Community Threat Assessment Protocol Project Summary

Beginning in the summer of 2011, the Nebraska Forest Service, NFS, began establishing and executing rapid community forest inventories through the "Community Threat Assessment Protocol" project, or CTAP. This effort to establish a new inventory protocol is a response to the increasing concern of forest insect, disease, and wildfire threats in Nebraska. These resulting inventories are aimed at providing communities with current information about their community forest resources, enabling them to make educated management decisions based on the data collected. This project was funded by a Redesign grant from the US Forest Service.

These CTAP inventories collected data on all actively managed, publicly owned trees within parks and in easements or planting strips along streets. These street tree inventories are considered "windshield inventories" as they were conducted from inside of a vehicle. To complete the street tree inventories, NFS summer employees were partnered with community staff or volunteers to drive every street in the community and collect data regarding all appropriate trees. Park trees were inventoried on foot by visiting and collected data about each tree. The information that was collected includes tree location (by marking the tree location using computer mapping), tree species, stem diameter at 4.5 feet, and tree condition (a general statement of a tree's health at the moment of inventory).

The purpose of this report is to provide the current information to accomplish the next step in community forest management which is a complete, overall management plan.

Hickman, NE Community Tree Inventory Summary

During the inventory in Hickman, there were 483 trees inventoried representing 39 different species, see Appendix A. The top ten species inventoried were crabapple spp., Ash spp., Silver maple, pin oak, hackberry, Northern red oak, pear spp., Austrian pine, honeylocust, and Scotch pine, see Appendix B. Of these species, crabapple spp. and ash spp. were both above or very near 10% of the total community forest resource. As a rule, no single tree species should be more than 10% of any community's tree resource. When tree species exceed this 10% threshold, it can signify low species diversity, which can increase the potential impact of insect and disease issues on the community's trees as a whole.

The relative age, or stem diameter distribution, can say a lot about a community's tree resource. It can provide clues about current or previous planting habits, types of trees being planted, and estimates about the longevity of existing trees. Hickman shows a fairly young forest resource, with 72.5% of all trees under 12 inch diameter, see Appendix C. This can be rationalized by looking at the top tree species. Crabapple trees don't often grow beyond a 12 inch diameter and ash trees have been very popular trees with in the past decade. These two facts demonstrate the effect young trees and small diameter tree species have on the relative age of a community forest. Studies show that large, shade tree species provide more environmental benefits such as household utility savings, improving air quality and the beneficial use of rain water. With less than 13% of the current trees being larger than 18 inches in diameter, we can see that there are not very many "mature," large trees within the community. The best way to increase the number of large tree specimens within the community is to annually plant a number of large shade tree species that will be able to withstand the weather conditions in the area, while providing sound tree care and maintenance. Planting high quality, site appropriate trees will reduce annual tree removals because of the improved overall health of the community's trees, leading to reduced tree care costs.

Overall tree condition can be a good way to judge the general health of a tree. In our inventories, trees were placed in one of four categories based on the overall appearance of the tree at the time of the inventory. These categories are…

- Excellent – Healthy, vigorous tree. No apparent signs of insect, disease, or mechanical injury. Little or no correction work required. Form representative of species
- Good – Average condition and vigor for area. May be in need of some corrective pruning or repair. May lack desirable form characteristics of species.
- Fair – General state of decline. May show severe insect, disease, or mechanical damage, but death not imminent. May require major repair in renovation.
- Poor – No chance of correcting a declining condition, death imminent.

This tree condition designation is not a substitute for in-depth tree inspections which should be completely on all questionable trees. Overall, trees in Hickman appear to be generally healthy with only 10.5% of the tree population being in fair or poor condition, see Appendix D.

Community trees provide more than just simply a good looking street or boulevard. In fact we can now put monetary values to the energy, CO2, air quality, stormwater, and aesthetic benefits that community trees provide. In Hickman, the community forest provides total annual benefits of $25,048, see Appendix E. Two things a community can do to increase the benefits they receive from the community forest are improve overall tree health in the community and plant more large, canopy shade trees.

An important number for communities to know is the replacement value of their trees. Replacement values are estimates of the full cost of replacing trees in their current condition, should they be removed for some reason. These estimates are meant for the population as a whole and not intended to be used on a tree-by-tree basis. The replacement value for Hickman's public trees is $419,896, see Appendix F.

