Society To Prevent Dutch Elm Disease
(Incorporated 1993)

STOPDED Board and its membership, would like to thank Alberta Ministry of Agriculture and Forestry for their annual financial support. Without this financial support from government and all of STOPDED's volunteers and partners throughout the province, the level of vigilance maintained to keep Alberta (AB) DED free would be impossible.

Provinces to the east of Alberta fighting DED all agree that a *Provincial Dutch Elm Disease Prevention Program* is effective and essential if we want to save the 600,000 elms growing in Alberta valued at $2 billion.

Table of Contents

1. STOPDED Partners
2. STOPDED Mandate and Objects
3. Integrated DED Prevention Program Essential Components
4. Background Information
5. Examples of various cities and provinces DED prevention/ Management budgets
6. Current DED and Vector Situation in BC, AB, SK, MB and Montana
7. STOPDED Provincial DED Prevention Program
8. STOPDED Accomplishments
9. STOPDED Goals for the Future
10. Research Projects
    a. Project Title: Elm Bark Beetle Trapping in the Months of April and October
    b. Project Title: Monitoring for Emerald Ash Borer in AB
    c. Project Title: Provincial Elm Tree Inventory & Valuation Update
    d. Project Title: Monitoring Invasive Alien Wood Boring Insects in AB
    2018 Invasive Alien Species Surveillance report - Ken Fry, Olds College

Appendix I – Provincial Elm Bark Beetle Monitored Locations

Appendix II– 2018 Elm Bark Beetle Surveillance report - Dr. Ken Fry, Olds College

Appendix III – Elm Bark Beetle found in AB since 1994

Appendix IV– STOPDED Public Awareness

Appendix V - Board Members and Research Committee

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Society To Prevent Dutch Elm Disease
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1. STOPDED Partners

The Society to Prevent Dutch Elm Disease (STOPDED) is a non-profit organization which takes an active leadership role in the development and delivery of **the *Provincial Dutch Elm Disease Prevention Program*** since 2005. From 1976 to 2004, AB Government operated and administered this program. The Society work hard to avoid the negative economic, environmental and social impacts of Dutch elm disease (DED) and other invasive alien tree pest species.

The Society is committed to developing partnerships and working relationships and have an extensive network of partners and members across the province. The following partners help STOPDED fulfill their mandate.

- Alberta Agriculture and Forestry
- Alberta Environment and Parks
- Olds College
- University of Alberta
- Canadian Food Inspection Agency (CFIA)
- Canada Border Services Agency (CBSA)
- Canadian Forest Service
- Northern Forestry Centre (CFS)
- Agriculture Fieldmen and Assistant Fieldman
- Alberta Municipalities
- Landscape Alberta
- International Society of Arboriculture (ISA) Prairie Chapter
- Professional Vegetation Managers Association of Alberta (PVMA)
- Alberta Invasive Species Council (AISC)
- Alberta Recreation & Parks Association (ARPA)
- Communities in Bloom
- And all other volunteers

STOPDED communicates regularly to their members and partners. Updated information on DED and other invasive alien tree pest species is distributed by means of a STOPDED e-Bulletin, STOPDED website and Facebook.

2. STOPDED Mandate and Objects

Mandate: To foster and promote the survival of the American elm (*Ulmus americana*) in Alberta and to protect Alberta's landscape trees threatened by pests with emphasis on invasive alien species.

Objects or Constitution of STOPDED:

- To foster and promote the survival of the American elm (*Ulmus americana*) in Alberta by preventing the establishment of Dutch elm disease and its insect vectors.
- To protect other Alberta landscape trees threatened by pests with emphasis on invasive alien species.
- To advocate for the restriction of the movement of pest-carrying wood or firewood into and within Alberta.
- To increase the awareness in the horticultural industry, in the general public, and in our governments of the immense value of our landscape trees, the value of our urban forests and of the possible insect and disease threats to them.
- To assist and fund research on highly destructive landscape insect and disease pests.
- To facilitate the early detection of and rapid response to destructive invasive alien species that imperil landscape trees.

3. Integrated DED Prevention Program Essential Components

A successful prevention program integrates all the following components. If any of these are reduced or eliminated, the overall program effectiveness is significantly decreased. STOPDED uses all these components for the *Provincial Dutch Elm Disease Prevention Program.* In this way, Dutch elm disease (DED) has been kept out of Alberta (AB).

This model program can be used for all threatening tree pests.

This program cannot be maintained without adequate funding.

a. DED pathogens and insect vectors are named declared pests under the AB *Agricultural Pests Act* (APA) *"Pest and Nuisance Control Regulation* (PNCR)*"*
b. DED Prevention/Control Measures are in place and are enforceable under this legislation.
c. Elm firewood confiscation collection and disposal is in place. This is essential to insure DED vector infested elm firewood is not stored or transported within or into AB.
d. Monitoring for DED vectors include the smaller European elm bark beetle *(SEEBB),* native elm bark beetle *(NEBB*) and the banded elm bark beetle *(BEBB)* using pheromone baited sticky traps.
    - Provides vital information for DED detection since the beetles can carry the DED spores from one elm tree to another. As they move from breeding sites, such as DED-infected trees or firewood, to feed on healthy elm trees, DED can be spread
    - Number of traps placed in each municipality depends on location of the municipality, number of elms and if any insect vectors have been trapped in previous years. Approximately one trap for every 500 trees is placed. However, some municipalities with less than 500 trees are monitored because their location is close to the SK or Montana borders, jurisdiction which are infected with DED.
    - Beetle populations are monitored in municipalities, recreational/campgrounds, Travel Alberta Information Centres, Alberta-Montana border crossings, and nurseries that sell elms.
e. Surveillance of elm trees for DED symptoms is done where vectors have been found or response to calls on the STOPDED Hotline.
f. Sampling of DED suspect elm trees.
g. Public awareness on the disease identification and prevention is essential since DED detection and prevention often dependents on public vigilance.
h. Train the trainer to insure enforcement officers such as the Agricultural Fieldmen and Custom Officials are aware of DED and how to recognized elm wood and DED symptoms.
i. Provincial elm inventory supplies the basic information necessary for an effective prevention program and identifies areas where intensive surveillance is necessary.
j. Provincial and inter-provincial network to maintain a liaison with all program partners and co-operators.
k. Research is supported to find resistant varieties of elm trees and new control techniques until there is a cure for DED.
l. Partnerships are needed with like-minded organizations in order to make good use of all resources.

