

Oak Wilt Control in Belle Isle Park



Heidi Frei, Michigan DNR, Parks and
Recreation Division, Stewardship Unit
11/17/2016

Oak Wilt Overview

- Invasive, fungal disease that rapidly kills red oaks
 - Spreads aboveground
 - Spread underground via root grafting
- Trees must be removed and destroyed or infection will continue





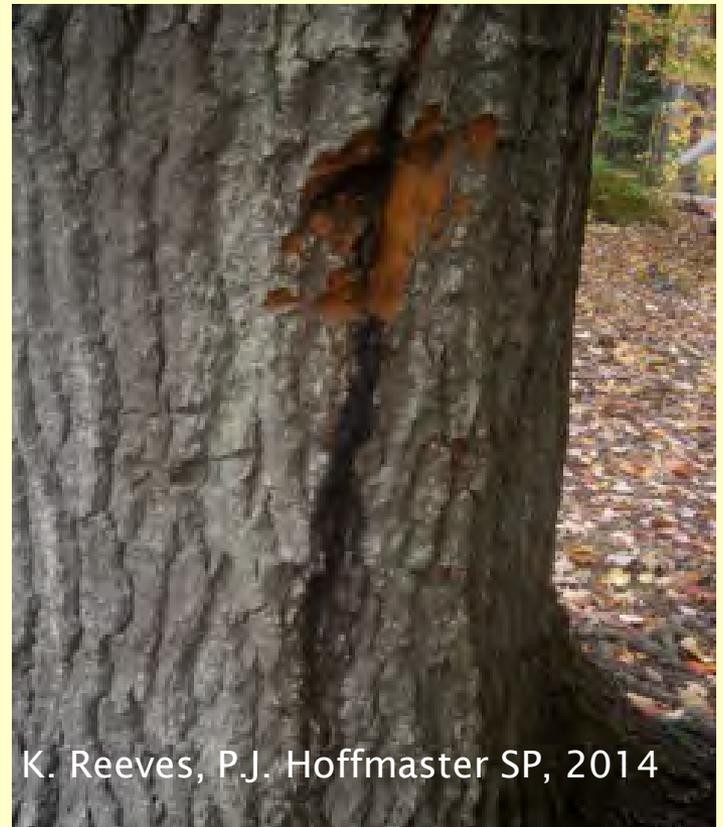
MDNR, P.J. Hoffmaster SP, 2014



MDNR, Rifle River RA, 2014



MDNR, Rifle River RA, 2014



K. Reeves, P.J. Hoffmaster SP, 2014



Oak Wilt



MDNR, Rifle River RA



NC State



USDA Forest Service





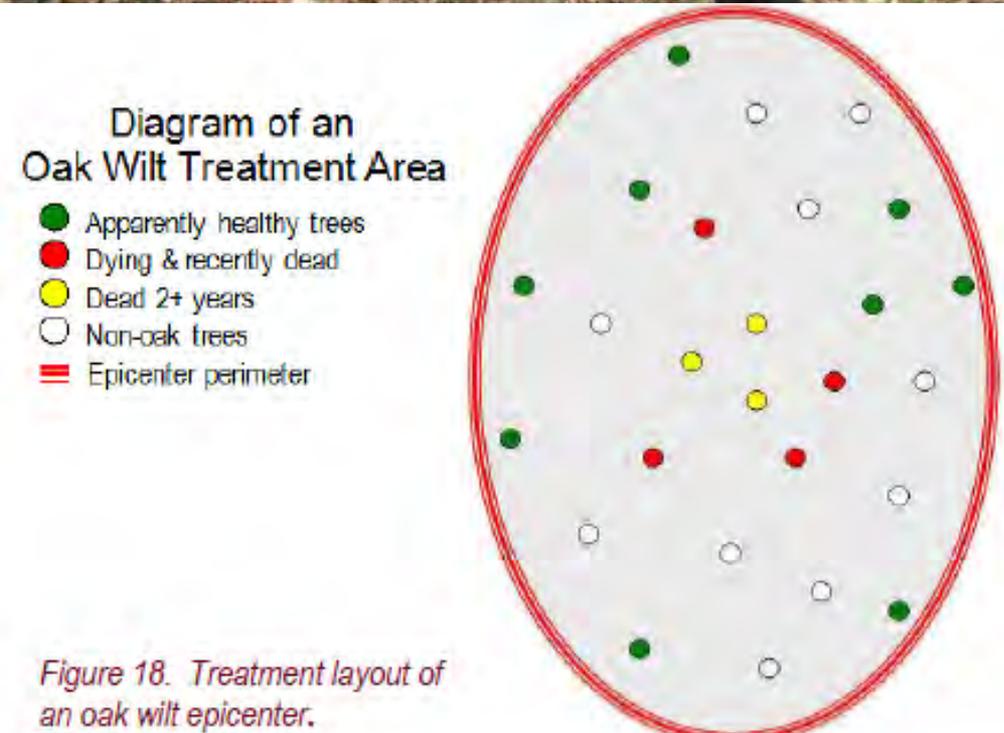
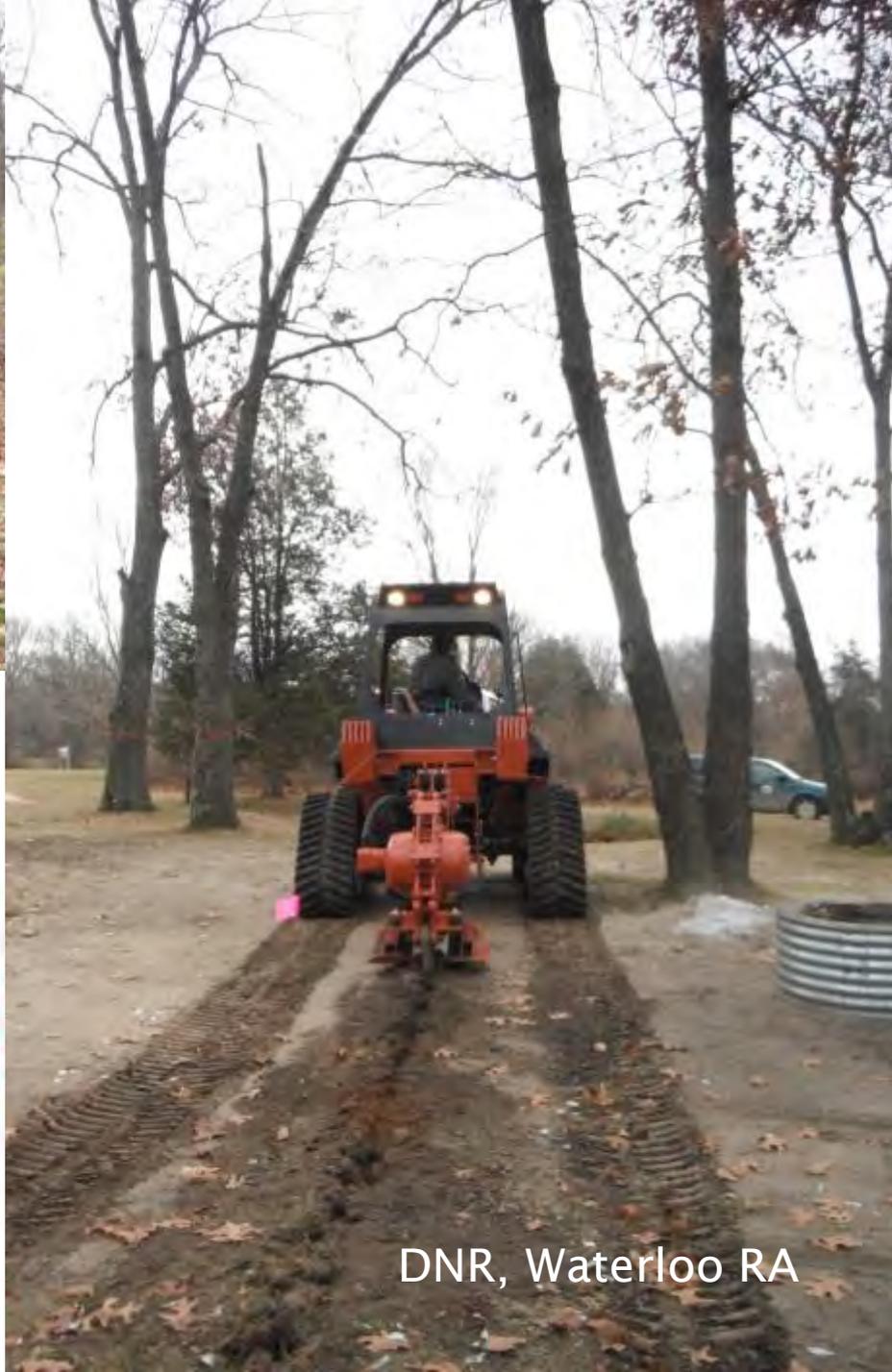
K. Reeves,
P.J. Hoffmaster SP