Street Trees

There were 238 street trees inventoried in Hickman, representing 25 different species, see Appendix G. The top five species inventoried during the street tree inventory were crabapple spp., pin oak, ash spp., silver maple, and pear spp., see Appendix H. Crabapple spp., pin oak, ash spp., and silver maple were all over the 10% diversity threshold, crabapple spp. was severely over planted at more than 20% of street trees. One way that foresters analyze the appropriate number of trees planted in a community is to look at the community's stocking rate. The "rule of thumb" for community forestry is that a community is fully stocked when there are roughly 200 trees per street mile. According to the Nebraska Department of Roads, in 2007 there were 10.47 miles of road in Hickman. This leads to a stocking rate of 22.7 trees/street mile and a stocking rate of 11.4%, see Appendix I. For guidelines on identifying current planting vacancies and increasing stocking rates, see Appendix I. This shows a very under stocked community forest and illustrates the availability of planting sites throughout the community. The street trees in Hickman were in good shape, with only 6.3% of the inventoried trees in fair or poor condition, see Appendix J.

Park Trees

There were 245 park trees identified in Hickman, representing 33 different species, see Appendix K. The top five species inventoried during the park tree inventory were hackberry, Austrian pine, Ash, Scotch pine, and crabapple spp, see Appendix H. All species inventoried were under the 10% threshold. This represents a good diversity of species within the community's parks. Seeing as parks value open space as much as shade, stocking rate does not apply. The Nebraska Forest Service would simply stress the importance of shade when creating comfortable community parks. The park trees in Hickman were in fairly good shape, with 14.7% of the inventoried trees in fair or poor condition, see Appendix L.

Recommendations

To improve the overall community forest with in Hickman, here are a few general recommendations regarding management.

1. Due to potential forest health threats, planting of ash spp., Scotch pine, and black walnut should be discontinued.
2. Reduce planting of currently over planted tree species. In Hickman, those would be crabapple spp. and ash spp.
3. Work to increase stocking rate and decrease planting vacancies by increasing overall tree planting, see Appendix M for potential tree planting grant funds.
4. Increase planting of less common, yet site appropriate species, see Appendix N.
5. Maintain an annual tree planting regime to work towards an even size distribution among the community trees.
6. Complete individual tree health assessments on problem trees.
7. Work with community maintenance staff and state and local resources to establish a management plan for the community.

APPENDIX I

Stocking Rate Math

238 inventoried street trees divided by 10.47 street miles = 22.73 trees/street mile

22.73 trees/street mile divided by 200 trees/street mile = 11.4% stocked
(Actual) (Preferred)

200 trees/street mile X 10.47 street miles = 2094 trees if Hickman were fully stocked

Identifying Planting Vacancies

1. Look into community ordinances involving tree planting near streets
2. Visit planting site in question
3. Look for overhead power lines and surface obstacles (mailboxes, fire hydrants, etc.)
4. Locate underground obstacles (water lines, power lines, etc.)
5. If no issues found, identify proper tree species for the site