4. Background Information

a. Since the introduction of Dutch elm disease (DED) in 1930, the disease has destroyed millions of American elm trees across North America. At that time there were no prevention/control programs.
b. DED is now well established in Manitoba (MB) and Saskatchewan (SK). These provinces and their municipalities are now forced to spend millions of dollars annually in control.
c. DED is caused by three species of invasive alien fungus (Ophiostoma ulmi, Ophiostoma nova ulmi and Ophiostoma himal-ulmi) that can affect any elm (Ulmus spp.) tree. Once infected, the elm tree dies.
d. The invasive alien insect and human vectors for DED are:
    i. Smaller European Beetles (SEEBB) (Scolytus multistriatus, Marsh)
    ii. Native elm bark beetle (NEBB) (Hylurgopinus rufipes, Eichh)
    iii. Banded elm bark beetle (BEBB) (Scolytus schevyrewi)
    iv. Elm firewood from an infected province.
e. Under the AB *Agricultural Pests Act* (APA) *"Pest and Nuisance Control Regulation* (PNCR)*"* the DED pathogens, SEEBB NEBB are named declared pests. All municipalities, counties and MD's in the province of Alberta have the responsibility and authority to prevent and control DED under the APA. AB has *DED Prevention/Control Measures* in place that are enforceable under the APA.
f. All suspect DED sample are cultured at the Alberta Agriculture and Forestry Plant Health Lab
g. The Canadian Food Inspection Agency (CFIA) administers the *Plant Protection Act* which regulates the movement of disease from DED infected provinces to DED free provinces. Once a province is infected with DED, CFIA prohibits industry from selling or moving elms out of the province. AB currently has a very strong nursery industry that export elms across Canada.
h. In SK, DED is regulated under the authority of the *Forest Resources Management Act* and *Dutch Elm Disease Regulations.* In MB, invasive forest pests which includes DED, are regulated by *The Forest Health Protection Act (FHPA*) and the associated *Forest Health Protection Regulation*.
i. A provincial elm inventory completed by the STOPDED in 1999 and updated in 2017 indicates there are at least 600,000 elms growing in AB municipalities, rural properties, shelterbelts and provincial parks. City of Edmonton has 100,000 elms and Calgary 50,000. The provincial elm inventory can be found at www.stopded.org under inventory.
j. Up to 50% of the overall tree plantings in municipal landscapes are elms with equal amounts ash trees. Ash trees are threatened by emerald ash borer, now found in Winnipeg.
k. The value of the existing elm inventory is estimated at $2 billion with this number rising rapidly when removal, replacement, and environmental costs are factored in.
l. Estimated value of ash trees is also $2 billion.
m. Using the International Society of Arboriculture (ISA) tree valuation calculator, an average AB elm and ash is valued at approximately $4,000 dollars each.
n. The elm has been the preferred tree to plant, not only for its stately beauty, but also for the tree's impressive list of useful properties
    i. tolerant to drought conditions
    ii. are able to grow quickly on a wide variety of soils.
    iii. high salt tolerance in urban boulevard plantings
    iv. one of the few species that can thrive in the AB extreme climactic conditions
o. In 1975, DED was found in Winnipeg, MB
p. In 1976, the pathogen and the beetles where included as declared pest under the APA.
In 1981, DED was found in Regina, SK.
q. Survey conducted by SK Ministry of Environment in 2018 showed DED remains well established in its traditional southeastern part of the province. DED has affected high numbers of elm along the Fort Qu'Appelle River all the way to Buffalo Pound Park just north of Moose Jaw. BEBB are found in high numbers along the south western part of the province.

r. In 2012, one DED infected elm tree in Maple Creek was identified. This is 100 km east from Medicine Hat. Monitoring and surveys was increased and no more DED was found.
s. In 2015, one DED infected elm tree was found in Saskatoon for the first time.
t. DED is found in municipalities throughout Montana, USA.
u. Since 1994, SEEBB and BEBB have been found in AB municipalities across the province.
v. In 1998, an isolated case of DED was found in Wainwright by STOPDED. This tree was removed and properly disposed of immediately. Monitoring and surveillance was increased for 5 years. This was an isolated case of DED for AB and was eradicated.
w. As a result of vectors found in AB, trapping locations and elm surveillance has increased.
x. From 1976 to 2004, AB Government administered the Provincial DED Prevention Program.
y. Since 2005, STOPDED has received Government DED program funding at $110,000.00 a year.
z. AB has a very strong nursery industry. Farm gate value is about $125 million dollars per year. Elm would be estimated at nearly $40 million of that per year (approx. 1/3). Equal figures to ash. With no suitable replacements for street trees on a massive scale, the introduction of DED to AB could cause massive crop loss in the short term and eliminate the market completely.
aa. Alberta is one of the last geographic areas in North America still DED free.

5. Examples of various cities and provinces DED prevention/ Management budgets

a. **Province of Manitoba**
   i. Province of MB has cost share agreements with 38 communities, that have been identified to have DED,to help with the diseased elm removal and disposal.
   ii. The total number of DED survey staff days was 684. (10 weeks). The province also employs 2 full time positions for DED management.
   iii. For tree removal, the province offers $190.00 per 10-30 cm, $380.00 per 31-79 cm and $570.00 per 80 cm and up.
b. **City of Winnipeg**
   i. Annual budget is 4.2 million. This includes 1 million from the province.
   ii. Budgets allows for the removal of 3500 trees/year.
   iii. With an effective DED Prevention/Management Program in place, the **City of Winnipeg's** elm losses have averaged approx. 1.5%-2% annually or 2,900 trees. Even though there has been a loss of 60,000 trees in the last 35 years, the city's elm population is still 160,000.
   iv. Since 1975, Winnipeg has spent $74 million to protect their elm population.
c. **Province of Saskatchewan**
   i. Province of SK normally spends $150,000 annually on DED surveys and diseased tree removals, and a small amount on signs, advertising, etc.
   ii. 2018 removal cost was up to about $200,000.
   iii. 2 full time ministry staff.
d. **The City of Regina**
   i. 2018 DED prevention/management budget was $516,000 for staff, monitoring, elm tree pruning, DED infected tree removal, and fungicide treatments.
e. **Province of Alberta**
   i. Since 2005, the Alberta Ministry of Agriculture and Forestry annual grant for the basic prevention program has been $110,000.00. This includes monitoring for the beetles in high risk smaller municipalities, US/AB ports of entries, provincial parks and Travel AB Information Centres,

surveillance of DED, public awareness, operating the STOPDED hotline, administration, insurance and accountant fees.

f. **City of Edmonton**
   i. Annual DED prevention budget is $135,000 annually.
   ii. Elm trees are valued at $250,201,854.00.
   iii. Tree value of a 50 cm diameter at breast height (DBH) elm on the Legislation grounds is $19,500. It is given a higher rating as the same size street tree which would be valued at $14,300. There are approximately 100 elms trees at 50 cm on the grounds.

g. **Cities of Calgary, Red Deer, Lethbridge, Medicine Hat, Grande Prairie**
   i. All larger municipalities have qualified staff to run a pest prevention programs.
   ii. All their costs are comparable to Edmonton.
   iii. Smaller municipalities participate in monitoring and surveillance coordinated by STOPDED.

6. Current DED and Vector Situation in BC, AB, SK, MB and Montana

a. **Province of British Columbia**
   i. SEEBB are found in high numbers in the southern part of the province. DED has not been found.

b. **Province of Alberta**
   i. SEEBB has been found in municipalities throughout Alberta since 1994.
   ii. One BEBB was found in City of Medicine Hat in 1996. Since then the numbers of BEBB have increased substantially throughout the city. In 2018, the number of BEBB captured was 7669.
   iii. BEBB are now found in lower numbers in municipalities across the province.
   iv. All DED suspect 2018 elm samples have tested negative.

c. **Province of Saskatchewan**
   i. SK Ministry of Environment survey showed DED remains well established in its traditional southeastern part of the province. DED has affected high numbers of elm along the Fort Qu'Appelle River all the way to Buffalo Pound Park just north of Moose Jaw.
   ii. BEBB found in high numbers along the south western part of the province.
   iii. In 2012, one DED infected elm tree in Maple Creek, 100 km east of Medicine Hat, was found. Monitoring and surveys were increased and no DED was found.
   iv. In 2015, one DED infected elm tree was found in Saskatoon for the first time.
   v. DED continues to spread in rural SK in the east half of the province.
   vi. With a DED management program in place, Regina is able to keep their annual loss to 5.5 elm trees.

d. **Province of Manitoba**
   i. DED is well established in the southern area of the province. It now extends throughout the entire natural range of elms in MB.
   In 2018, Manitoba identified 4551 DED trees to be removed in municipalities outside of the larger cities by March 30. In 2016 there were 4727 DED trees and in 2017 there were 5051 DED trees.
   ii. City of Winnipeg tagged 8000 in 2017 and 6600 in 2018.
   iii. City of Winnipeg still plants 20% of their reforestation program with various varieties of elms.

e. **Montana State, USA**
   DED and SEEBB are found directly south of Alberta in Montana and throughout the rest of the USA.

