

Society To Prevent Dutch Elm Disease **(Incorporated 1993)**



2015-2016 Report

The Society To Prevent Dutch Elm Disease (STOPDED) Board and its membership, would like to thank Alberta Ministry of Agriculture and Forestry, Rural Development Division and the Forestry Division, for their annual financial support. Without this financial support from government and all of STOPDED's volunteers throughout the province, the level of vigilance we maintain would be impossible. The experience in the Provinces that are fighting DED has proven that a prevention management program is essential.

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1. STOPDED and the Societies Mandate and Objects

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 the program was terminated by the government in 2005, the society has been administrating and operating this successful prevention program. They work hard to avoid the economic, environmental and social impacts from Dutch elm disease and other invasive alien tree pest species.

The Society is committed to developing partnerships and working relationships. They now have an extensive network of partners across the province. Partnerships have been developed with:

- Alberta Agriculture and Forestry
- Olds College
- University of Alberta
- Canadian Food Inspection Agency (CFIA)
- Canada Border Services Agency (CBSA)
- Canadian Forest Service
- Northern Forestry Centre (CFS)
- Agriculture Fieldmen
- Alberta Municipalities
- Landscape Alberta Nursery Trades Association (LANTA)
- 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
- Provincial Parks and
- Other volunteers

STOPDED communicates regularly to all their members and partners. Updated information on DED and other invasive alien tree pest species is sent out by way of the STOPDED e-Bulletin.

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

Objects or Constitution of STOPDED:

- To primarily 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 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, for the public and for government agencies, the early detection of and rapid response to destructive invasive alien species that imperil landscape trees.

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2. Integrated DED Prevention Program Essential Components

A successful prevention program integrates all the following components, as listed below. 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. Response plan
- b. DED prevention/control measures are enforceable under the Agricultural Pest Act (APA).
- c. Elm firewood collection and disposal 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. However, some municipalities with less than 500 trees have traps because of their location is close to the Saskatchewan or Montana border.
 - Beetle populations must be 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.
- f. Sampling of DED suspicious elm trees.
- g. Public awareness on the disease identification and prevention is essential since DED detection and prevention often depends on the public scrutiny.
- h. Train the trainer to insure enforcement officers such as the Agricultural Fieldmen and Custom Officials are aware of DED and how to recognize and prevent the disease.
- 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, 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.

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3. 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, because no prevention was in place.
- b. DED is now well established in Manitoba (MB) and Saskatchewan (SK). These provinces are now forced to spend millions of dollars annually in control.
- c. DED is an invasive alien fungus known as *Ophiostoma ulmi* or *Ophiostoma nova ulmi* that can affect any elm (*Ulmus* spp.) tree. Once infected, the elm tree dies.
- d. The invasive alien insect 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*)
- e. SEEBB, NEBB and the DED pathogens are declared pests under the *Agricultural Pests Act*.
- f. The Canadian Food Inspection Agency administers the *Plant Protection Act* which regulates the movement of disease from DED infested provinces to DED free provinces.
- g. Human vector - domestic firewood movement.
- h. An elm inventory was completed in all the municipalities in the province of AB by STOPDED. Up to 50% of the overall tree plantings in municipal landscapes are elms.
- i. Alberta has an estimated 750,000 mature elm trees. A total of 250,000 elms, valued at \$700 million dollars, grow in Alberta's urban areas. The remaining 500,000 elms grow in provincial parks, farm shelterbelts and rural homesteads.
- j. Edmonton has 100,000 elms and Calgary 50,000 elms.
- k. Using the International Society of Arborists tree valuation calculator many AB elms are valued at approximately \$4,800 to \$6,000 dollars each.
- l. 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. growing fast on a wide variety of soils
 - ii. tolerant to drought conditions
 - iii. high salt tolerance in urban boulevard plantings
 - iv. one of the few species that can thrive in the AB extreme climactic conditions
- m. In 1975, DED was found in Winnipeg, Manitoba
- n. In 1976, both the pathogen and its beetle vectors were included in the APA.
- o. In 1981, DED found in Regina, Saskatchewan.
- p. DED is found in municipalities throughout Montana, USA.
- q. Since 1994, SEEBB and BEBB have been found in AB municipalities across the province.
- r. In 1998, an isolated case of DED was found in Wainwright by STOPDED. This tree was removed and properly disposed of immediately.
- s. As a result of vectors being found in AB, trapping locations and elm surveillance has been increased.
- t. From 1976 to 2004, ARD operated the *Provincial Dutch Elm Disease Prevention Program*.
- u. Since 2005, STOPDED has received Government funding to operate and administrate the program.
- v. STOPDED has been successful keeping AB DED free.
- w. Alberta is one of the last geographic areas in North America still DED free.