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

Appendix F

Appendix G

Appendix H

Appendix J

Appendix K

Appendix L

Appendix M

Will be a list
of tree
planting grants
from NFS

Appendix N

Will be
ReTree's top 12
trees for 2012

Appendix O

Maps

Hickman

Complete Population of Public Trees

Appendix A

12/15/2011

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error
Broadleaf Deciduous Large (BDL)											
Silver maple	1	1	11	8	6	3	1	0	2	33	
Pin oak	0	0	0	4	17	9	2	0	0	32	
Northern hackberry	9	2	9	4	5	2	0	0	0	31	
Northern red oak	5	5	14	1	0	0	0	0	0	25	
American basswood	5	3	9	0	1	0	0	0	0	18	
Maple	5	8	1	0	0	0	0	0	0	14	
Bur oak	10	1	1	1	0	0	0	0	0	13	
Red maple	4	7	0	0	0	0	0	0	0	11	
Black walnut	0	0	3	3	2	2	0	0	0	10	
Kentucky coffeetree	5	0	1	0	0	0	0	0	0	6	
Sugar maple	0	2	2	1	0	0	0	0	0	5	
Shingle oak	3	1	0	0	0	0	0	0	0	4	
Chinkapin oak	3	0	0	0	0	0	0	0	0	3	
Baldcypress	3	0	0	0	0	0	0	0	0	3	
Eastern cottonwood	0	0	0	0	0	1	0	0	1	2	
American sycamore	0	0	0	1	0	0	0	0	0	1	
Total	**53**	**30**	**51**	**23**	**31**	**17**	**3**	**0**	**3**	**211 (±NaN)**	
Broadleaf Deciduous Medium (BDM)											
Ash	2	7	29	6	3	0	0	1	0	48	
Callery pear	1	3	11	9	0	0	0	0	0	24	
Honeylocust	0	0	11	9	1	0	0	0	0	21	
Norway maple	2	0	4	0	0	0	0	0	0	6	
Swamp white oak	3	0	1	1	0	0	0	0	0	5	
Willow	3	0	0	0	0	0	0	0	0	3	
Siberian elm	0	1	1	1	0	0	0	0	0	3	
Ginkgo	1	0	1	0	0	0	0	0	0	2	
River birch	1	0	0	0	0	0	0	0	0	1	
Total	**13**	**11**	**58**	**26**	**4**	**0**	**0**	**1**	**0**	**113 (±NaN)**	
Broadleaf Deciduous Small (BDS)											
Apple	13	35	17	3	0	0	0	0	0	68	
Eastern redbud	6	1	0	0	0	0	0	0	0	7	
Hawthorne	2	2	0	0	0	0	0	0	0	4	
Japanese tree lilac	2	0	0	0	0	0	0	0	0	2	
Smoke tree	1	0	0	0	0	0	0	0	0	1	
Total	**24**	**38**	**17**	**3**	**0**	**0**	**0**	**0**	**0**	**82 (±NaN)**	
Broadleaf Evergreen Large (BEL)											
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±NaN)**	
Broadleaf Evergreen Medium (BEM)											
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±NaN)**	
Broadleaf Evergreen Small (BES)											
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±NaN)**	
Conifer Evergreen Large (CEL)											
Scotch pine	0	1	11	9	0	0	0	0	0	21	
Spruce	11	0	1	1	0	0	0	0	0	13	
Ponderosa pine	0	5	2	0	0	0	0	0	0	7	
Eastern white pine	3	1	2	0	0	0	0	0	0	6	
Fir	2	0	0	0	0	0	0	0	0	2	
Northern white cedar	0	2	0	0	0	0	0	0	0	2	
Total	**16**	**9**	**16**	**10**	**0**	**0**	**0**	**0**	**0**	**51 (±NaN)**	
Conifer Evergreen Medium (CEM)											
Austrian pine	0	6	8	9	1	0	0	0	0	24	
Total	**0**	**6**	**8**	**9**	**1**	**0**	**0**	**0**	**0**	**24 (±NaN)**	

Hickman

Complete Population of Public Trees

Appendix A

12/15/2011

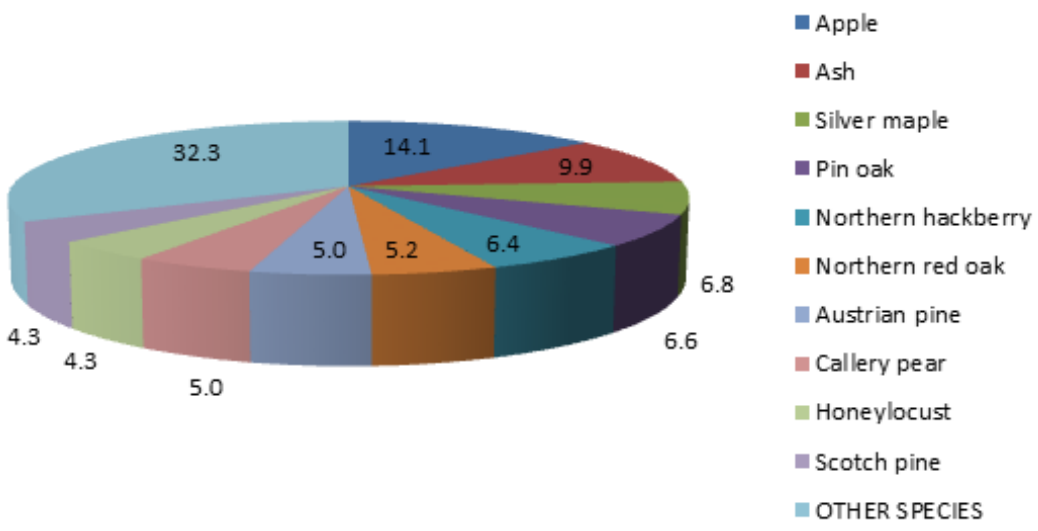
Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error
Conifer Evergreen Small (CES)											
Juniper	0	0	0	1	0	0	0	0	0	1	
Sweet mountain pine	0	0	0	1	0	0	0	0	0	1	
Total	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2 (±NaN)**	
Grand Total	**106**	**94**	**150**	**73**	**36**	**17**	**3**	**1**	**3**	**483 (±0)**	