7. STOPDED Provincial DED Prevention Program

a. **Monitoring for DED vectors**

i. Monitoring season runs from April 1st to Sept. 30th to determine if the elm bark beetles are present

ii. A total of 1713 traps and lures are set by STOPDED and the larger cities province-wide.

iii. Traps are placed in:

- 116 Municipalities (cities, towns, villages, hamlets),
- 31 - Nurseries
- 30 - Parks (Provincial and Municipal)
- 5 - US/Canada Port of Entry

iv. The locations monitored: **(See appendix I)**

v. The City of Edmonton, Calgary, Red Deer Lethbridge and Medicine Hat are responsible for the purchase, distribution and processing of the traps and lures for each of these municipalities. The City of Medicine Hat has an agreement with the City of Edmonton to scan all Medicine Hat's traps.

vi. To increase the amount of municipalities monitored in the province the Cities of Edmonton, Calgary, Red Deer and Lethbridge are also responsible for the distribution and scanning of traps in their buffer zone municipalities also referred to as Satellite communities. Traps for the buffer zone municipalities are purchased by STOPDED.

vii. STOPDED purchases and distributes traps to the remaining locations in the province. These traps are scanned at Olds College by Dr. Ken Fry and his students, Results: **(See appendix II and III)**

viii. BEBB were found in 2006 for the first time in City of Medicine Hat. Since then the BEBB have been found in municipalities throughout the province.

ix. Traps placed in municipalities outside of the larger cities by the STOPDED program are replaced twice a season whereas the cities change their traps monthly.

b. **Surveillance of elm trees:**

An elm survey for the DED was completed in municipalities in the southern part of the province where the vectors (BEBB and SEEBB) have been found. No DED suspect elms were found.

c. **DED suspect sampling**:

i. Arrangements were made to have samples taken from all suspect DED elm trees samples by STOPDED. These were sent to Alberta Agriculture and Forestry Plant Health Lab.

ii. A total of 27 samples were submitted from the municipalities throughout the province.

iii. All elm samples sent to the lab for culturing tested negative for DED.

d. **Public awareness:**

STOPDED undertakes many initiatives to promote DED prevention among Alberta citizens and to visitors to Alberta. **(See appendix IV).**

e. **Train the trainer:**

i. Contact was made with Custom Officials to insure that they understand the importance of collecting firewood. Since not all custom officials can identify firewood by the bark they are encouraged to collect all firewood that includes bark and have it placed in the STOPDED firewood bins. STOPDED regularly disposes of all wood by having it burned.

ii. STOPDED e-Bulletins are sent out regularly to Custom Officials, Agriculture Fieldman and Municipalities on DED prevention and other IAS tree pests.

f. **Provincial elm inventory** was done in all AB municipalities in 1999 and updated in 2017 to better reflect today's tree value. Inventory can be found at www.stopded.org under "Province wide Elm Inventory"

g. **Provincial and inter-provincial network**
   i. E-bulletins sent to British Columbia, Saskatchewan and Manitoba contacts.
   ii. Communication is made via email and phone for regular pest updates.

h. **Elm firewood collection and disposal**
   i. Travellers are requested to leave firewood in the bins in order to reduce the risk of importing insect vectors or disease through highway signage.
   ii. The Society owns and maintains firewood collection bins and a collection trailer.
   iii. Bins are placed at all US/AB ports of entry and at all Travel Alberta Information Centres. Collection trailer is parked at Chief Mountain Port of Entry.
   iv. All firewood is confiscated at the US/AB ports whereas the bins at the information centres are volunteer bins. All bins were emptied and firewood disposed by burning.
   v. Wood confiscated from travellers is mainly spruce, pine and some elm.

i. **Research**

Using casino funds, STOPDED funds research projects that support the objectives of the Society. All projects funded are reviewed and recommended by the Research Committee and approved by the Board. Some recent projects approve are:

   i. Monitoring for EBB in the months of April and October to support the Agricultural Pests Act (APA)
   ii. Supporting CFIA with the monitoring for Emerald Ash Borer in AB
   iii. Provincial Elm Tree Inventory & Valuation Update
   iv. Monitoring for Invasive Alien Wood Boring Species in Alberta

j. **Alberta DED Prevention/Control Measures** have been updated November, 2017

All municipalities, counties and Municipal districts in the province of Alberta have the responsibility and authority to prevent and control DED under the Alberta *Agricultural Pests Act* (APA) "*Pest and Nuisance Control Regulation* (PNCR). The APA provides a means for enforcement. Several sections of the APA and the Regulation can be applied. It is an offence not to take "active measures" and not to follow an inspector's notice. **Provincial Elm Pruning Ban** is **enforceable** under the Agricultural Pest's and runs from April 1st to September 30th

8. STOPDED Accomplishments

a. Successful at keeping Alberta DED free since 1975, when DED was first found in Winnipeg.
b. Reliable system & infrastructure to survey for DED and DED vectors, monitoring is in-place.
c. Reliable system & infrastructure to survey for other IAS tree pest.
d. Highway signage at all AB entrances and exits asking public to prevent DED by not transporting firewood.
e. **STOPDED Hotline** 1-877-837-ELMS is in place.
f. Memorandum of Understanding between Olds College and STOPDED was signed in 2009.

STOPDED's Invasive Alien Species (IAS) insect collection is housed at Olds College. Olds College has made a commitment to provide 25 hours per year of expert scientific entomological support to assist with curation of trapped insect material. CFIA has made a commitment to supply trapping supplies. Casino funds are used for the insect curation done by Dr. Ken Fry and students.

g. Two workshop/conferences held at Olds College per year. An average of 60 people attend.
h. Volunteers are secured for a casino fund raising events every 18 months. These funds are being used for research, additional public awareness and educational workshops.
i. Agriculture Fieldmen and their Assistants are recognized as associate membership. This recognizes our ongoing working relationship/partnership to help prevent DED.
j. **Research Committee** e**stablished terms of reference,** mandate and composition Key functions:
    i. make recommendations to the STOPDED Board of Directors regarding the merit and suitability research funding requests and project funding requests made to the Society
    ii. provide oversight for research and science-related projects undertaken by the Society to ensure quality and that the Society's interests are maintained.
k. **STOPDED Research Work Plan:** the Society is directly delivering research projects. This plan establishes the accountability for clearly identifying objectives, desired outcomes and performance measures (measures of success) for each phase of the anticipated project. It also establishes clear expectations of the direction, focus, and accountability. Casino funds are used for research projects.
l. **Scholarships:** Using casino funds STOPDED annually presents Olds College $2000.00 towards a scholarship. This scholarship awards 4 students $500.00 each from the horticultural and arboricultural programs.
m. **STOPDED website (www.stopded.org)** is housed under AF "Ropin' the Web."
n. **DED Prevention/Control Measures** updated **November 2017.**

9. STOPDED Goals for the Future

- Continue to be a valued partner of the GOA and Agriculture and Forestry and receive funding from Government to operate the *Provincial Dutch Elm Disease Prevention Program.*
- Continue to form partnerships so prevention program components and projects can be conducted efficiently and effectively.
- BEBB is a new vector of DED and has been found in larger numbers in the City of Medicine Hat. STOPDED needs to concentrate on working with those municipalities in the south eastern corner of AB and Agriculture Fieldman to minimize the threat of DED.
- Continue holding workshops/conferences on DED and other invasive tree pests.
- Continue to research effective methods of advertising.
- Update the Provincial DED Prevention/Control Measures when needed.
- Keep Alberta free of DED and other Invasive Alien Species (IAS) tree pests.
- Complete a Provincial Emerald Ash Borer (EAB) Management Plan.

10. Research Projects

a. Project Title: Elm bark beetle trapping in the months of April and October in support of the Provincial Elm Pruning Ban listed in the Dutch Elm Disease Prevention/Control Measures under the Agricultural Pest Act

Mike Jenkins, Linsay Bell, Craig Renney, Susan Katzell, Jim Watts, Alexandra Pepperdine, Nigel Seymour, Janet Feddes-Calpas

1. Project Description and Background
The elm bark beetles (EBB) and Dutch elm disease (DED) have been declared pests under the Agricultural Pests Act (APA) since 1976 when this disease was first found in Manitoba. As a DED prevention and control measure under this Act, the provincial elm pruning ban from April 1 to September 30 has been in place since that time. These dates were based on the beetle activity of the native elm bark and the smaller European elm bark beetle in other parts of Canada.

Smaller elm bark beetle have been found throughout the province since 1996. In the past years a new EBB, the banded elm bark beetle, has been found in many Alberta municipalities. There is little known about the flight period of this beetle and there was a concern about whether the provincial elm pruning ban dates is appropriate for Alberta. In order to support a change to these dates, a minimum of 3 years of data must be collected province wide. STOPDED's goal was to collect data from elm bark beetle traps set up in April and October in a number of municipalities throughout Alberta. Traps were set up in 2015, 2016 and 2017.