Table 1. Determining the distance of the two barrier lines from an infected tree. Distance in feet is listed below the soil type.

Size of Two Trees Combined	95% Barrier Line		98% Barrier Line	
	Soil Type		Soil Type	
Combined DBH*	Loamy soil	Sandy soil	Loamy soil	Sandy soil
Inches	feet	feet	feet	feet
2	3	4	4	5
4	6	8	8	10
6	9	12	12	15
8	12	16	16	20
10	15	19	20	26
12	19	23	24	31
14	22	27	29	36
16	25	31	33	41
18	28	35	37	46
20	31	39	41	51
22	34	43	45	56
24	37	47	49	61
26	40	50	53	66
28	43	54	57	72
30	46	58	61	77
32	49	62	65	82
34	53	66	69	87
36	56	70	73	92
38	59	74	77	97
40	62	78	81	102
42	65	82	85	107
44	68	85	89	112
46	71	89	94	117
48	74	93	98	123

Setting points at the calculated distances will provide a barrier that gives a probability of 95 percent and a second probability of 98 percent that healthy trees outside the barrier will not become infected in a year. Measure the diameter at breast height (DBH) of the infected tree and add this to the diameter of a nearby healthy tree (combined DBH). Refer to the table; opposite the combined DBH is the distance that should guide you in determining the barrier. The distance is measured*







