



Saskatchewan Ministry of Environment Dutch Elm Disease Management Program

Colin Arndt
May 29, 2019

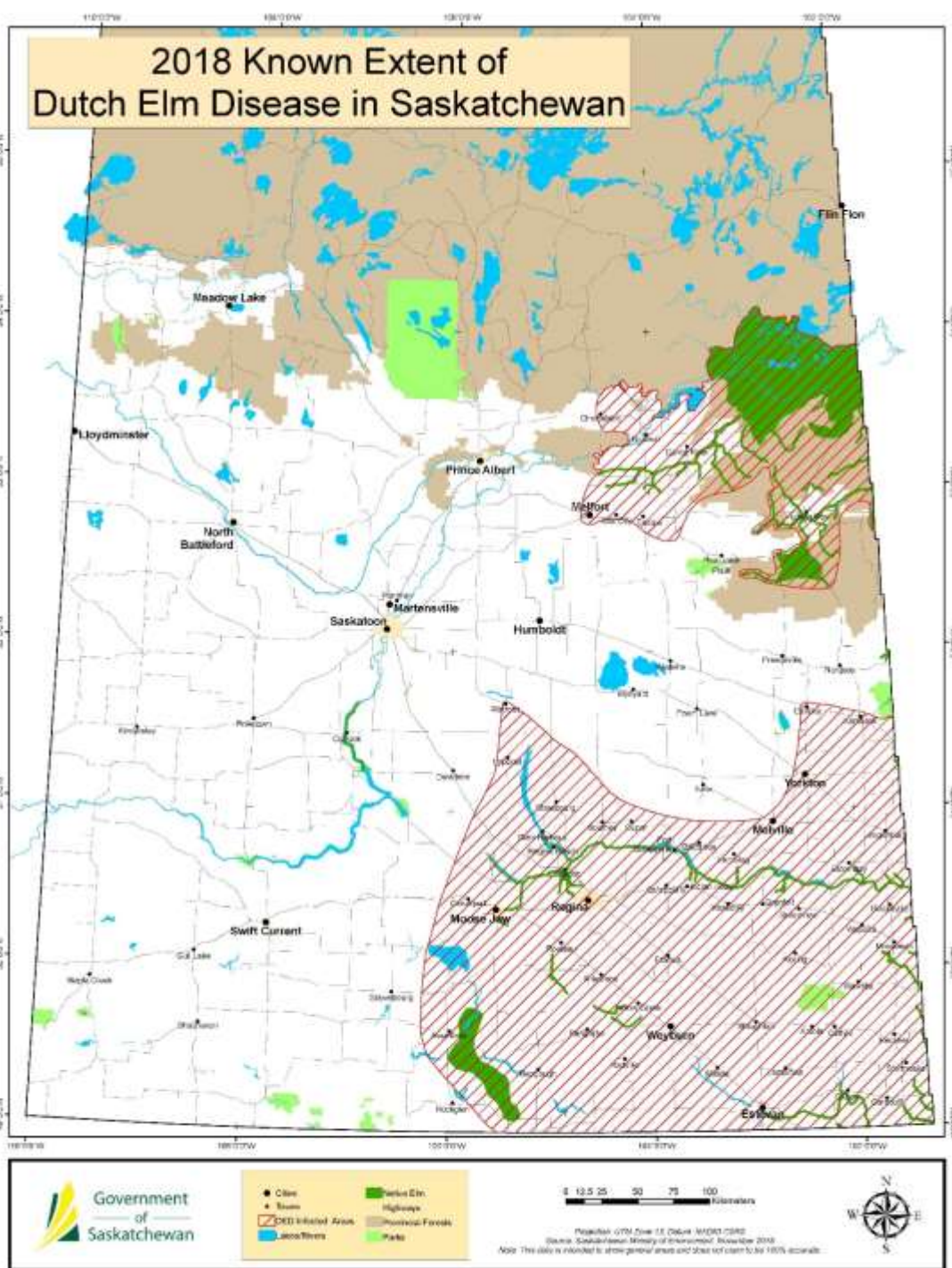
DED Facts

- Deadly wilt disease fungus.
- Introduced into North America in 1920's
- Stops the flow of water within the elm tree.
- Spread by elm bark beetles carrying the spores to healthy trees or by root grafting.
- The American elm is very susceptible, and quickly killed by the disease. Siberian elms are usually tolerant to DED .
- Symptoms of EBB infected trees usually first appear on a single branch with wilting & yellowing of foliage.
- As symptoms progress, more of the tree becomes affected with branch dieback, wilting, yellowing & browning leaves.