2. Annual Program Objectives
Determine if EBB's are found in the months of April and October.

3. Materials and Methods
To monitor for the EBB, a white sticky trap measuring 18" x 25" is used with a powerful 2-part lure system to attract both male and female beetles. For this project, traps were set up April 1st and taken down April 30th and another trap set up October 1st and taken down October 31st for three years. Each city listed below set up the traps in their municipality. Nigel Seymour set up traps in the remainder of the municipalities. All the traps were returned to the City of Edmonton for inspection. Municipalities included in this project were chosen for their location and if there was EBB captured in previous years.

- City of Edmonton 12 traps
- City of Lethbridge 8 traps
- City Medicine Hat 8 traps
- City of Red Deer 6 traps
- City of Calgary 10 traps
- Hamlet of Acadia Valley 1 trap
- Hamlet of Dunmore 1 trap
- Hamlet of Walsh 1 trap
- Town of Bow Island 1 trap
- Village of Warner 1 trap
- Town of Milk River 1 trap
- Town of McGrath 1 trap
- Town of Cardston 1 trap
- Town of Taber 1 trap
- City of Brooks 1 trap

4. Results
2 EBB was found in the April traps and no EBB found in the October traps.

5. Conclusion
As a result of three years trapping in locations across the province of Alberta, the elm pruning ban will remain from April 1 to September 30.

--Science Informing Policy--

b. Project Title: Monitoring for Emerald Ash Borer in AB

The emerald ash borer (EAB) was first detected in Canada in 2002, in Windsor, Ontario. The beetle has proven to be highly destructive. Since its arrival, it has killed tens of millions of ash trees and continues to spread into new areas, with considerable economic and ecological impacts.

Emerald ash borer in Canada has spread rapidly through Ontario and has made its way into Quebec. In 2014, he Canadian Food Inspection Agency (CFIA) consolidated the regulated areas within Ontario and Quebec into one larger regulated area. All of these areas are regulated by federal ministerial orders that prohibit movement of potentially infested ash commodities.

CFIA confirmed EAB in Winnipeg, Manitoba in December 2017. Only sixty miles north along a well-travelled highway, it is the closest known EAB infestation to North Dakota. The insect appears to have arrived at least five years before its discovery. In that time, EAB spread to adjacent street trees and to park trees 1,500 feet away.

On January24, 2018, CFIA established Winnipeg as a regulated area. This meant no ash material (logs, chips, nursery stock, etc.) can be moved from Winnipeg to outside areas. There was also a ban placed on removing **all firewood** from Winnipeg.

On Sept 21, 2018, CFIA confirmed the presence of EAB in Bedford, Nova Scotia. The new finding is a first for Nova Scotia, which is outside of the current areas regulated for emerald ash borer in Canada. The emerald ash borer was also detected in New Brunswick earlier this year. The CFIA and its partners are conducting additional survey work to determine whether the pest has become established in the area, and if so, the extent of the spread.

The area infested by emerald ash borer is expected to continue to expand, mostly through human movement of infested material such as firewood.

CFIA is the lead on EAB monitoring in AB through regulatory means and surveys. STOPDED has partnered with CFIA helping with the coordination of placement of the traps. STOPDED also helps information on EAB and updates to their members by way of e-Bulletin.

c. Project Title: Provincial Elm Tree Inventory & Valuation Update

In March 1999, an elm inventory was completed in all the 551 communities (cities, towns, villages and hamlets) in the province of Alberta by the Society to Prevent Dutch Elm Disease (STOPDED). This was a 2 year project.

A site specific elm inventory supplies the basic information necessary for an effective Dutch elm disease (DED) prevention/management program. The information also identifies areas where more intensive monitoring and surveillance is necessary due to the number and/or condition of the elm trees. Knowing the value of elms is important in order to justify a prevention program.

The method used to access the value of the elm trees was developed by the Council of Tree and Landscapes Appraisers (CTLA) and is used by the International Society of Arboriculture (ISA). Since 1999 this method to access the value has increased.

A provincial elm inventory was updated in 2017 and indicates there are at least 600,000 elms growing in AB municipalities, rural properties, shelterbelts and provincial parks. The value of the existing inventory is estimated at $2 billion with this number rising rapidly when removal, replacement, and environmental costs are factored in. Up to 50% of the overall tree plantings in municipal landscapes are elms.

Completed updated inventory can be found at www.stopded.org under Inventory

Project lead-Verna Mumby with Mumby's Arboriculture Consulting.

d. Project Title: Annual Monitoring Invasive Alien Wood Boring Insects in AB

The establishment and expansion of the global marketplace has resulted in an increased risk of introduction of invasive alien insect species into Alberta. These invasive species threaten our urban and rural trees and provincial forests. Early detection of alien invasive species (IAS) of wood boring insects is essential to protect our trees and to avoid negative economic, environmental and social impacts.

Provincial and Municipal government departments with a mandate to protect and manage our urban landscapes are direct recipients of the results of this project. The public and private sector stakeholders in Alberta will benefit through timely notification of these invaders. This information will also benefit commercial tree nursery operations.

This project builds on a pilot project conducted by STOPDED from 2007-2009 (Invasive Alien Species Partnership Program Project #1294. Protocols and methodologies have been established for trap deployment and collection, trap residue processing, and reporting. A partnership was developed in 2011between CFIA, Olds College and STOPDED that exploits the resources and capabilities of their respective organizations in pursuit of the protection of Alberta's trees. Cooperation between these organizations is integral to the project.

Twenty trapping sites identified as highest risk introduction sites for alien invasive species are monitored.

Trap set up is done by cooperators in the following locations:

- City of Grande Prairie (1 site)
- City of Lloydminster (2 sites)
- City of Edmonton (5 sites) coordinated and processed by City staff
- City of Red Deer (1 site)
- City of Calgary (1 site)
- City of Lethbridge (2 sites)
- City of Medicine Hat (2 sites)
- City of Fort McMurray (1 site)
- ARD Crop Diversification Centre, Brooks (1 site)
- ESRD – 4 locations
    - Boyle Dump
    - Janvier commercial waste site
    - CNRL Wolf Lake
    - Cold Lake Dump

This project is coordinated by STOPDED, traps and lures funded by CFIA and curration of samples completed by Dr. Ken Fry and students at Olds College using Casino research funding. Thanks again to all the cooperators for setting up traps and collecting the samples. No IAS have been found to date.

2018 Invasive Alien Species Surveillance report - respectfully submitted by Ken Fry, Olds College

In 2018, 557 trap samples were received and processed of which 366 contained specimens within the Cerambycidae, Buprestidae, Siricidae, and Scolytinae (Table 3). By comparison, in 2017 300 of 514 samples contained specimens of interest and in 2016 298 of 465 samples contained specimens of interest (Table 3). There were approximately 10 trapping dates for each location. All traps were processed from the Whirl-Pak bags into vials. By-catch was discarded. Samples containing specimens of interest were processed and identified (Tables 3 & 5). **No invasive alien species were detected.**
Processing of the 2018 samples was completed in October 2018.

Table 3. Year by Year Comparison of IAS Trap Captures

Year	# of Samples	# of Samples Positive	# of Samples Negative	# of Specimens	# of Species
2014	468	280	188	4,542	51
2015	478	291	187	15,804	53
2016	465	298	167	14,835	47
2017*	514	300	214	2,655	39
2018*	557	366	191	5,454	54

*Overall total is down due to not counting individuals of *Dolurgus pumillus* and *Trypodendrum lineatum*. Only presence of these species was recorded.
The lures used in 2015-2018 were changed from those used in 2014. In 2014, four (4) different lures were used and in 2015 onward only two (2) different lures were used (Table 4). The number of specimens captured by the new lure set in 2015-2018 is substantially higher than the old set. This has resulted in increased sample processing time and species identification time.