Hickman

Species Distribution of Public Trees (%)

Appendix B

12/15/2011



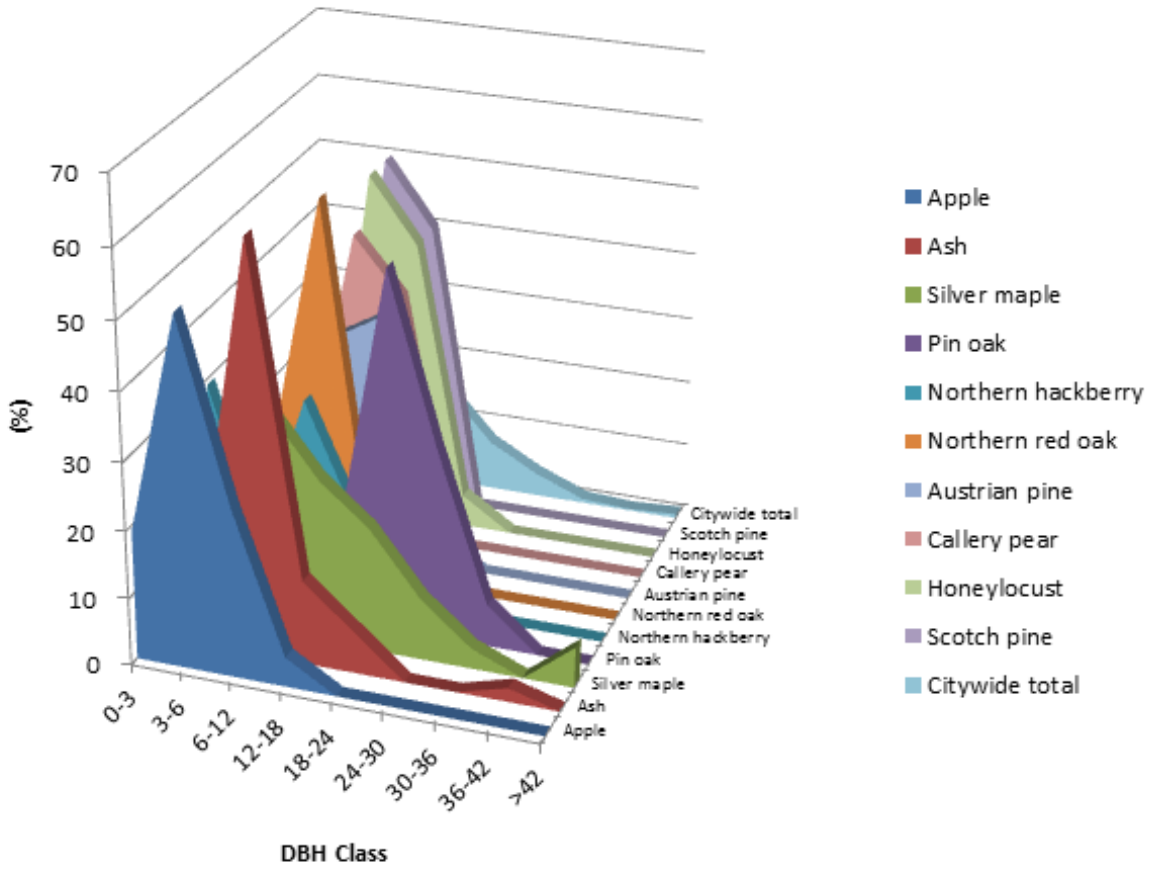
Species	Percent
Apple	14.1
Ash	9.9
Silver maple	6.8
Pin oak	6.6
Northern hackberry	6.4
Northern red oak	5.2
Austrian pine	5.0
Callery pear	5.0
Honeylocust	4.3
Scotch pine	4.3
OTHER SPECIES	32.3
Total	100.0

