

Incorporation of Wetlands into Forest Management

Jan. 22nd, 2016

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Incorporation of Wetlands into Forest Management

INTRODUCTION

Landbase – mosaic of uplands and wetlands

Inventory - incorporation of wetlands into ecosystem inventory

Planning –wetlands in 20 Yr Forest Management Plan

Certification - contribution to Sustainable Forestry Initiative

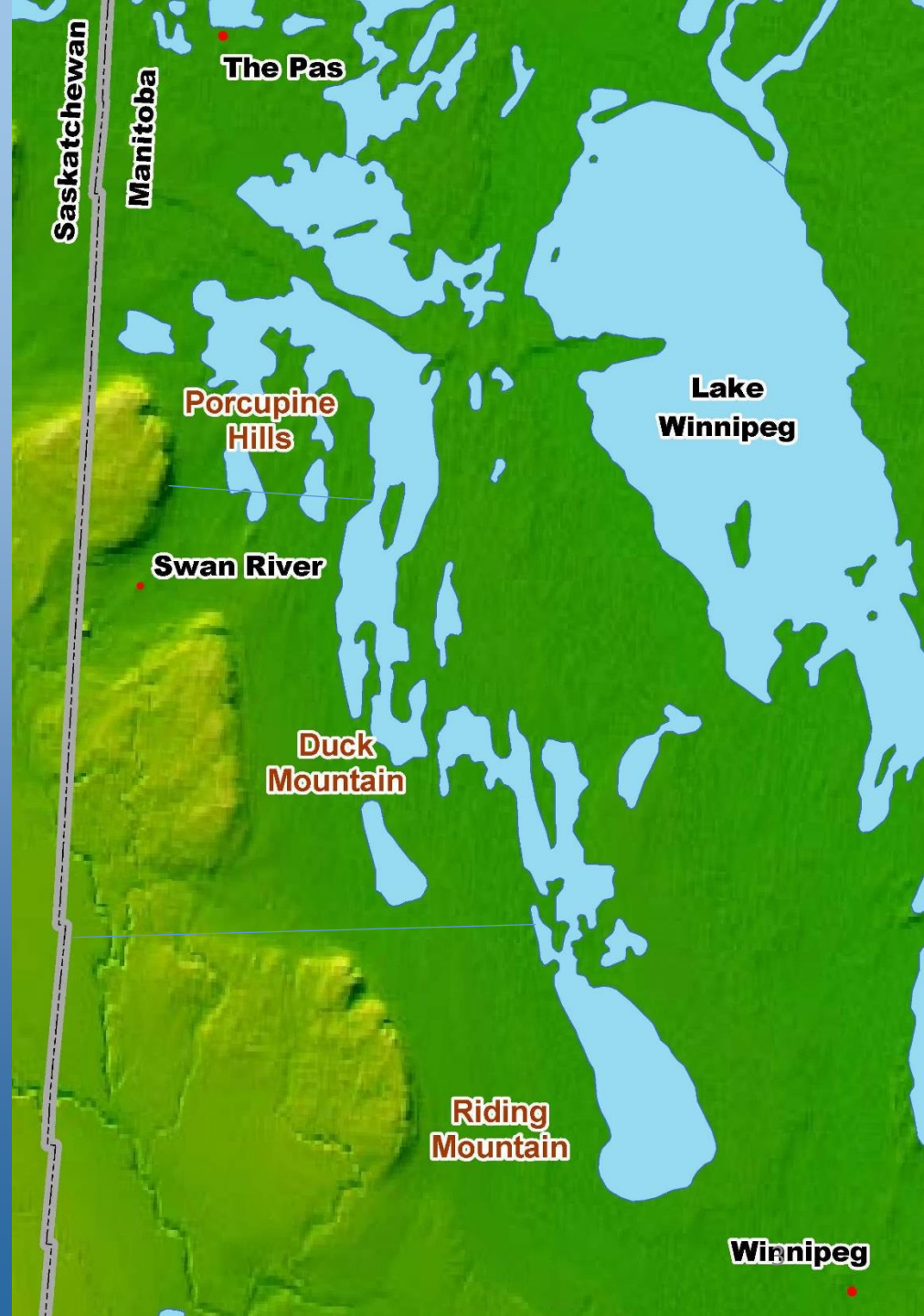
Road Construction - wetlands and roads BMP project