01/03/2006

DNR, P.J. Hoffmaster SP



P.J. Hoffmaster State Park
Campground Loop A
Winter 2013

01/14/2006

DNR, P.J. Hoffmaster SP

Fungistat Treatment

- No cure for oak wilt, only preventative treatments





'SP' tree

Brighton, RA, Equestrian camp

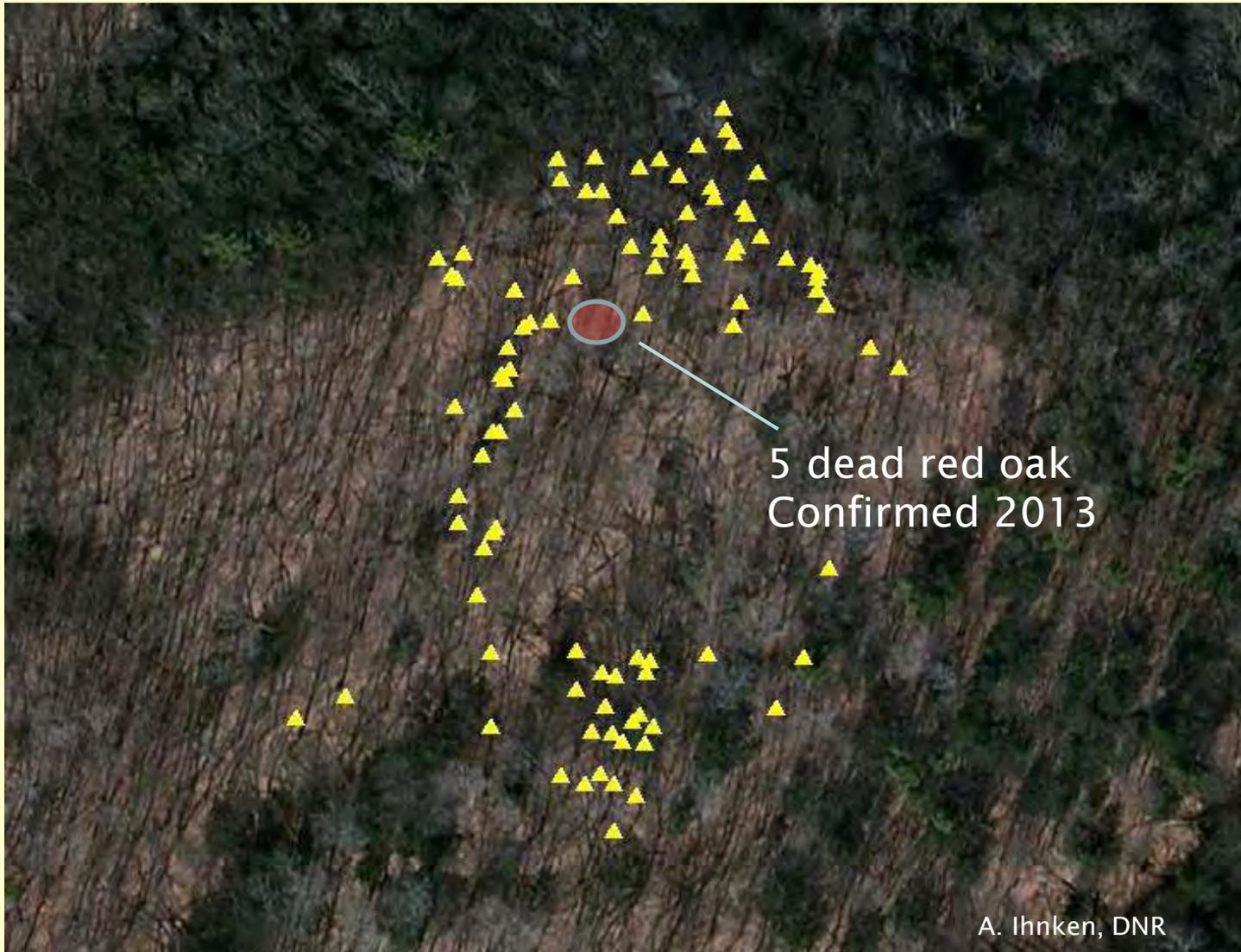




Waterloo RA, Green Lake camp



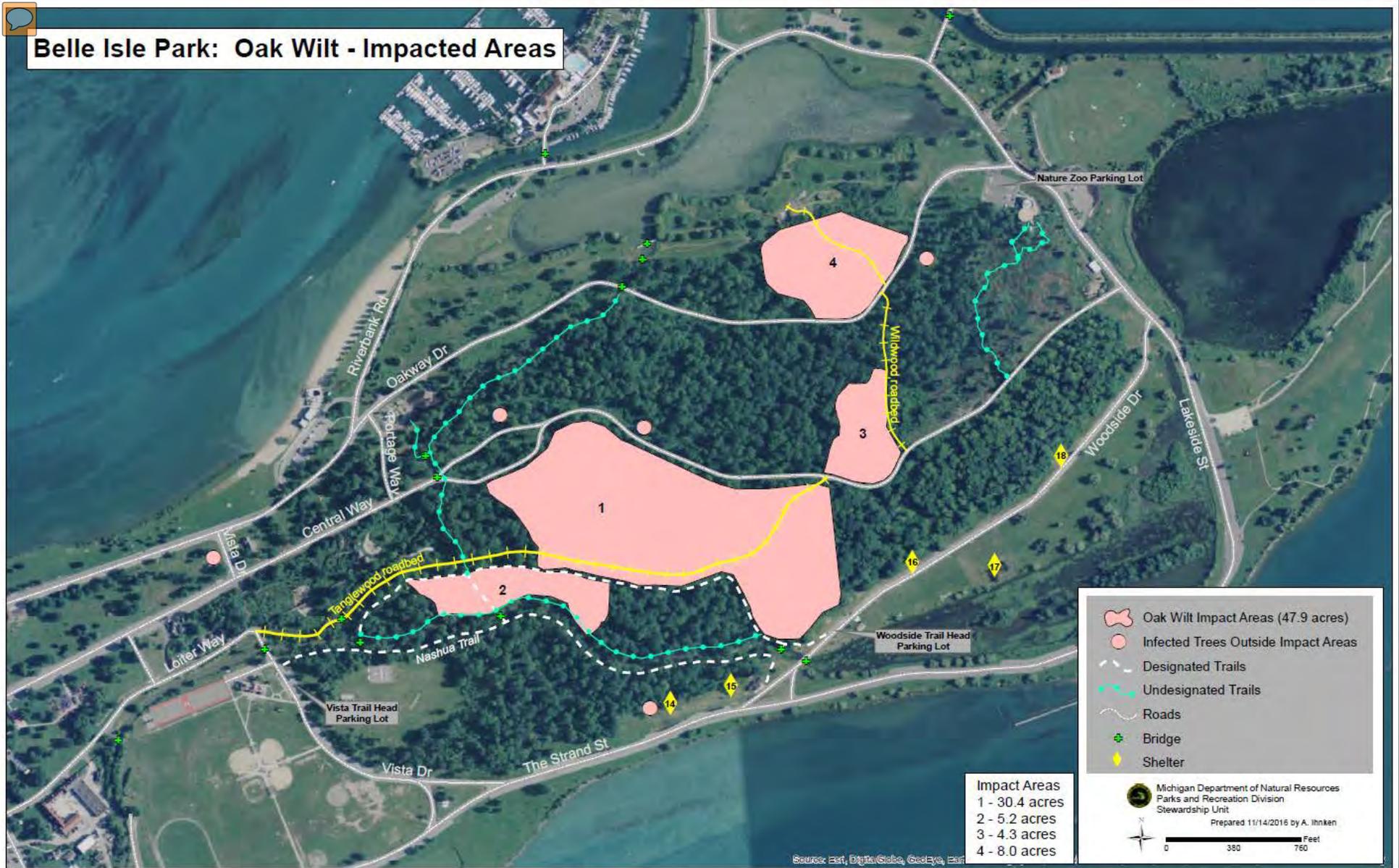
Fungistat Treatment



5 dead red oak