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

a. British Columbia

- i. SEEBB are found in high numbers in the southern part of the province. DED has not been found.

b. 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.
- iii. BEBB are being found in lower numbers in municipalities in the south eastern part of province.
- iv. All DED suspect 2015 elm samples have tested negative.

c. Saskatchewan

- i. Survey conducted by SK Ministry of Environment in 2015 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 was increased and no DED was found.
- iv. In 2015, one DED infected elm tree was found in Saskatoon for the first time.

d. 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.
- ii. With an effective DED Prevention/Management Program in place, the **City of Winnipeg's** elm losses 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. Since 1975, Winnipeg has spent \$69 million to protect their elm population.

e. Montana - DED and SEEBB are found throughout the state.

5. Budgets for DED Prevention & Management Program in SK, MB and AB

- City of Winnipeg annual budget is 3.68 million, this includes 1 million from the province.
- Province of Manitoba is \$1.5 million plus one full time person.
- Province of Saskatchewan is \$100,000.00 plus one full time person.
- City of Regina annual budget is \$145,000.00.
- AB annual budget is \$110,000.00. (see appendix V)

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6. Provincial DED Prevention Program Update

- a. **Monitoring for DED vectors** (SEEBB, NEBB and BEBB) runs from April 1st to Sept. 30th.
- Monitoring is done throughout the province to determine if the beetles are present.
 - A total of 1713 traps and lures are set by STOPDED and the larger cities province wide. The number of locations monitored is: **(See appendix II)**
 - 116 Municipalities (cities, towns, villages, hamlets),
 - 31 - Nurseries
 - 30 - Parks (Provincial and Municipal)
 - 5 - US/Canada Port of Entry
 - 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
 - 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.
 - 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 funded by STOPDED.
 - 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.
 - 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.

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	2013	2014	2015
Acadia Valley	2 BEBB	3 BEBB	5 BEBB
Bow Island	5 BEBB	5 BEBB	14 BEBB
Brooks	5 SEEBB	5 BEBB	14 BEBB
Calgary	500 SEEBB	17 SEEBB	9 SEEBB 1 BEBB
Castor			1 BEBB
Chauvin			1 BEBB
Coalhurst	1 SEEBB		
Consort			4 BEBB
Coutts	2 BEBB	2 BEBB	
Drumheller			1 BEBB
Dunmore	43 BEBB	43 BEBB	1 SEEBB 18 BEBB
Edmonton	14 SEEBB, 1 BEBB	14 SEEBB	82 SEEBB
Empress	1 BEBB	1 BEBB	11 BEBB
Fort Saskatchewan		2 SEEBB	6 SEEBB
Hays			5 BEBB
Irvine	2 BEBB	1 BEBB	4 BEBB
Lethbridge		7 SEEBB	4 SEEBB 1 BEBB
Medicine Hat	4067 BEBB	1033 BEBB	3448 Mainly BEBB
Morinville		1 SEEBB	
Oyen			1 BEBB
Onefour			1 BEBB
Provost			3 BEBB
Ralson			1 BEBB
Red Deer		1 SEEBB	
Spruce Grove			3 SEEBB
St Albert	5 SEEBB	3 SEEBB	10 SEEBB
Stony Plain		1 SEEBB	5 SEEBB
Strathcona County			12 SEEBB
Taber		1 SEEBB	4 BEBB
Walsh	5 BEBB	5 BEBB	5 BEBB
Tillebrook PP			1 BEBB

Provincial EBB			
Total	4653	1141	3639
# positive locations	13	18	26

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- 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 in first set of traps.
- c. **DED suspect sampling:** Arrangements were made to have samples taken from all suspect DED elm trees samples by STOPDED. These were sent to University of Alberta for diagnosis.
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 III)
- e. **Train the trainer:**
 - i. Contact was made with Custom Officials to insure that they understood the importance of collecting firewood. Since not all custom officials can identify firewood by the bark. they were 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. Some Cities are updating this inventory.
- g. **Provincial and inter-provincial network**
 - E-bulletins sent to British Columbia, Saskatchewan and Manitoba contacts.
 - Communication is made via email and phone for regular pest's 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. 2015 projects approve are:

 - i. Surveillance of elm trees for DED in municipalities along AB/SK border.
 - ii. Monitoring for Invasive Alien Wood Boring Species in Alberta
- j. **Alberta DED Response Plan** is in place.
- k. **Alberta DED Prevention/Control Measures** are in place.
- l. Alberta has a “**Provincial Elm Pruning Ban**” from April 1st to September 30th in place.