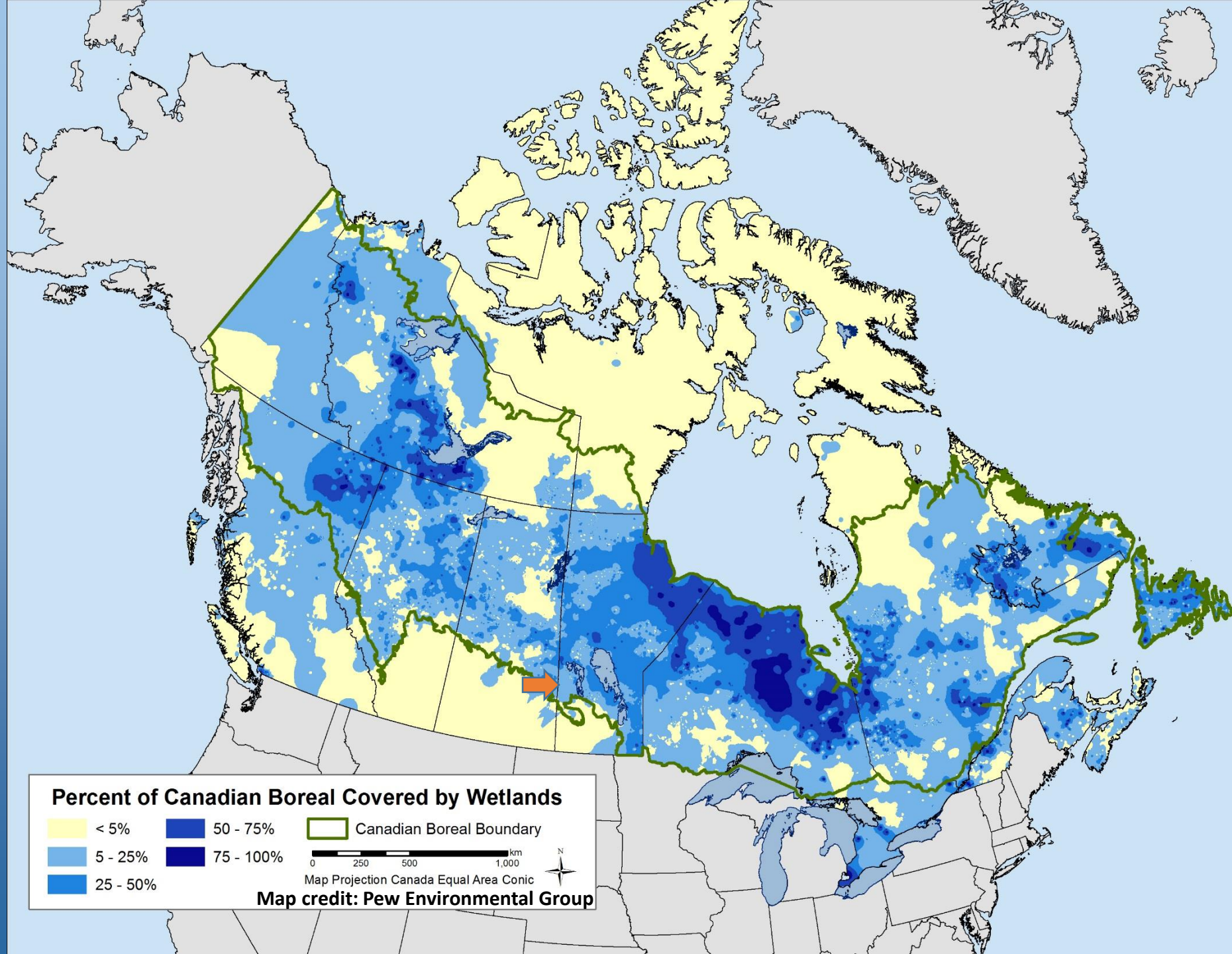
Harvest Operations - wetland training, avoid or mitigate effects on wetlands

CONCLUSIONS

INTRODUCTION

- Louisiana-Pacific Canada has an area-based forest management licence
- SFI certified landbase
- an example of the forest industry doing something with wetlands
- promoting and sharing information about effective BMPS for working in and around wetlands

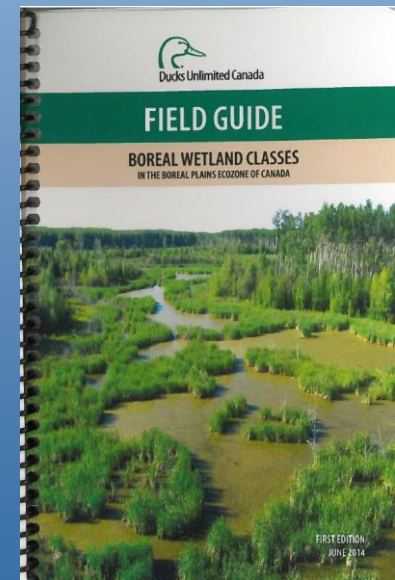




-By the way ...I received no wetlands training at all during my forestry degrees.

-I have benefitted greatly from tapping into DUC's extensive expertise. We've applied this knowledge to the management of our landbase. This wetlands knowledge allows me to contribute back *e.g.* field guide boreal wetland classes)

-I'm here to showcase how we have been incorporating wetlands more and more into our management over the last 15 years



LANDBASE

Our landbase is a mosaic of both uplands and wetlands

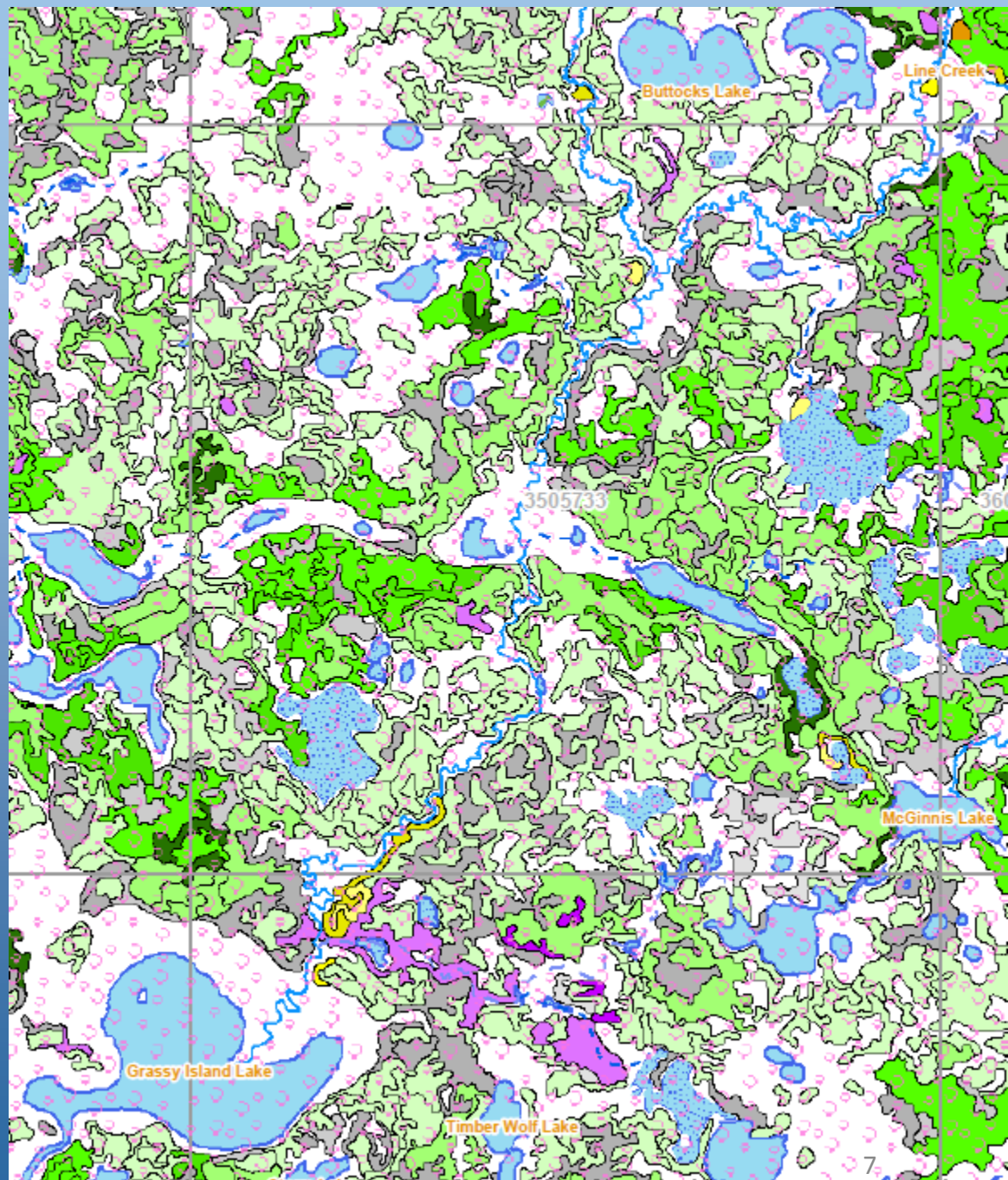
We realized it is unwise to try to separate or ignore wetlands