Table 4. Lure Types by Year

Year	Lure Type
2014	Ipsenol, Ethanol, α -pinene, Sirex
2015-18	Pine Sawyer (Monochamol, Ipsenol, α-pinene, Ethanol), General Longhorn (Fuscamol, Fuscamol Acetate, Ultra-high Release Ethanol)

Table 5. Species Captured by Year

Species	2018	2017	2016	2015	2014
Family Siricidae					
Tremex columba	X	X	X	X	X
Sirex cyaneus	X	X	X	X	X
Urocerus albicornis	X	X			X
Urocerus gigas flavicornus	X	X			X
Urocerus californicus	X	X	X	X	X
Xeris spectrum spectrum	X		X	X	X
Family Buprestidae					
Anthaxia	X		X	X	
Dicerca	X	X	X	X	X
Oxypteris acuminata	X	X	X		
Melanophila	X		X	X	
Buprestis nutalli			X	X	
Phaenops	X	X	X	X	X

Chrysobothris				X	
Agrilus				X	
Family Curculionidae Sub-Family Scolytinae					
Cryphalus				X	
Scierus	X	X	X		
Hylastes nigrinus			X		X
Hylastes gracilis	X	X	X	X	X
Hylesinus	X	X	X	X	X
Hylurgopinus					X
Xylechinus					X
Pseudhylesinus				X	
Dendroctonus valens				X	X
Dendroctonus terebrans				X	X
Dendroctonus ponderosae					X
Dendroctonus pseudotsugae					X
Dendroctonus punctatus	X			X	
Dendroctonus rufipennis	X	X	X		X
Polygraphus	X	X	X	X	X
Carphoborus				X	
Scolytus picea	X	X	X	X	X
Scolytus rugulosus	X				
Scolytus shewyrevi	X	X	X		
Pityogenes				X	
Orthotomicus	X	X	X	X	X
Ips grandicollis				X	
Ips pini	X	X	X	X	X
Ips perturbatus	X	X	X	X	X
Ips polygraphus					X
Lymantor			X		X
Dryocoetes	X	X	X	X	X
Dolurgus pumilus	X	X	X	X	X
Tomicus				X	
Trypodendron lineatum	X	X	X		X
Trypodendron retusum	X	X		X	X
Family Cerambycidae					
Evodinus montanicola	X				
Acmeops proteus proteus	x	X	X	X	X
Gnathacmeops praetensis	X			X	X
Gnathotrichus					X
Arhopalus foviecolis	x	X	X	X	X

Asemum	x		X	X	X
Clytus	x	X	X	X	X
Neoclytus leucozonus				X	
Grammoptera subargentata	X	X	X	X	X
Hyperplatys aspersa	X	X	X		X
Astylopius variegatus	x	X	X	X	X
Monchamus scutellatus	X	X	X	X	X
Monochamus notatus	X	X	X	X	X
Neospondylis upiformis	X	X	X	X	X
Neanthophylax leucozonus	X				
Pachyta	X	X	X	X	
Phymatodes dimidiatus	X		X	X	X
Pogonocherus pencillatus	X		X	X	X
Pronocera collaris		X			
Pygoleptura nigrella nigrella				X	X
Rhagium		X	X	X	X
Stictoleptura canadensis cribipennis	X		X	X	X
Tetropium cinnamopterum	X	X	X	X	X
Trachysida mutabilis	X	X	X	X	X
Trigonarthris	X				
Meriellum proteus	X	X	X	X	X
Megasemum asperum	X		X	X	X
Xestoleptura tibialis		X	X	X	
Xylotrechus annosus annosus			X		
Xylotrechus undulatus	X	X	X	X	X

The most numerous taxa trapped were the Cerambycidae followed by the Scoytinae* (Table 6).

Table 6. Trap Capture by Family 2014-2018

Year	Siricidae (# Species)	Scolytinae (# Species)	Cerambycidae (# Species)	Buprestidae (# Species)	Total (# Species)
2014	103 (6)	3,336 (21)	1,078 (22)	25 (2)	4,542 (51)
2015	64 (4)	11,175 (19)	4,360 (23)	205 (7)	15, 804 (53)
2016	28 (4)	12,897 (15)	1,874 (22)	36 (6)	14,835 (47)
2017	61 (5)	682 (14)	1907 (18)	5 (3)	2655 (39)
2018	99 (6)	1,789 (17)	3,537 (26)	29 (5)	5,454 (54)

*In 2017 and 2018 the two Scolytine species *Dolurgus pumilla* and *Trypodendron lineatum* were not counted, only noted for presence or absence. These two species have, over the previous trapping years, accounted for nearly 50% of the specimens trapped. Therefore, their presence was noted but enumerated.

Appendix I - Provincial Elm Bark Beetle Monitored Locations

The following list indicates the number of trap sites in each location and the responsible party.

LEGEND:

CGY - Calgary	LB – Lethbridge	STOPDED
EDM - Edmonton	MH - Medicine Hat	StC - Sturgeon County
SC - Strathcona County	RV- Rocky View MD#44	

Municipality	Sites	Responsibility
AcadiaValley, M.D. of	2	STOPDED
Airdrie, City of	2	CGY
Ardrossan, Hamlet of	1	SC/EDM
Balzac, Hamlet of	1	CGY
Barnwell, Village of	1	LB
Barrhead, Town of	1	STOPDED
Barons, Village of	1	LB
Beaumont, Town of	1	EDM
Beiseker, Village of	1	RV/CGY
Bentley, Village of	1	RD
Bon Accord, Town of	1	EDM
Bonnyville, Town of	1	STOPDED
Bowden, Town of	1	RD
Bow Island, Town of	1	MH
Brooks, Town of	10	STOPDED
Bruderheim , Town of	1	SC/EDM
Calgary, City of	23	CGY
Calmar	1	EDM
Camrose, City of	3	STOPDED
Camrose, County of	2	STOPDED
Round Hill, Hamlet of	1	STOPDED
New Norway, Hamlet of	1	STOPDED
Cardston, Town of	1	STOPDED
Castor, Town of	2	STOPDED
Cereal, Village of	1	STOPDED
Chauvin, Village of	1	STOPDED
Chestermere, City of	1	CGY
Claresholm, Town of	2	STOPDED
Coaldale, Town of	4	LB
Coalhurst, Town of	3	LB
Consort, Town of	7	STOPDED
Coronation, Town of	2	STOPDED
Coutts, Village of	3	STOPDED
Dalroy, Hamlet of	1	RV/CGY
Daysland, Town of	1	STOPDED
Delburne, Village of	1	RD
Devon, Town of	2	EDM
Diamond Valley	1	LB
Drayton Valley, Town of	1	STOPDED
Drumheller, Town of	6	STOPDED
East Coulee, Hamlet of	1	STOPDED
Nacmine, Hamlet of	1	STOPDED
Rosedale, Hamlet of	1	STOPDED
Eckville, Town of	1	RD
Edgerton, Village of	1	STOPDED
Edmonton, City of	43	EDM
CDCN	1	STOPDED
Elnora, Village of	1	RD
Empress, Village of	2	STOPDED
Enchant, Village of	1	STOPDED
Forestburg, Village of	2	STOPDED
Fort Macleod, Town of	3	LB
Fort McMurray	2	STOPDED
Fort Saskatchewan, City of	6	EDM
Gibbons, Town of	1	EDM
Grande Prairie, City of	50	GP
Grassy Lake, Hamlet of	1	MH
Hanna, Town of	2	STOPDED
High Prairie, Town of	2	STOPDED
High River, Town of	2	STOPDED
Innisfail, Town of	1	RD
Irvine, Village of	1	MH
Kathyrn, Hamlet of	1	RV/CGY
Keoma, Hamlet of	1	RV/CGY
Killam, Town of	2	STOPDED
Lacombe, Town of	3	RD
Langdon, Hamlet of	1	RV/CGY
Leduc, City of	3	EDM
Legal, Town of	1	SA/EDM
Lethbridge, City of	33	LB
Leth Correctional Centre	1	LB
Leth Research Centre	1	LB
Leth. Wilson Siding	1	LB
Lloydminster, City of	8	STOPDED
Magrath, Town of	1	LB
Medicine Hat, City of	36	MH
Milk River, Town of	2	STOPDED
Mirror, Village of	1	RD
Monarch, Hamlet of	1	LB
Morinville, Town of	1	EDM
Nanton, Town of	1	STOPDED
Nobleford, Village of	1	LB
Okotoks, Town of	2	Okotoks
Olds, Town of	1	STOPDED
One Four, Hamlet of	1	MH
Oyen, Town of	4	STOPDED
Picture Butte, Town of	1	LB
Pincher Creek, Town of	1	STOPDED
Ponoka, Town of	2	RD
Provost, Town of	6	STOPDED
Raymond, Town of	3	LB
Redcliff, Town of	1	MH
Red Deer, City of	19	RD
Redwater, Town of	2	EDM
Rimbey, Town of	1	RD
Sangudo	1	STOPDED
Sherwood Park	2	SC/EDM
Springbank, Hamlet of	1	RV/CGY
Springbrook, Hamlet of	1	RD
Spruce Grove, City of	2	EDM
St. Albert, City of	10	SA/EDM
Stettler, Town of	2	STOPDED
Stirling, Village of	1	LB
Stony Plain, Town of	4	EDM
Strathcona County	8	EDM
St. Paul, Town of	2	STOPDED
Strathmore, Town of	2	CGY
Suffield, Hamlet of	1	MH
Sylvan Lake, Town of	1	RD
Taber, Town of	7	LB
Three Hills, Town of	1	STOPDED
Trochue, Town of	2	STOPDED
Vauxhall, Town of	2	STOPDED
Vegreville, Town of	2	STOPDED