DED History and Distribution

- First appeared in 1981 (Regina)
- Reappeared in 1990 (Estevan)
- DED spread rapidly and became established in the 1990's
- Eradication was attempted but not possible. Millions of \$\$ spent.
- Has moved from east to west along various river valleys containing native American elms:
 - Cumberland Delta in NE
 - Souris River in SE
 - Qu'Appelle Valley
- DED is prevalent throughout south/north eastern Saskatchewan.
- Provincial management program has gone through many changes during last 20+ years.





INSECT VECTORS

- North American (Native) elm bark beetle
Hylurgopinus rufipes

- Smaller European elm bark beetle
Scolytus multistriatus



Hylurgopinus rufipes galleries



- Egg galleries run ACROSS grain of wood
- Larval galleries run WITH the grain.



- **Early symptoms** – “Green Flagging” become evident (usually in July)



- **Later**, leaves turn yellow then reddish brown with clear wilting – (late July/August)



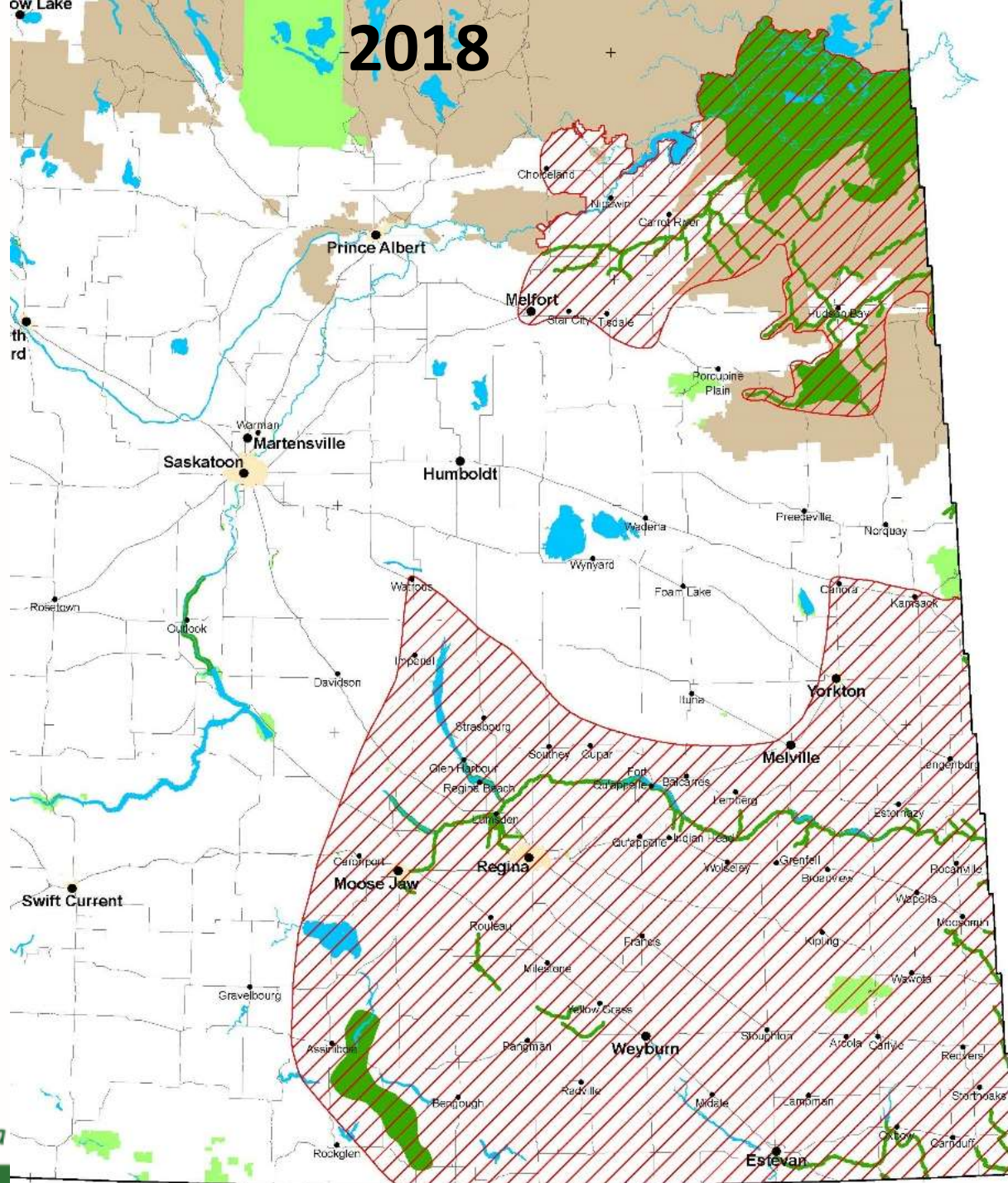
**Characteristic staining
in sapwood.**



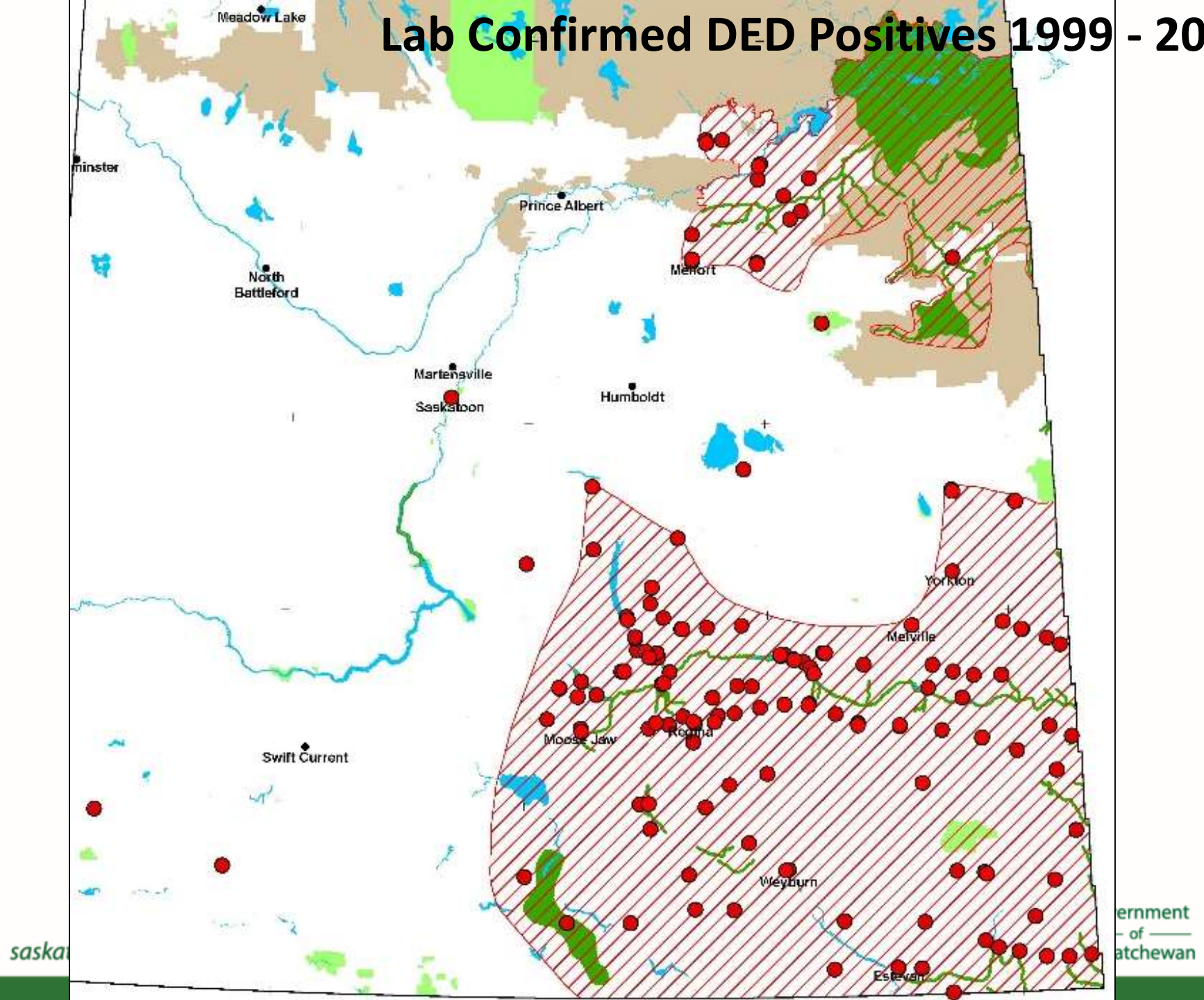
Characteristic staining in sapwood.