Wetlands are both interspersed and interconnected with uplands



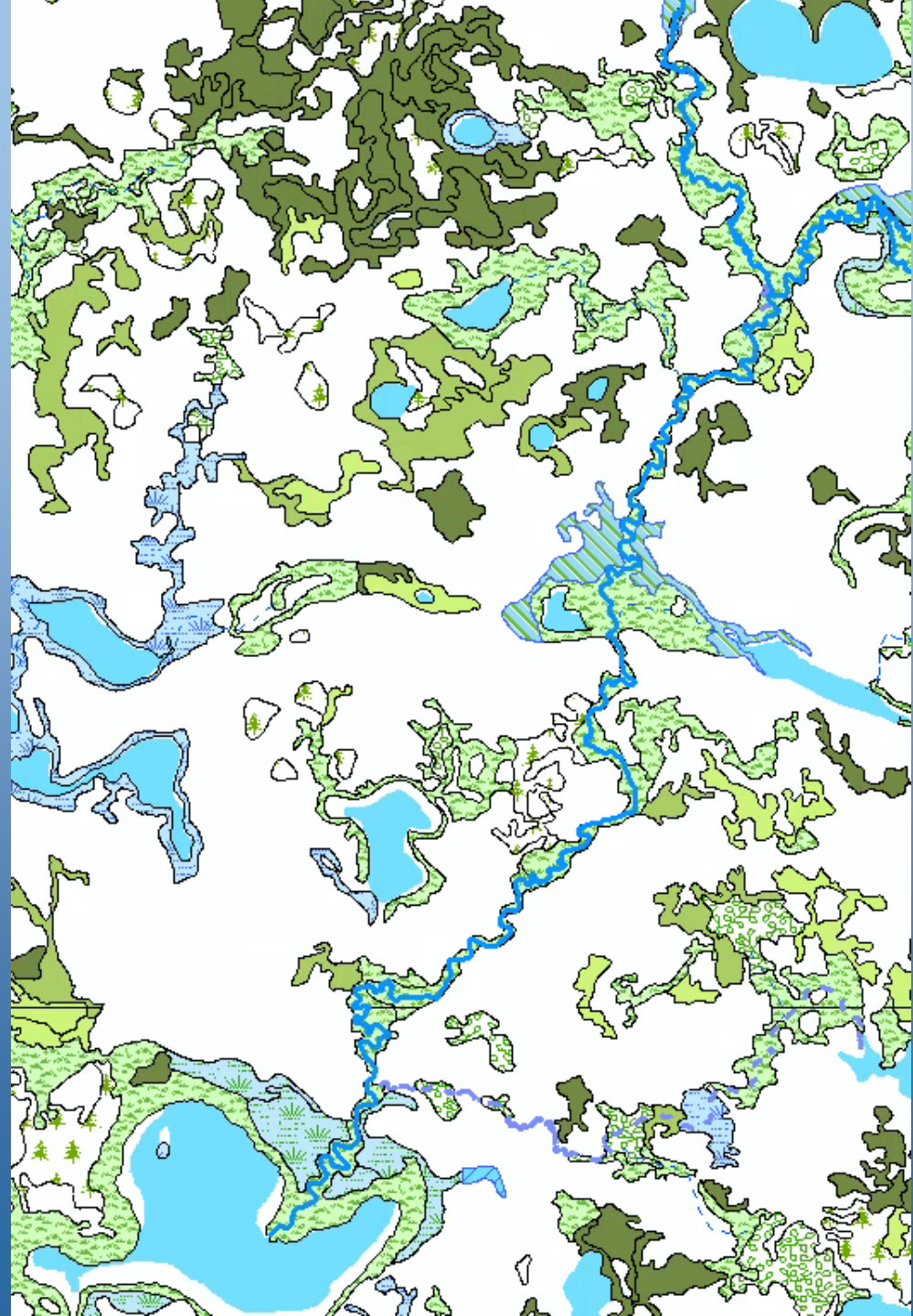
INVENTORY

- lots of white space (wetlands)
- Ecosystem Based Management would include all ecosystems (upland and wetlands)