Hickman

Relative Age Distribution of Top 10 Public Tree Species (%)

Appendix C

12/15/2011

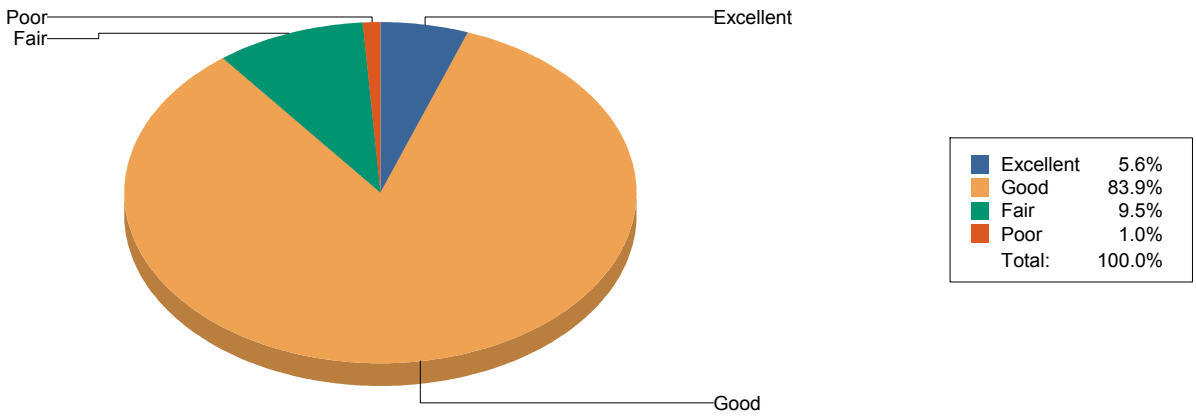


	DBH class (in)								
Species	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42
Apple	19.12	51.47	25.00	4.41	0.00	0.00	0.00	0.00	0.00
Ash	4.17	14.58	60.42	12.50	6.25	0.00	0.00	2.08	0.00
Silver maple	3.03	3.03	33.33	24.24	18.18	9.09	3.03	0.00	6.06
Pin oak	0.00	0.00	0.00	12.50	53.13	28.13	6.25	0.00	0.00
Northern hackberry	29.03	6.45	29.03	12.90	16.13	6.45	0.00	0.00	0.00
Northern red oak	20.00	20.00	56.00	4.00	0.00	0.00	0.00	0.00	0.00
Austrian pine	0.00	25.00	33.33	37.50	4.17	0.00	0.00	0.00	0.00
Callery pear	4.17	12.50	45.83	37.50	0.00	0.00	0.00	0.00	0.00
Honeylocust	0.00	0.00	52.38	42.86	4.76	0.00	0.00	0.00	0.00
Scotch pine	0.00	4.76	52.38	42.86	0.00	0.00	0.00	0.00	0.00
Citywide total	21.95	19.46	31.06	15.11	7.45	3.52	0.62	0.21	0.62

Condition Distribution

Appendix D

Report universe: All ☐ Subset ☒



Condition	Percent	Count
Excellent	5.6%	27
Good	83.9%	405
Fair	9.5%	46
Poor	1.0%	5
Total		483