Vermilion, Town of	1	STOPDED
Veteran, Village of	1	STOPDED
Viking, Town of	1	STOPDED
Vulcan, Town of	3	STOPDED
Wainwright, Town of	5	STOPDED
Walsh Travel Info. Centre	1	MH
Warner, Town of	2	STOPDED
Wetaskiwin, City of	3	STOPDED
Youngstown, Village of	2	STOPDED

Nurseries	**#Sites**	**Responsible**
Alberta Tree Movers	1	CGY
Arrowhead Nurseries	1	EDM
Bluegrass Nurseries	1	CGY
Blue Grass Sod Farms	1	RD
Cheyenne Tree Nursery	1	EDM
Coaldale Nurseriers Ltd	1	LB
Economy Landscaping	1	StC/EDM
Eagle Lake Nurseries	1	STOPDED
Foothills Landscaping	1	CGY
Golden Acre Garden Centre	1	MH
Golden Acre Garden Sentres	2	CGY
Green Haven Tree Farm	1	LB
Greenland Nursery	1	EDM
Heritage Nurseries	1	StC/ED
Heritage Tree Nurseries	1	CGY
Lacombe Tree Farms	1	RD
Millcreek Nursery	1	EDM
Old Man Creek	1	EDM
Parkland Nurseries	1	RD
Pireira and Monez Landscaping	1	StC/EDM
Poplar Ridge Tree Farm	1	RD
Salisbury Greenhouses	1	SC/EDM
Simon Bos Nurseries Ltd.	1	LB
Spruce Lanes	1	CGY
Sunnyside Greenhouses Ltd.	1	CGY
Sunshine Tree Nursery	1	StC/EDM
Sunstar Nurseries	1	EDM
Tom's Tree Farm	1	EDM
Vollmin Tree Movers	1	CGY
West Edmonton Treeland	1	EDM
William Holt Nurseries	1	CGY
Windmill Garden Centre	1	MH

Parks	**#Sites**	**Responsible**
Aspen Beach PP	3	STOPDED
Big Knife PP	1	STOPDED
Blood Indian PP	1	STOPDED
Buffalo Lake PP	1	STOPDED
Dillberry PP	1	STOPDED
Dinosaur PP	1	STOPDED
Dixon-Stevenson Rest Stop	1	RV/CGY
Elkwater Cabin Area	1	STOPDED
Gooseberry Lake PP	1	STOPDED
Half Moon Lake Resor	1	SC/EDM
Island Buffalo Jump PP	1	STOPDED
Jarvais Bay PP	1	RD
Kinbrook PP	1	STOPDED
Meyerthorpe Campground	1	STOPDED
Little Bow PP	1	STOPDED
Little Fish PP	1	STOPDED
Midland PP	1	STOPDED
Pine Lake PP	1	RD
Parkland PP	1	RD
Reesor Lake PP	1	STOPDED
Rochan Sands PP	1	STOPDED
Sherwood Forest Campground	1	SC/EDM
St. Mary Reservoir	1	STOPDED
Strathcona Science PP	1	SC/EDM
Taber PP	1	LB
Tillibrook PP	1	STOPDED
The Narrows PP	1	STOPDED
Tolman Bridge PRA	1	STOPDED
Vermillion PP	1	STOPDED

Port of Entry	**#Sites**	**Responsible**
Chief Mountain	1	STOPDED
Carway	1	STOPDED
Coutts	1	STOPDED
Del Bonita	1	STOPDED
Wild Horse	1	STOPDED

Appendix II

2018 Elm Bark Beetle Surveillance - Respectfully submitted by Dr. Ken Fry, Olds College

Session 1:
In 2018 Elm Bark Beetle traps were received at Olds College for assessment. For the summer trapping period, a total of one hundred eleven (111) out of one hundred thirty (130) traps were received from the summer trapping period for inspection. Thirteen (13) traps were not returned and ten (10) were lost due to wind storms. This is a return rate of 90%, up 2% from 2017.
A total of one (1) Smaller European Elm Bark Beetle was detected on Trap 127.1 at Wetaskiwin.
A total of forty-eight (48) Banded Elm Bark Beetles were detected at eleven (11) different localities (Table 1). Of note, the Crop Diversification South locality recorded eleven (11) BEBB.

Table 1. Incidence of Banded Elm Bark Beetle on Traps, Summer 2018

Site	Trap Number	Number of BEBB
CDC South	1.1	11
Brooks	11.1	8
Brooks	14.1	3
Brooks	15.1	3
Brooks	17.1	2
Village of Cereal	26.1	1
Village of Consort	30.1	1
Village of Consort	31.1	2
Village of Consort	33.1	4
Town of Coronation	36.1	1
Village of Edgerton	52.1	1
Enchant	55.1	1
Village of Grassy Lake	56.1	1
Village of Hays	57.1	1
Village of Irvine	59.1	2
Provost	98.1	1
Provost	100.1	1
Provost	101.1	1
Provost	102.1	2
Wainwright	123.1	1
Total # of Different Sites = 12	Total # of Traps = 20	Total # of Beetles = 48

Twenty-eight (28) traps had the lures removed or were lost on site, and one (1) trap had no indication of a lure being present.
The mean number of trapping days was 75.9, the shortest trapping period was 53 days, and the longest was 125 days.

Session 2:
For the fall trapping period a total of one hundred twenty-seven (127) out of one hundred fifty-eight (158) traps were received for inspection. This is a return rate of 87%.
No Smaller European Elm Bark Beetle were detected.
A total of three hundred thirty-eight (338) Smaller European Elm Bark Beetles were detected at fifteen (18) localities (Table 2). Of note, the village of Consort had unusually high numbers of BEBB with one hundred twenty-nine (129) beetles collected on six traps with one trap containing eighty-seven (87) beetles. Also of

note the Crop Diversification South had one trap with thirty-two beetles and the Village of Cereal had one trap with sixty-four (64) beetles.