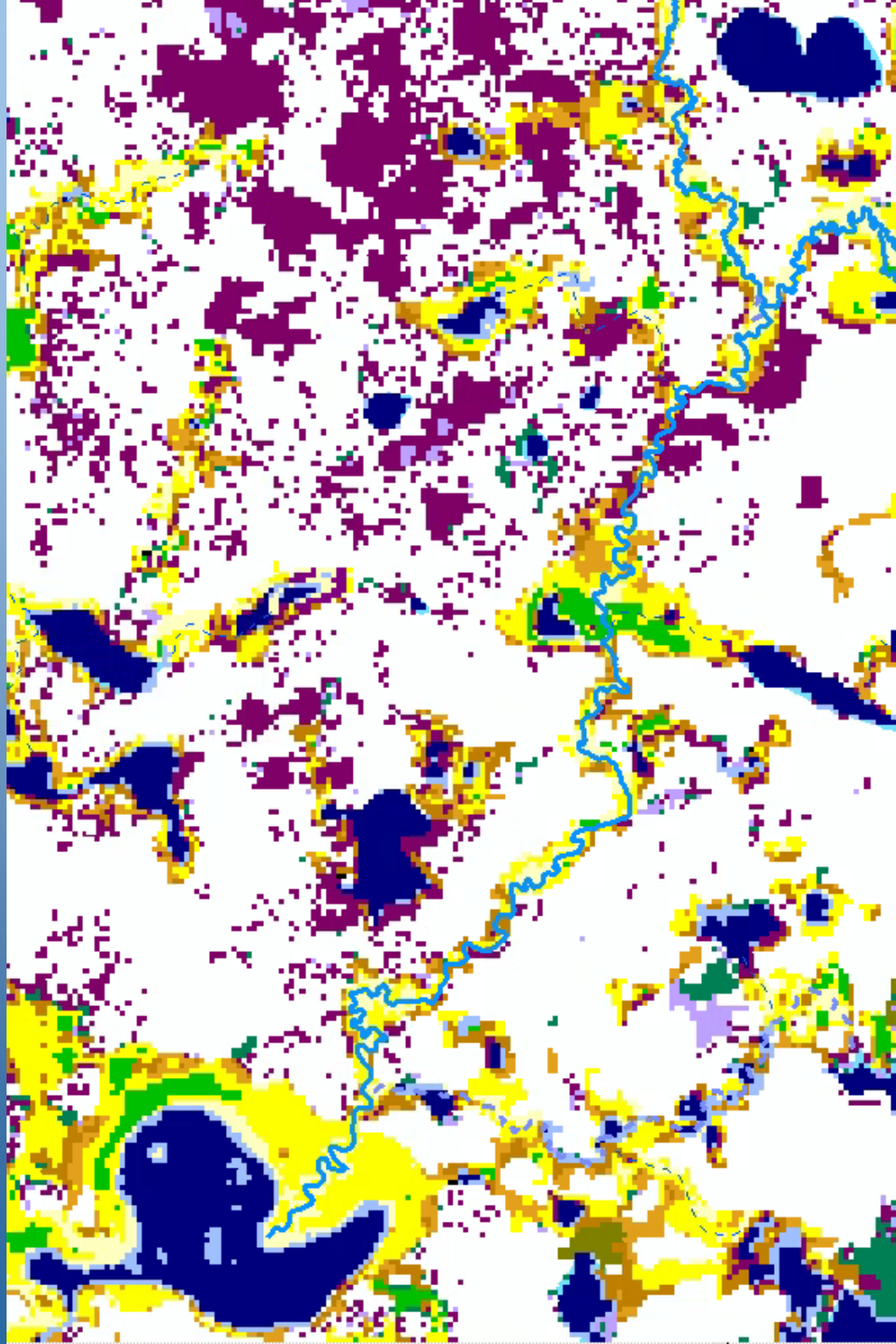
INVENTORY

- Expanded our ecosystem inventory to also include wetlands
- wetlands are more or less 'permanent' therefore the investment in mapping has long-lasting value