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7. 2015 Research Projects

a. **Monitoring for EBB in the months of April and October**

The elm bark beetles (EBB) and Dutch elm disease (DED) have been declared pests under the Agricultural Pests Act (APA) since 1976. As a prevention and control measure under this act, the provincial elm pruning ban which runs from April 1 to September 30 has been in place since that time. These dates were based on the beetle activity of the NEBB and the SEEBB in other parts of Canada mainly Manitoba where DED was found.

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 is a concern the pruning ban dates in place are appropriate for Alberta. In order to change these dates under the APA a minimum of 3 years of data must be collected province wide to support the change. STOPDED's goal is to collect data collected from separate traps set up in April and October. In 2015, separate traps have been placed by STOPDED and cooperators. All traps have been sent to Mike Jenkins, City of Edmonton, for processing.

Traps have been place in the following municipalities in locations that have historically caught EBB.

- Edmonton 12 traps
- Lethbridge 8
- Medicine Hat 8
- Red Deer 6
- Calgary 10
- Acadia Valley 1
- Dunmore 1
- Walsh 1
- Bow Island 1
- Warner 1
- Milk River 1
- McGrath 1
- Cardston 1
- Taber 1

b. **Monitoring for Emerald Ash Borer in AB**

The emerald ash borer 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, 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.

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 in AB through regulatory means and surveys. STOPDED has partnered with CFIA and has purchased traps out of casino funds to supplement the CFIA's surveys. STOPDED also sends information on EAB and updates to their members by way of e-Bulletin.

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c. Monitoring Invasive Alien Wood Boring Insects in AB Project

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

Provincial and Municipal 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 2011 between 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

The Monitoring Invasive Alien Wood Boring Insects Project in AB project is coordinated by STOPDED, traps and lures funded by CFIA and curation 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. Curation is not complete for 2015.

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STOPDED Organization Accomplishments

- d. Reliable system & infrastructure to survey for DED and DED vectors monitoring is in place.
- e. Reliable system & infrastructure to survey for other IAS tree pest.
- f. Signage is placed at all AB road entrances and exits asking to prevent Forest Pests and DED by not transporting firewood.
- g. **STOPDED Hotline** 1-877-837-ELMS is in place.
- h. Memorandum of Understanding between Olds College and STOPDED was signed in 2009.
- i. **Invasive Alien Species (IAS) Partnership** - STOPDED's insect collection is now 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 insect curation.
- j. Volunteers are secured for a casino fund raising events. These funds are being used for research, additional public awareness and educational workshops.
- k. Agriculture Fieldmen and their Assistants are recognized as associate membership. This membership recognizes our ongoing working relationship/partnership to help prevent DED.
- l. **Research Committee established terms of reference**, mandate, composition and membership. Two key functions include:
 - 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.
- m. **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.
- n. **Scholarships:** four worthy Olds College horticultural and arboricultural students receive these annual scholarships using casino funds.
- o. **STOPDED website (www.stopded.org)** is housed under AAFD "Ropin' the Web."

8. STOPDED Goals for the Future

- Continue to secure funding from Government agencies to operate the *Provincial Dutch Elm Disease Prevention Program*.
- Continue to form partnerships so prevention program components and projects can be done more efficiently and effectively.
- BEBB is a new vector of DED and has been found in larger number in 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 on DED and other invasive tree pests.
- Continue research effective methods of advertising.
- Update DED Response Plan when needed
- Continue working with AAF Pest Surveillance Branch to include DED prevention/control measures as Agricultural Pests Act Regulations.
- Keep Alberta free of DED and other IAS tree pests.