2018

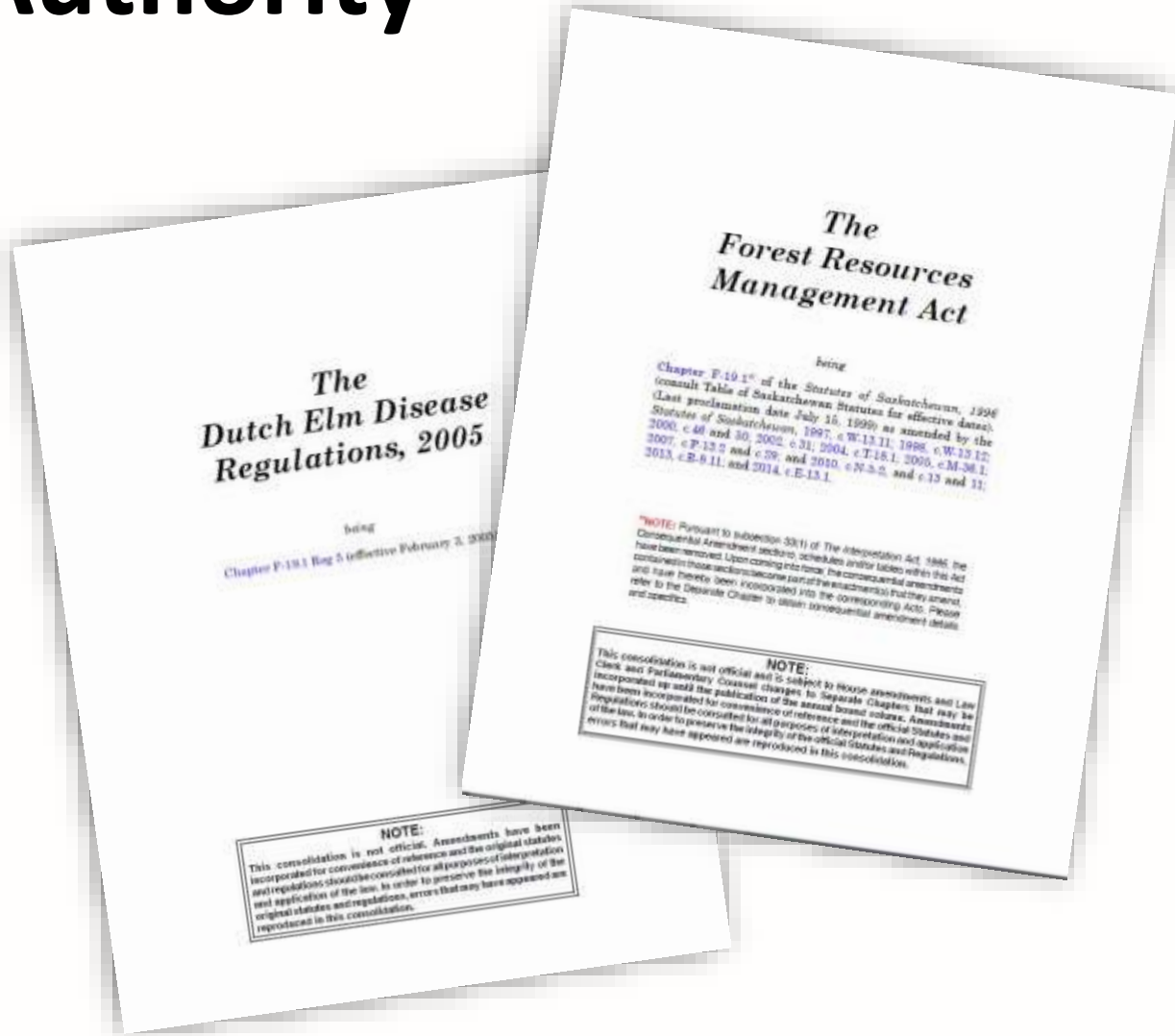


Lab Confirmed DED Positives 1999 - 2018



Regulatory Authority

- DED is regulated under the authority of the *Forest Resources Management Act* and *Dutch Elm Disease Regulations*



DED Regulations

No person may store, use, market or transport any elm tree for use as fire wood or for any other purpose without authorization.

- Authorization is not required to transport elm wood to the disposal site for the municipality in which the tree is located.



DED Regulations

Disposal of elm trees

Elm wood from pruning or tree removal must be disposed of at the nearest elm disposal site for the municipality in which the tree is located, during the next operating hours of the disposal site.

Operators of elm disposal sites must ensure they dispose of wood in a timely manner by:

- burning all bark from the elm tree or
- by completely burying the elm tree, covered with at least 25 cm of soil.



DED Regulations

No person shall prune an elm tree during the annual pruning ban period of April 1 to Aug 31.

EXCEPTIONS:

- Storm damaged trees
- Authorization obtained from Ministry or municipal inspector