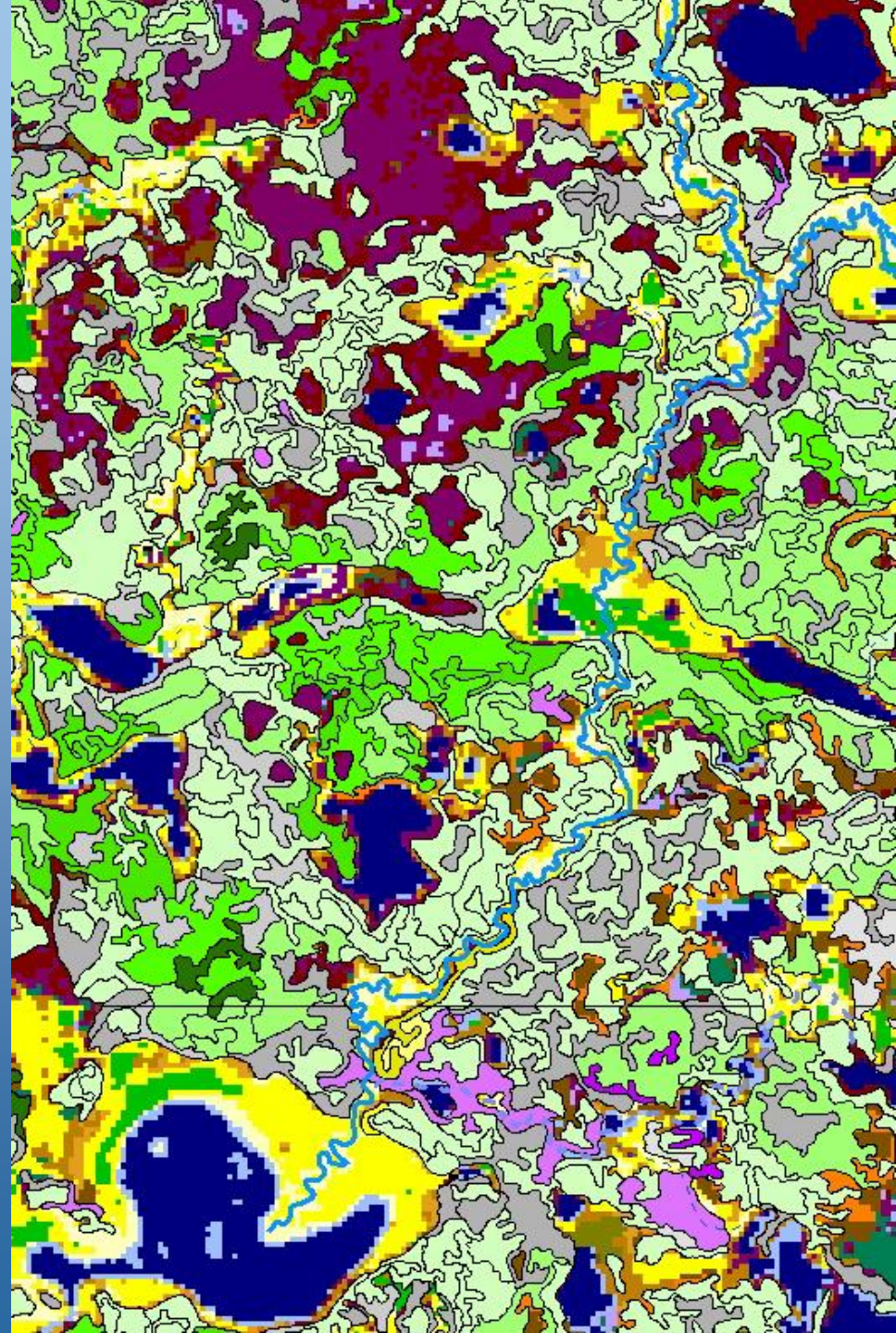
INVENTORY

-DUC expanded their
Enhanced Wetland
Classification to include
our landbase
-30 m raster



INVENTORY

- now we have all ecosystems (upland & wetland)
- no more 'white space'



PLANNING - *strategic*

- Ecosystem Based Management – started with only forested ecosystems
- now realize EBM should include **both** upland and wetland ecosystems
- incorporating wetlands into the 20 Year Forest Management Plan land base (from inventory work above)

PLANNING - *wetlands in operational planning*

Plan larger wetlands out of the proposed harvest block
(avoidance)



PLANNING - *wetlands in operational planning*

-for wetlands inside the proposed harvest block, we maintain connectivity and buffer small wetlands



CERTIFICATION

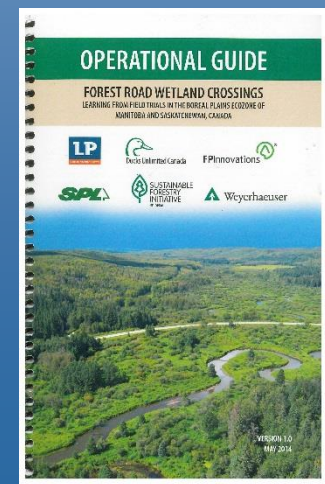
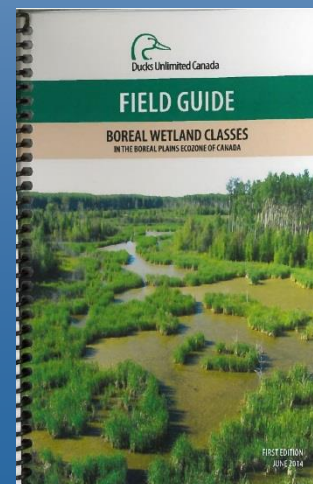
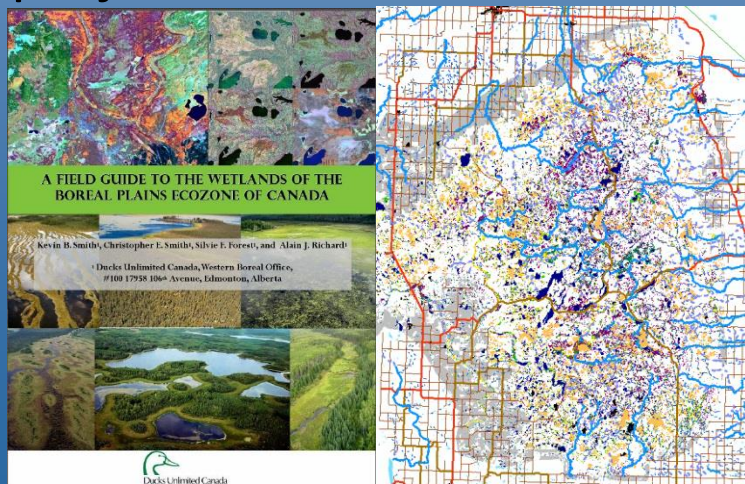
Sustainable Forestry Initiative (SFI) certification

SFI Objective 3 - Protection and Maintenance of Water Resources

- To protect the water quality of rivers, streams, lakes, wetlands and other water bodies through meeting or exceeding best management practices.



Our capacity to protect wetlands during planning and operations is greatly enhanced due to our cooperative projects with DUC



ROAD CONSTRUCTION -*operational*

- we want to access mature timber (**red** outline)
- existing road to the north (**black** line)
- field scouting shows least amount of crossings (**green** dashed line) is from the north east
- 2008 imagery