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Appendix I Provincial Monitored Locations

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

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

Municipality	Sites	Responsibility	Municipality	Sites	Responsibility
AcadiaValley, M.D. of	1	STOPDED	High River, Town of	2	STOPDED
Airdrie, City of	2	CGY	Innisfail, Town of	1	RD
Ardrossan, Hamlet of	1	SC/EDM	Irvine, Village of	1	MH
Balzac, Hamlet of	1	CGY	Kathryn, Hamlet of	1	RV/CGY
Barnwell, Village of	1	LB	Keoma, Hamlet of	1	RV/CGY
Barrhead, Town of	1	STOPDED	Killam, Town of	2	STOPDED
Barons, Village of	1	LB	Lacombe, Town of	3	RD
Beaumont, Town of	1	EDM	Langdon, Hamlet of	1	RV/CGY
Beiseker, Village of	1	RV/CGY	Leduc, City of	3	EDM
Bentley, Village of	1	RD	Legal, Town of	1	SA/EDM
Bon Accord, Town of	1	EDM	Lethbridge, City of	48	LB
Bonnyville, Town of	1	STOPDED	Leth Correctional Centre	1	LB
Bowden, Town of	1	RD	Leth Research Centre	1	LB
Bow Island, Town of	1	MH	Leth. Wilson Siding	1	LB
Brooks, Town of	7	STOPDED	Lloydminster, City of	7	STOPDED
Bruderheim , Town of	1	SC/EDM	Magrath, Town of	1	LB
Calgary, City of	57	CGY	Medicine Hat, City of	36	MH
Calmar	1	EDM	Milk River, Town of	2	STOPDED
Camrose, City of	3	STOPDED	Mirror, Village of	1	RD
Camrose, County of	2	STOPDED	Monarch, Hamlet of	1	LB
Round Hill, Hamlet of	1	STOPDED	Morinville, Town of	1	EDM
New Norway, Hamlet of	1	STOPDED	Nanton, Town of	1	STOPDED
Cardston, Town of	1	STOPDED	Nobleford, Village of	1	LB
Castor, Town of	1	STOPDED	Okotoks, Town of	2	CGY
Cereal, Village of	1	STOPDED	Olds, Town of	1	STOPDED
Chauvin, Village of	1	STOPDED	One Four, Hamlet of	1	MH
Chestermere, City of	1	CGY	Oyen, Town of	2	STOPDED
Claresholm, Town of	2	STOPDED	Picture Butte, Town of	1	LB
Coaldale, Town of	2	LB	Pincher Creek, Town of	1	STOPDED
Coalhurst, Town of	2	LB	Ponoka, Town of	2	RD
Consort, Town of	3	STOPDED	Provost, Town of	2	STOPDED
Coronation, Town of	2	STOPDED	Raymond, Town of	3	LB
Coutts, Village of	2	STOPDED	Redcliff, Town of	1	MH
Dalroy, Hamlet of	1	RV/CGY	Red Deer, City of	48	RD
Daysland, Town of	1	STOPDED	Redwater, Town of	2	EDM
Delburne, Village of	1	RD	Rimbey, Town of	1	RD
Devon, Town of	2	EDM	Sherwood Park	2	SC/EDM
Diamond Valley	1	LB	Springbank, Hamlet of	1	RV/CGY
Drayton Valley, Town of	1	STOPDED	Springbrook, Hamlet of	1	RD
Drumheller, Town of	3	STOPDED	Spruce Grove, City of	2	EDM
East Coulee, Hamlet of	1	STOPDED	St. Albert, City of	12	SA/EDM
Nacmine, Hamlet of	1	STOPDED	Stettler, Town of	2	STOPDED
Rosedale, Hamlet of	1	STOPDED	Stirling, Village of	1	LB
Eckville, Town of	1	RD	Stony Plain, Town of	3	EDM
Edgerton, Village of	1	STOPDED	Strathcona County	8	EDM
Edmonton, City of	48	EDM	St. Paul, Town of	2	STOPDED
CDCN	1	STOPDED	Strathmore, Town of	2	CGY
Elnora, Village of	1	RD	Suffield, Hamlet of	1	MH
Empress, Village of	2	STOPDED	Sylvan Lake, Town of	1	RD
Enchant, Village of	1	STOPDED	Taber, Town of	5	LB
Forestburg, Village of	5	STOPDED	Three Hills, Town of	1	STOPDED
Fort Macleod, Town of	1	LB	Vauxhall, Town of	2	STOPDED
Fort Saskatchewan, City of	6	EDM	Vegreville, Town of	2	STOPDED
Gibbons, Town of	1	EDM	Vermilion, Town of	1	STOPDED
Grande Prairie, City of	3	STOPDED	Veteran, Village of	1	STOPDED
Grassy Lake, Hamlet of	1	MH	Viking, Town of	1	STOPDED
Hanna, Town of	2	STOPDED	Vulcan, Town of	1	STOPDED
High Prairie, Town of	2	STOPDED	Wainwright, Town of	4	STOPDED