Table 2. Incidence of Banded Elm Bark Beetle on Traps, Fall 2018

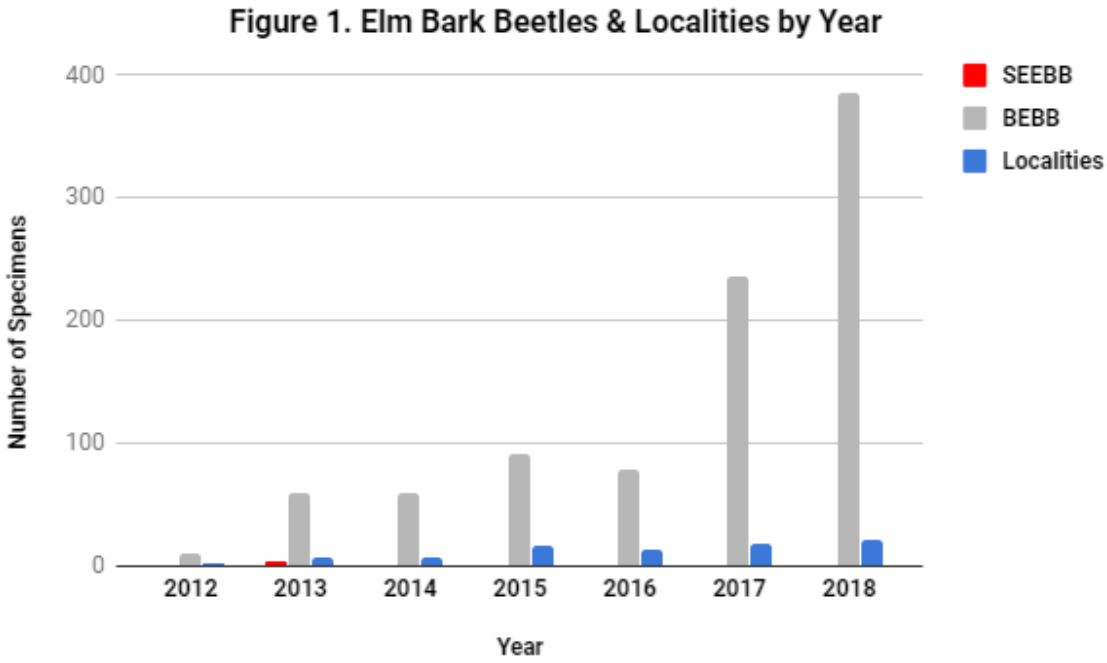
Site	Trap Number	Number of BEBB
Acadia Valley	1.2	2
Acadia Valley	2.2	20
Brooks	8.2	32
Brooks	10.2	2
Brooks	11.2	4
Brooks	12.2	1
Brooks	13.2	1
Brooks	14.2	6
Brooks	17.2	4
Cereal	26.2	64
Consort	30.2	87
Consort	31.2	6
Consort	32.2	16
Consort	33.2	16
Consort	34.2	1
Consort	35.2	3
Consort	158.2	4
Coronation	36.2	6
Coronation	37.2	3
Coutts	39.2	4
Coutts	40.2	1
Drumheller	49.2	24
Village of Empress	53.2	3
Village of Grassy Lake	56.2	2
Village of Bow Island	65.2	5
Foremost	67.2	1
Hanna	71.2	1
Lloydminster	86.2	1
Oyen	92.2	3
Oyen	93.2	2
Oyen	94.2	1
Vauxhall	109.2	1
Wainwright	120.2	1
Wainwright	122.2	1
Tillebrook Prov. Park	157.1	10
Total # of Different Sites = 18	Total # of Traps = 35	Total # of Beetles = 338

Twenty-seven (27) traps had the lures removed or were lost on site, and none had no indication of a lure being present.

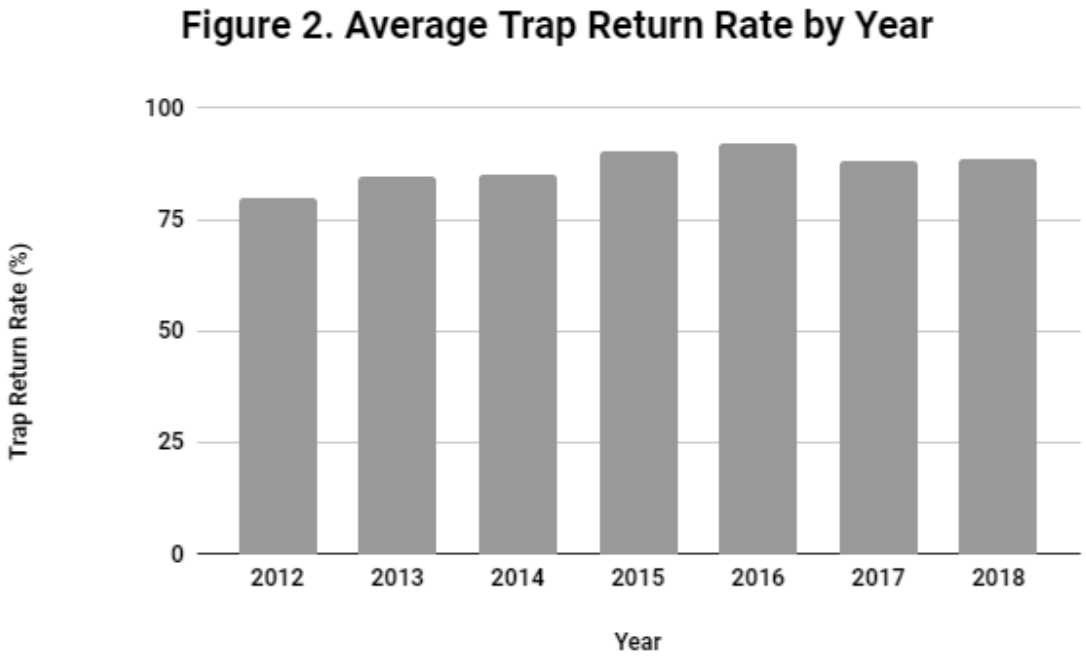
The mean number of trapping days was 83 days, with a low of 51 days and the longest trapping period being 129 days.

One (1) student was trained to inspect the traps for Session 1. All session 2 traps were inspected by Dr. K. Fry. All detections of bark beetles or those insects suspected of being bark beetles were verified by Dr. K. Fry. All specimens were removed from the traps, cleaned in a solvent and inspected under a microscope.

The number of elm bark beetles and number of localities is increasing year over year (Figure 1).



Trap return rates have increased year over year (Figure 2).