- Municipal or Crown Corp employees that consider it necessary to ensure human safety or to avoid damage to other property
- Shearing of an elm hedge

Note: This does not prevent a person from removing an elm tree during the pruning ban period.



Elm Wood ID Tips

- Look for X or diamond pattern in bark of mature elms
- Check for Dark/Light layering in cross section of cut bark



ASH



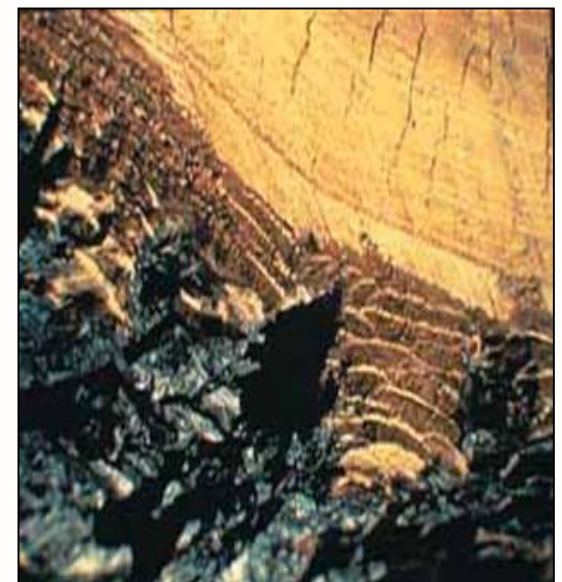
MAPLE



AM. ELM



LOOK AT CROSS
SECTION OF BARK









Concerns with Composting Elm Wood

- Increased risk of spreading DED
 - Elm wood not being disposed of in a timely manner
 - Storage of elm wood with bark attached
 - Contributes to increasing elm bark beetle populations
 - Potential source of DED fungus if wood is infected

Barriers to Composting Elm Wood

- Compliance with DED Regulations requires that all elm wood must be disposed of by burning or burial (including wood chips)
 - Requires a Elm Wood Use Authorization
 - May be issued on a case by case basis



Ministry of Environment

Forest Service Branch

Box 3003

Prince Albert, Canada S6V 6G1

Colin Arndt

Forest Insect and Disease Program Specialist

Office: 306-953-2987

Cell: 306-961-1650

Colin.arndt@gov.sk.ca