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Walsh Travel Info. Centre	1	MH	Wetaskiwin, City of	3	STOPDED
Warner, Town of	2	STOPDED	Youngstown, Village of	1	STOPDED

Nurseries #Sites Responsible

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

Parks #Sites Responsible

Aspen Beach PP	3	STOPDED
Big Knife 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 Resort	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
Tillibook 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

Dutch Elm Disease Vectors (elm bark beetles EBB) found in Alberta since 1994

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		
Acadia Valley																								
Balzac						1 SEEBB				1 SEEBB														
Barnwell								1 SEEBB																
Beiseker																								
Bow Island																								
Brooks																								
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	20 SEEBB	500 SEEBB	17 SEEBB	9 SEEBB	14 BEBB	
Castor																								
Chauvin																								
Coaldale																								
Coalhurst																								
Consort																								
Coutts						1 SEEBB		1 SEEBB																
Drumheller																								
Dunmore																								
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 SEEBB	8 BEBB	43 BEBB	28 SEEBB	14 SEEBB	82 SEEBB	
Empress																								
Forrestburg																								
Fort SK																								
Green Haven Garden Ctr																								
Hays																								
High River																								
Irvine																								
Kilham																								
Kipp (Marshalling Yard)																								
Lethbridge																								
Lethbridge Research Ctr																								
Lloydminster																								
Medicine Hat					21 SEEBB		1 SEEBB	1 SEEBB																
Milk River																								
Morinville																								
Oxen																								
Onefour																								
Picture Butte																								
Provost																								
Rahon																								
Ravmond																								
Red Deer																								
Springbank																								
Spruce Grove																								
St. Albert																								
Stony Plain																								
Strathcona County																								
Strathmore																								
Sylvan Lake																								
Taber Municipal Campground																								
Tillbrook PP																								
Vanahall																								
Yukon																								
Wainwright																								
Walsh																								
Warner																								
Wetaskiwin																								
Wildhorse																								

Appendix II

Society To Prevent Dutch Elm Disease (Incorporated 1993)



Appendix III

Public Awareness

- **Advertisements placed focusing on all firewood transportation and the elm pruning ban**
 - 2015 Travel Alberta Campground Guide
 - 2015 Alberta Guide to Hunting Regulations
 - 2015 Alberta Sportfishing Regulations
 - Landscape Alberta Nursery Association (LANTA) LANDX (nursery resource listing)
 - The Alberta Association of Landscape Architects 2015 Membership Roster
 - Green Industry Conference and Trade Show 2015 edition
 - Alberta Outdoorsman June 2015 editions
- **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.
- **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 Municipals or 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 sent to the Women's Arboriculture Conference Mar 5-7
 - New brochures and posters were designed and ordered which focus more on municipalities outlining the elm pruning ban and storage of elm firewood.
- **Conferences/Tradeshows attended with display and brochures**
 - Green Industry Conference/ Trade Show – Nov 19-20
 - International Society of Arboriculture (ISA) Prairie Chapter Tradeshow, Oct 19-20
 - Annual Provincial Agricultural Service Board Conference
 - Industrial Vegetation Management Association (IVMAA) of AB Tradeshow
 - Alberta Invasive Species Conference and AGM attended
 - Sawmilling and Wood Waste Workshop by Alberta Wood Waste Recycling Association
- **STOPDED Hotline – 1-877-837-ELMS (3567)**
 - 289 calls on the DED Response Plan, Agricultural Pests Act, Plant Protection Act of Canada, storm damage, pruning ban, proper disposal, proper tree care and DED symptoms.
- **STOPDED Website:** ARD Ropin the Web **DED website** updated when needed by AAFD. The ARD site is linked to www.stopded.org

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Appendix IV STOPDED Board

Chair:	Jacqueline Powell Red Deer Regional Hospital Certified Arborist & Utility Specialist Red Deer
Past Chair	Milton Davies Arbor-Pro Tree Consulting Ltd. Consultant Edmonton
Vice Chair	Michael Jenkins Biological Technician City of Edmonton
Secretary	Dr. Ieuan Evans Agri Trends Consultant Spruce Grove
Treasurer	Laura Gillespie Horticulturist Town of Innisfail
Director North	Scott Stanley Tree Services Team Lead City of St. Albert
Director Central	Susan Katzell Urban Forestry Technician City of Red Deer
Director South	Craig Renny Horticulture Service Foreman City of Medicine Hat
Research Committee	Jackie Powell Dr. Ieuan Evans Lindsay Bell Jacquie Randle Vacant
Executive Director	Janet Feddes-Calpas