ROAD CONSTRUCTION -*operational*

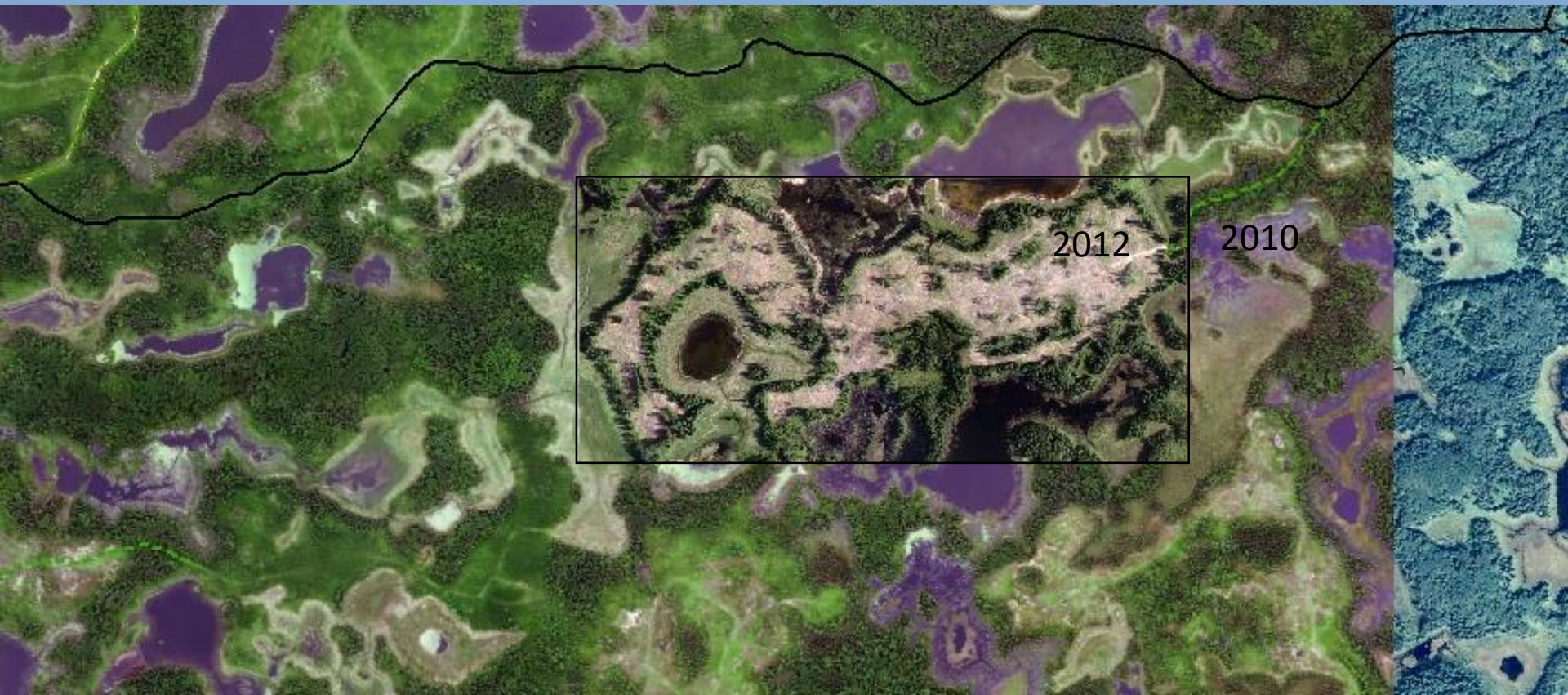
-2010 imagery

-marshes and swamps that were dry in 2008 have standing water in 2010! – significant fluctuations



ROAD CONSTRUCTION - *operational*

- 2012 imagery (just the area inside black rectangle)
- marshes and swamps have significantly less standing water – almost dry again



ROAD CONSTRUCTION - *operational*

-early spring photo - some water

-cross shrub swamp in summer – start with geotextile



ROAD CONSTRUCTION

-plastic culvert (24") on geotextile, add spruce trees cut from right-of-way



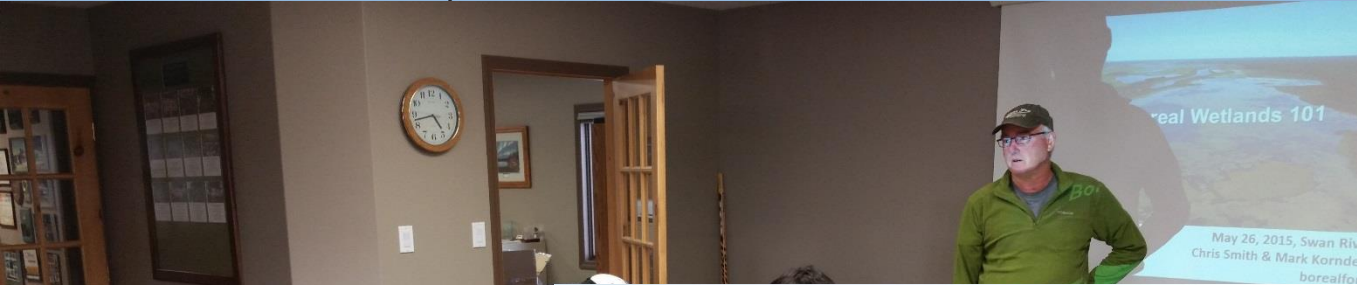
ROAD CONSTRUCTION

- top with geotextile, then fill on top,
- one year after harvest (2013) crossing is very stable



HARVEST OPERATIONS

-DUC has provided wetland training for LP staff, road contractors, and harvest contractors



HARVEST OPERATIONS

- minimized crossing thickets swamps within block
- ⊘-didn't cross high-flow drain
- buffered all wetlands with a 'ring' of trees



CONCLUSIONS

(or the effort continues, since we are not done...)

Louisiana-Pacific Canada got to where we are at cooperatively with Ducks Unlimited Canada's help

Wetland management has corporate benefits to LP – 'social licence', increased public trust, and we save money on roads due to better road planning, less washouts, and less maintenance