Appendix III – Elm Bark Beetles found in AB since 19994

Table 2

SEEBB- smaller European elm bark beetle BEBB- banded elm bark beetle

Location	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Acadia Valley																				2 BEBB	3 BEBB	5 BEBB	27 BEBB	4 BEBB	
Balzac						1 SEEBB																			
Barnwell										1 SEEBB									1 SEEBB						
Barons																								4 BEBB	1 EBB
Beiseker									1 SEEBB																
Bow Island																				5 BEBB	5 BEBB	14 BEBB	2 BEBB	4 BEBB	
Brooks												1 SEEBB							3 SEEBB	5 SEEBB	5 BEBB	14 BEBB	3 BEBB	42 BEBB	66 BEBB
CDCN																									11 BEBB
Calgary	80 SEEBB	60 SEEBB	10 SEEBB	31 SEEBB	142 SEEBB	100 SEEBB	30 SEEBB	32 SEEBB	6 SEEBB	66 SEEBB	101 SEEBB	7 SEEBB	64 SEEBB	4 SEEBB	4 SEEBB	6 SEEBB	19 SEEBB	2 SEEBB 4 BEBB	20 SEEBB 6 BEBB	500 SEEBB	17 SEEBB	9 SEEBB 1 BEBB	17 SEEBB 5 BEBB	2 BEBB 2 SEEBB	11 BEBB 1 SEEBB
Castor																						1 BEBB		1 BEBB	
Cereal																									65 BEBB
Chauvin																						1 BEBB			
Coaldale										1 SEEBB					5 SEEBB				1 SEEBB						
Coalhurst																				1 SEEBB				2 BEBB	
Coronation																								1 BEBB	10 BEBB
Consort																		1 SEEBB				4 BEBB	1 BEBB	98 BEBB	140 BEBB
Coutts						1 SEEBB		1 SEEBB								1 SEEBB 2 BEBB				2 BEBB	2 BEBB		2 BEBB	3 BEBB	5 BEBB
Drumheller																	1 SEEBB					1 BEBB	1 BEBB	3 BEBB	
Drumheller East Coulee																								1 BEBB	
Dunmore																		5 BEBB	8 BEBB	43 BEBB	43 BEBB	1 SEEBB 1BEBB		3 BEBB	
Edgerton																									1 BEBB
Enchant																									1 BEBB
Edmonton		4 SEEBB	4 SEEBB	4 SEEBB	13 SEEBB	7 SEEBB	3 SEEBB	3 SEEBB	1 SEEBB	39 SEEBB	14 SEEBB	1 SEEBB	5 SEEBB	1 SEEBB	1 SEEBB	2 SEEBB	1 SEEBB	1 BEBB	31 SEEBB	28 SEEBB 1BEBB	14 SEEBB	82 SEEBB	12 SEEBB	2 SEEBB	8 SEEBB 2BEBB
Empress																				1 BEBB	1 BEBB	11 BEBB	12 BEBB	2 BEBB	
Forestburg												1 SEEBB													
Fort SK																1 SEEBB			2 SEEBB		2 SEEBB	6 SEEBB			
Grande Praire																								6 BEBB	
Green Haven Garden Ctr															1 SEEBB										
Hays																			1 BEBB			5 BEBB	9 BEBB	1 BEBB	
High River				4 SEEBB																					
Irvine																2 BEBB			1 BEBB	2 BEBB	1 BEBB	4 BEBB	4 BEBB	1 BEBB	2 BEBB
Killam							1 SEEBB																		
Kipp (Marshalling Yard)																			1 SEEBB						
Lethbridge								2 SEEBB	1 SEEBB			1 SEEBB	1 SEEBB	1 SEEBB	53 SEEBB	9 SEEBB	2 SEEBB	3 SEEBB 1 BEBB	13 SEEBB			4 SEEBB 1 BEBB		25 BEBB	45 EBB
Lethbridge Research Ctre																			1 SEEBB		7 SEEBB		1 BEBB		
Lloydminster							1 SEEBB										3 SEEBB	1 SEEBB						1 BEBB	
Medicine Hat					21 SEEBB	5 SEEBB	1 SEEBB						1BEBB	6 SEEBB	3 SEEBB	2 SEEBB	5 SEEBB 62 BEBB	4 SEEBB 600 BEBB	2 SEEBB 1998 BEBB	4067 BEBB	1033 BEBB	3448 BEBB	2544 BEBB 19	3289 BEBB	7669 BEBB
Milk River										1 SEEBB															
Morinville																					1 SEEBB				
Oyen																						1 BEBB	11 BEBB	47 BEBB	
Onefour																						1 BEBB			
Park Lake PP																								1 BEBB	1 BEBB
Picture Butte																		1 SEEBB							
Provost														1 SEEBB								3 BEBB	1 BEBB	15 BEBB	5 BEBB
Ralson																						1 BEBB			
Raymond												1 SEEBB													
Red Deer						1 SEEBB								14 SEEBB				1 SEEBB					1 SEEBB		
Springbank										1 SEEBB															
Spruce Grove																			1 SEEBB			3 SEEBB	4 SEEBB		
St. Albert															1 SEEBB			1 SEEBB	11 SEEBB	5 SEEBB	3 SEEBB	10 SEEBB	2 SEEBB		1 SEEBB
Stony Plain																		1 BEBB	1 SEEBB		1 SEEBB	5 SEEBB		18 SEEBB	
Strathcona County																						12 SEEBB			
Strathmore																			1 SEEBB						
Sylvan Lake																		1 SEEBB							
Taber Municipal Campground																									
Taber								2 SEEBB		1 SEEBB			1 SEEBB		1 SEEBB			2 SEEBB			1 SEEBB	8 BEBB	18 BEBB	27 BEBB	192 EBB
Tillebrook PP																						1 BEBB			1 EBB
Vauxhall			1 SEEBB																				3 BEBB	1 BEBB	
Vulcan																	1 SEEBB							2 BEBB	
Wainwright																	1 SEEBB						1 BEBB		3 BEBB
Walsh																			2 BEBB	5 BEBB	5 BEBB	5 BEBB			
Warner											1 SEEBB														
Wetaskiwin								17 SEEBB									1 SEEBB							1 BEBB	
Wildhorse																1 BEBB									

2018

- City of Lethbridge has scanned all the first set of satellite traps and is in the process of inspecting the second set of satellite traps. All suspect EBB have been sent to Dr. Ken Fry for verification.
- City of Red Deer has scanned all the satellite traps and have sent 14 EBB to Dr, Ken Fry for verification.
- Town of Okotoks has scanned their traps and has sent to Ken for verification.

Appendix IV - Public Awareness

- **Advertisements placed focusing on all firewood transportation and the elm pruning ban**
  - Travel Alberta Campground Guide
  - Alberta Guide to Hunting Regulations
  - Alberta Sportfishing Regulations
  - Barry Mitchell's Alberta Fishing Guide
  - Landscape Alberta LANDX – Nursery Membership Directory
  - The Alberta Association of Landscape Architects Membership Roster
  - Green Industry Conference and Trade Show edition
  - Alberta Outdooorsman
  - Stettler and Area Coffee News, 1 year
  - Communities in Bloom, ARPA
  - Jubilations Dinner Threatre Playbill for Calgary and Edmonton
- **DED Public Awareness Week** was recognized province wide from June 24th to June 30th. Article placed in Agri News which was picked up by local papers across the province. Many of the larger cities put on a public awareness campaign during this week.
- **Agri News –** runs DED articles regularly through the year
- **STOPDED E-Bulletin's** -As part of the ongoing efforts to keep members informed on DED and other related tree pest issues, an information E-Bulletin is regularly sent out.
- **STOPDED display units on DED and IAS purchased**
  6 separate displays units are available for use by Municipalities and Provincial Parks.
- **Posters and brochures**
  - Brochures and posters were sent to Municipalities and Provincial contacts to be placed in Municipal/Provincial campgrounds, provincial ports of entry and local information centres. These brochures and posters focus on the transportation of wood with bark.
  - Brochures and posters were sent to all 49 Accredited Community and Regional Visitors Information Centres and **Travel Alberta Visitor Information Centres.**
  - Brochures and posters were designed to focus more on municipalities outlining the elm pruning ban and storage of elm firewood.
- Purchased and distributed **Hazard elm tape and Save our Elms** packing tape for municipalities.
- Purchased promotional items, pens, safeguard aluminum wallets, folding foam can coolers and measuring spoon for tradeshows.
- **Conferences/Tradeshows attended with display**
  - Green Industry Conference/ Trade Show
  - International Society of Arboriculture (ISA) Prairie Chapter Tradeshow
  - Annual Provincial Agricultural Service Board Conference
  - 2018, South Region AAAF In Service Training Tradeshow sponsorship
  - Professional Vegetation Managers Association (PVMA) Tradeshow
  - Alberta Invasive Species Conference and AGM
- **STOPDED Hotline – 1-877-837-ELMS (3567)**
  - 236 calls on the DED Response Plan, Agricultural Pests Act, Plant Protection Act of Canada, storm damage, pruning ban, proper disposal tree care and DED symptoms.
- **STOPDED Website: DED website** updated when needed by Shelley Barkley, AF. The AF site is linked to www.stopded.org
- **STOPDED Facebook** administered by Cathy Reed**,** Strathcona County

Society To Prevent Dutch Elm Disease
(Incorporated 1993

Appendix V - STOPDED Board and Research Committee

Chair:	Michael Jenkins Pest Coordinator Animal Care& Pest Management City of Edmonton
Past Chair	Jacqueline Powell Certified Arborist & Utility Specialist Red Deer Regional Hospital
Vice Chair	Dr. Ieuan Evans Independent Forensic Plant Pathologist Spruce Grove
Secretary	Susan Katzell Urban Forestry Technician City of Red Deer
Treasurer	Scott Stanley Tree Services Team Lead City of St. Albert
Director North	Catherine Reed Operator II/Arborist Strathcona County
Director Central	Alexandra Pepperdine IPM Technician City of Calgary
Director South	Craig Renny Horticulture Service Foreman City of Medicine Hat
Research Committee	Mike Jenkins Dr. Ieuan Evans Lindsay Bell Jacquie Randle
Executive Director	Janet Feddes-Calpas