Confirmed 2013

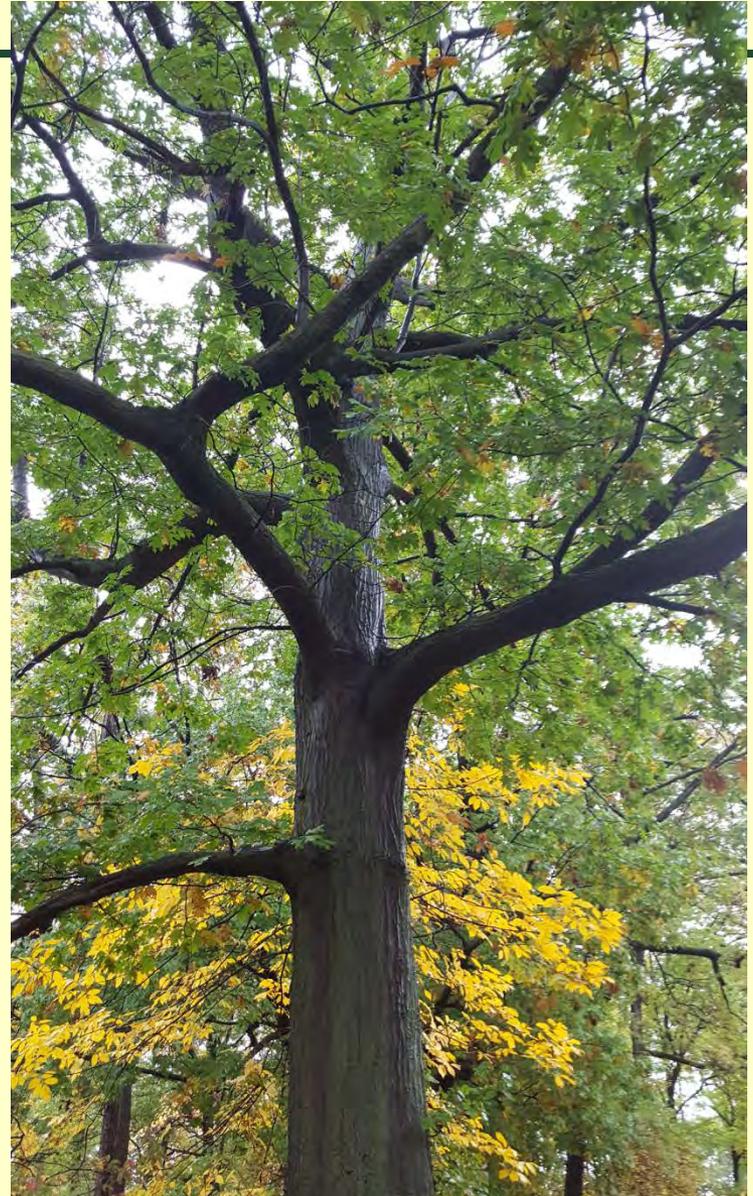


Belle Isle Park: Oak Wilt - Impacted Areas



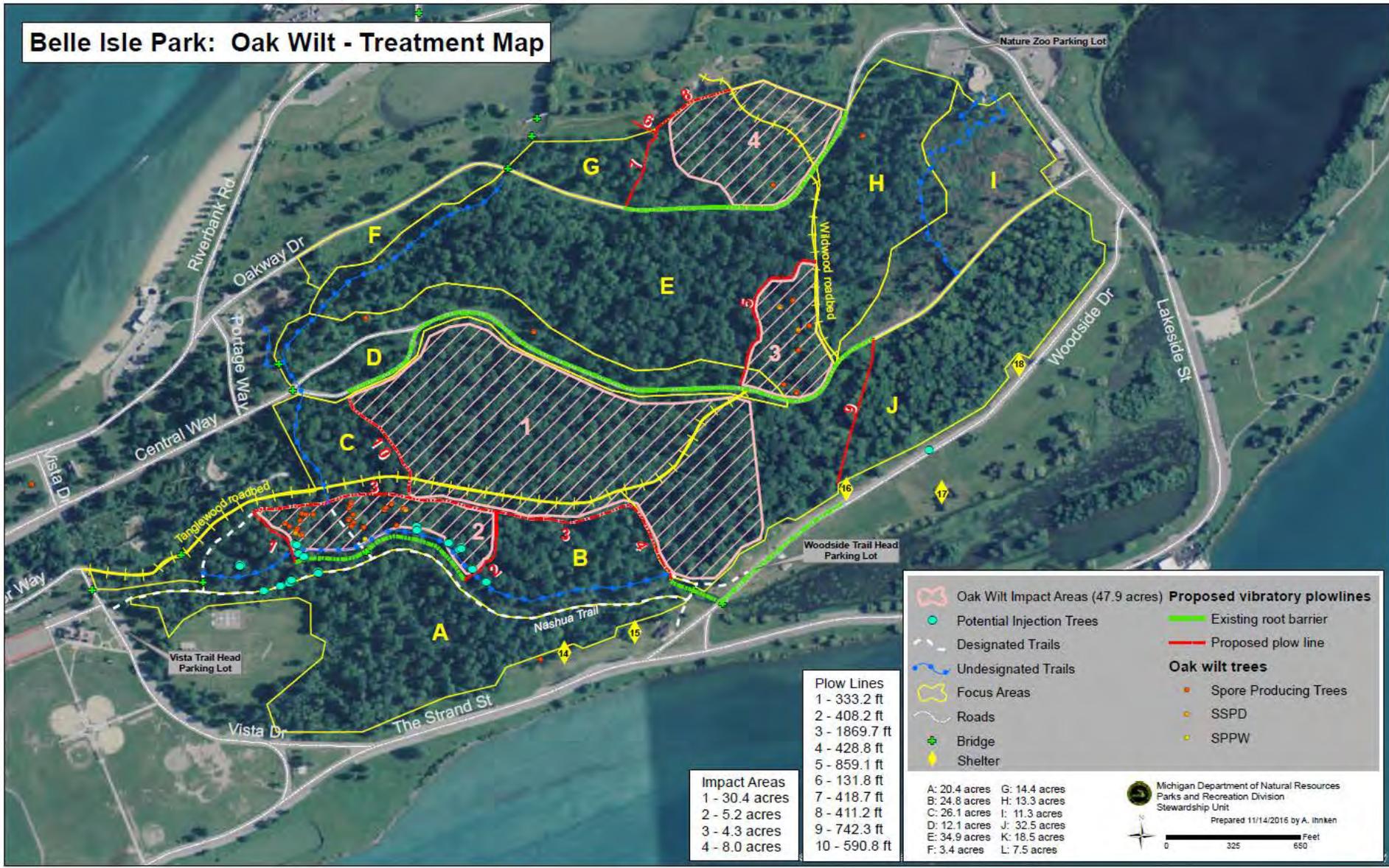
Belle Isle Oak Wilt Plan

- Zones 1,2,3,4:
Protect uninfected forests from root grafting
 - Root graft barriers
- Zones 2,3,4: Inject select trees
- Preventative treatment:
landscape trees





Belle Isle Park: Oak Wilt - Treatment Map



Impact Areas
1 - 30.4 acres
2 - 5.2 acres
3 - 4.3 acres
4 - 8.0 acres

Plow Lines
1 - 333.2 ft
2 - 408.2 ft
3 - 1869.7 ft
4 - 428.8 ft
5 - 859.1 ft
6 - 131.8 ft
7 - 418.7 ft
8 - 411.2 ft
9 - 742.3 ft
10 - 590.8 ft

	Oak Wilt Impact Areas (47.9 acres)		Proposed vibratory plowlines
	Potential Injection Trees		Existing root barrier
	Designated Trails		Proposed plow line
	Undesignated Trails		Spore Producing Trees
	Focus Areas		SSPD
	Roads		SPPW
	Bridge		
	Shelter		

A: 20.4 acres	G: 14.4 acres
B: 24.8 acres	H: 13.3 acres
C: 26.1 acres	I: 11.3 acres
D: 12.1 acres	J: 32.5 acres
E: 34.9 acres	K: 18.5 acres
F: 3.4 acres	L: 7.5 acres

Michigan Department of Natural Resources
 Parks and Recreation Division
 Stewardship Unit
 Prepared 11/14/2016 by A. Ittken

0 325 650 Feet





Questions?
Heidi Frei
freih@michigan.gov