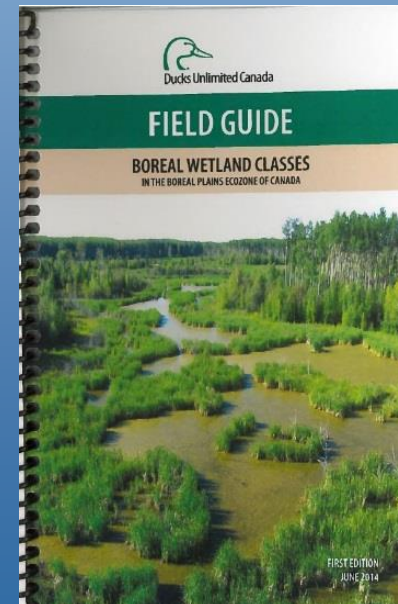
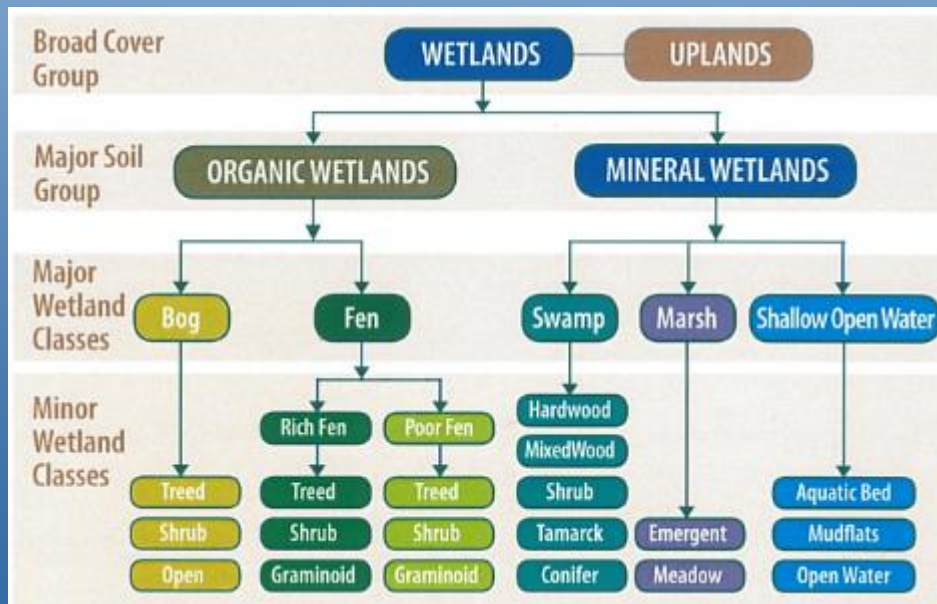
We have further to go with regards to management and protection of the integrated mosaic of upland and wetland ecosystems

Transitioning to a more holistic Ecosystem-Based Management that includes wetlands in all aspects

OPPORTUNITY knocks!

DUC has provided a great opportunity for all agencies in western Canada with:

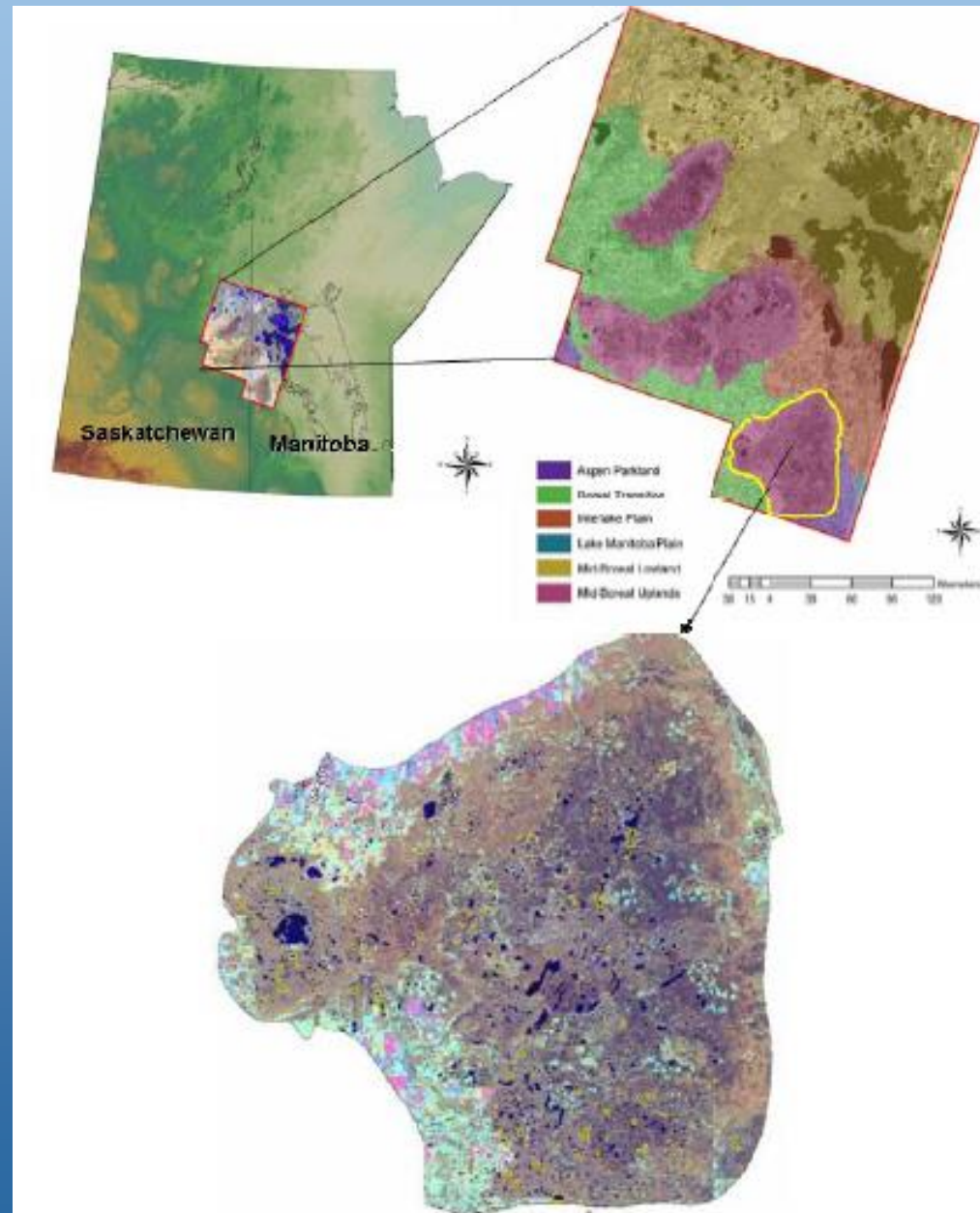
What –hierarchical classification (bog, fen, swamp, marsh, open water) and tools to identify these on the ground (field guide)



OPPORTUNITY knocks!

