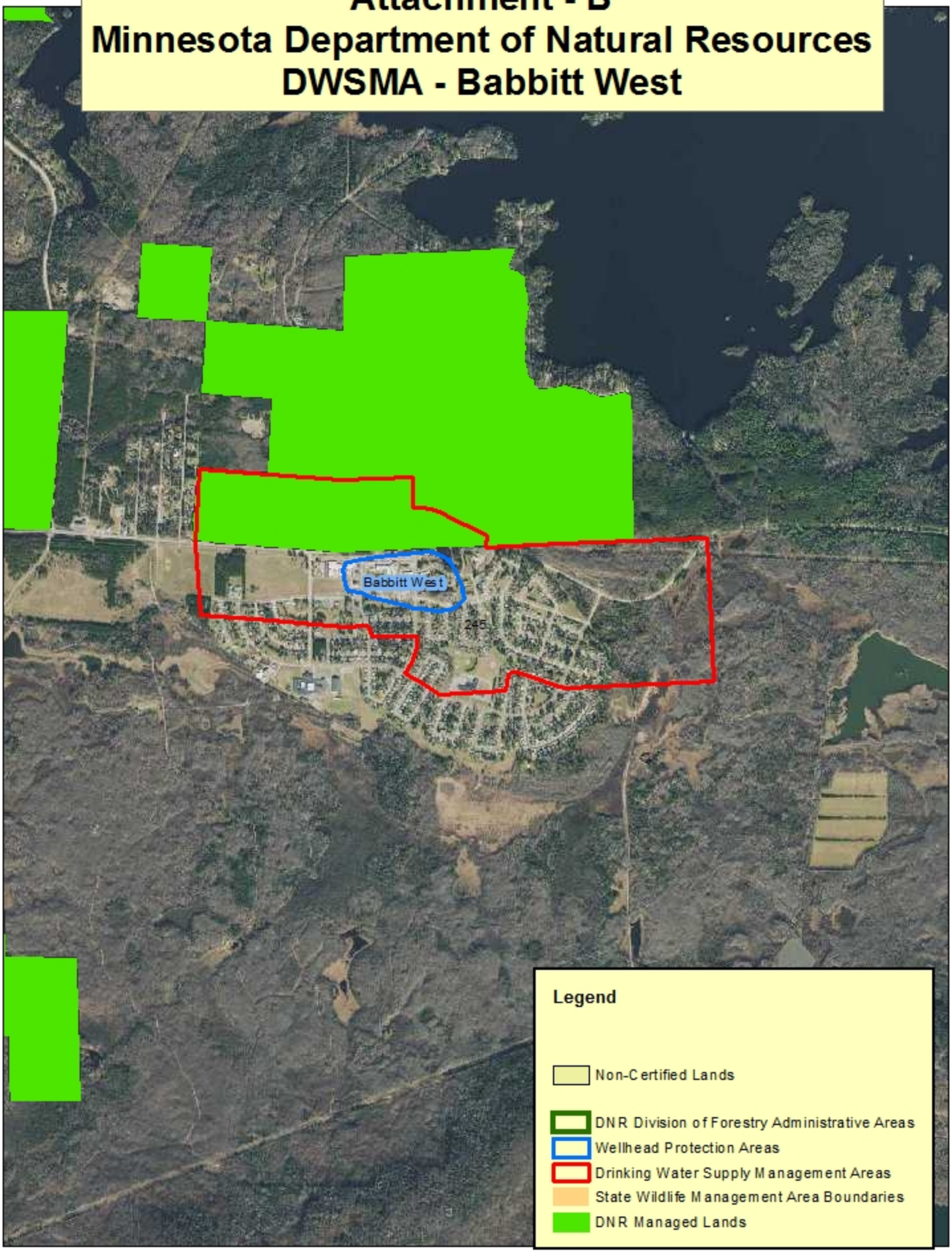
Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA -Orr



Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment - B
Minnesota Department of Natural Resources
DWSMA - Babbitt West



Created by Tim Beyer, Forest Certification Program Consultant, 7/17/18 (HCV4)

Attachment C – Contact List – Well Head Protection Managers

DWSMA	Wellhead Protection Manager	Contact #
McGregor	Larry Paukert, 101 East Center Avenue, McGregor 55760	218-768-2717
Kelliher	Ms. Shelli Krueth, 217 Main Street East, Kelliher, MN 56650	218-647-8470
Cloquet South	Caleb Peterson, 1307 Cloquet Avenue, Cloquet 55720	218-879-6758
Rochester	Todd Osweiler, 4000 East River Road, Rochester 55906	507-280-1589
Rushford East	Roger Knutson, 101 North Mill Street, Rushford 55971	507-864-2664
Rushford Village	Travis Scheck, 43038 State Hwy 30, Rushford Village 55971	507-864-7974
Zimmerman 3	Randy Piasecki, 12980 Fremont Ave, Zimmerman 55398	763-856-4666
Nevis	Don Unthum, 104 Main Street West, Nevis 56467	218-652-3867
Park Rapids	Scott Burlingame, 1425 Fair Ave, Park Rapids, 56470	218-237-2713
Osakis	Angela Jacobson, 14 Nokomis Street East, Osakis 56360	320-859-2150
Sturgeon Lake	Scott Helfman, 3084 Farm to Market Road, Sturgeon Lake 55783	218-372-3391
Hugo North	Scott Anderson, 14669 Fitzgerald Ave, Hugo 55038	651-762-6326
Oak Park Heights	Eric Johnson, 14168 Oak Park Blvd, Oak Park Heights 55082	651-439-4439
Stacy 1	Sharon Payne, 30955 Forest Blvd, Stacy 55079	651-462-4486
Wyoming	Marty Powers, 26490 Faxton Ave, Wyoming 55092	651-462-0580
Orr	Cheri Carter, 4429 Hwy 53, Orr 55771	218-757-3288
Babbitt West	Curt Koivisto, 71 South Drive, Babbitt 55706	218-827-3292