Where – wetlands are mapped and spatially referenced! (across western Canada)

Any agency can utilize the provided 'what and where' to incorporate wetlands into their management of the landbase.



Let's all avail ourselves of this great opportunity!
Thank you.

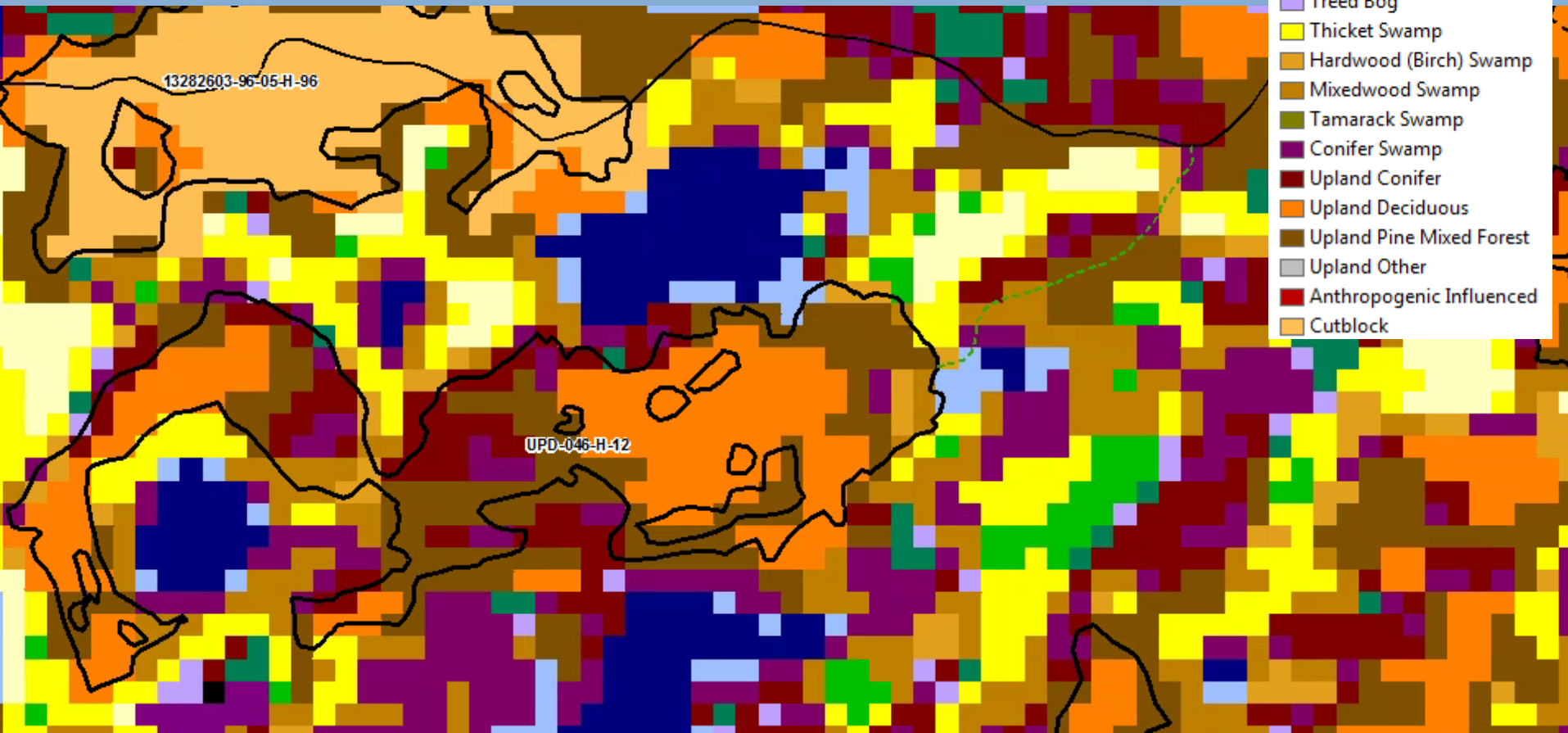


Unused slides

-DUC Enhanced Wetland Classification 2007

-30 m raster

-complexes of wetlands are common, not just one type



INVENTORY

-now we have all ecosystems
(upland & wetland)

-by the way, there are:

☒ Duck Mountain Forested UPLAND ecosites

ECOSERIES 10

- 11 - TA-BA
- 12 - TA-JP
- 13 - JP-BS

ECOSERIES 20

- 21 - WB
- 22 - TA
- 23 - TA-WS
- 24 - JP-BS

ECOSERIES 30

- 31 - TA-BA Mixed
- 32 - TA-BA
- 33 - TA-BA Mixed
- 34 - WS-BF
- 35 - JP-BS
- 36 - BS-JP (WS-BF)

ECOSERIES 40

- 41 - TA-BA
- 42 - WS-BF
- 43 - BS-JP
- 44 - WE-GA-MM

ECOSERIES 50

- 51 - TA-BA
- 52 - TA-WS-JP
- 53 - BS-(JP)

☒ Duck Mountain Non Forested UPLANDS

ECOSERIES 70

- 71 - Open Shrub
- 72 - Closed Shrub
- 73 - Grasslands

☒ Duck Mountain Non Forested WETLANDS

- WE01 Open Bog
- WE02 Open Poor Fen
- WE03 Open Rich Fen
- WE04 Thicket Swamp
- WE05 Shore Fen
- WE06 Meadow Marsh
- WE07 sheltered marsh
- WE08 exposed marsh
- WE09 open water marsh-floating leaved/peat substrate
- WE10 open water marsh-submerged mineral substrate

☒ Duck Mountain Forested WETLAND ecosites

ECOSERIES 60

- 61 - BS(WS) Lab tea
- 62 - BS alder
- 63 - TL-BS sedge
- 64 - BS sphagnum