Hickman

Replacement Value for Public Trees by Species

Appendix F

12/15/2011

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error	% of Total
Apple	4,626	15,249	12,770	4,015	0	0	0	0	0	36,661	(±0)	8.73
Ash	658	2,810	18,182	7,342	5,696	0	0	6,428	0	41,117	(±0)	9.79
Silver maple	298	364	6,466	8,943	11,478	8,919	4,298	0	13,628	54,395	(±0)	12.95
Pin oak	0	0	0	5,586	37,542	31,645	10,848	0	0	85,621	(±0)	20.39
Northern hackberry	2,287	818	6,242	5,473	11,901	7,459	0	0	0	34,181	(±0)	8.14
Northern red oak	1,779	2,231	10,516	1,474	0	0	0	0	0	16,001	(±0)	3.81
Austrian pine	0	1,551	3,093	6,337	1,023	0	0	0	0	12,004	(±0)	2.86
Callery pear	329	1,204	7,099	11,013	0	0	0	0	0	19,646	(±0)	4.68
Honeylocust	0	0	6,101	9,257	1,799	0	0	0	0	17,157	(±0)	4.09
Scotch pine	0	286	4,552	7,506	0	0	0	0	0	12,345	(±0)	2.94
American basswood	1,534	1,227	6,242	0	2,380	0	0	0	0	11,383	(±0)	2.71
Maple	1,646	3,212	645	0	0	0	0	0	0	5,503	(±0)	1.31
Spruce	2,522	0	476	917	0	0	0	0	0	3,914	(±0)	0.93
Bur oak	3,294	458	829	1,706	0	0	0	0	0	6,287	(±0)	1.50
Red maple	1,112	2,750	0	0	0	0	0	0	0	3,862	(±0)	0.92
Black walnut	0	0	1,889	4,105	4,104	6,430	0	0	0	16,528	(±0)	3.94
Eastern redbud	2,106	309	0	0	0	0	0	0	0	2,415	(±0)	0.58
Ponderosa pine	0	1,451	952	0	0	0	0	0	0	2,403	(±0)	0.57
Norway maple	658	0	2,582	0	0	0	0	0	0	3,240	(±0)	0.77
Kentucky coffeetree	1,743	0	829	0	0	0	0	0	0	2,572	(±0)	0.61
Eastern white pine	705	290	952	0	0	0	0	0	0	1,948	(±0)	0.46
Sugar maple	0	892	1,502	1,474	0	0	0	0	0	3,869	(±0)	0.92
Swamp white oak	1,039	0	854	1,784	0	0	0	0	0	3,677	(±0)	0.88
Hawthorne	712	892	0	0	0	0	0	0	0	1,604	(±0)	0.38
Shingle oak	816	361	0	0	0	0	0	0	0	1,178	(±0)	0.28
Chinkapin oak	899	0	0	0	0	0	0	0	0	899	(±0)	0.21
Willow	987	0	0	0	0	0	0	0	0	987	(±0)	0.24
Baldcypress	899	0	0	0	0	0	0	0	0	899	(±0)	0.21
Siberian elm	0	361	569	768	0	0	0	0	0	1,698	(±0)	0.40
Fir	405	0	0	0	0	0	0	0	0	405	(±0)	0.10
Ginkgo	351	0	803	0	0	0	0	0	0	1,154	(±0)	0.27
Eastern cottonwood	0	0	0	0	0	2,973	0	0	6,814	9,787	(±0)	2.33
Japanese tree lilac	609	0	0	0	0	0	0	0	0	609	(±0)	0.15
Northern white cedar	0	555	0	0	0	0	0	0	0	555	(±0)	0.13
River birch	298	0	0	0	0	0	0	0	0	298	(±0)	0.07
Smoke tree	258	0	0	0	0	0	0	0	0	258	(±0)	0.06

Appendix F

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error	% of Total
Juniper	0	0	0	858	0	0	0	0	0	858	(±0)	0.20
Sweet mountain pine	0	0	0	917	0	0	0	0	0	917	(±0)	0.22
American sycamore	0	0	0	1,061	0	0	0	0	0	1,061	(±0)	0.25
Citywide total	32,572	37,272	94,148	80,537	75,924	57,427	15,146	6,428	20,442	419,896	(±0)	100.00

Hickman

Complete Population of Public Trees for Zone 3

Appendix G

12/15/2011

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total Standard Error
Broadleaf Deciduous Large (BDL)										
Pin oak	0	0	0	4	16	8	2	0	0	30 (±0)
Silver maple	0	1	9	6	5	3	1	0	0	25 (±0)
Northern red oak	1	1	13	1	0	0	0	0	0	16 (±0)
American basswood	1	3	6	0	1	0	0	0	0	11 (±0)
Red maple	3	7	0	0	0	0	0	0	0	10 (±0)
Maple	2	7	0	0	0	0	0	0	0	9 (±0)
Northern hackberry	0	0	1	2	4	1	0	0	0	8 (±0)
Sugar maple	0	1	2	0	0	0	0	0	0	3 (±0)
Black walnut	0	0	1	2	0	0	0	0	0	3 (±0)
Bur oak	1	0	0	1	0	0	0	0	0	2 (±0)
American sycamore	0	0	0	1	0	0	0	0	0	1 (±0)
Total	**8**	**20**	**32**	**17**	**26**	**12**	**3**	**0**	**0**	**118 (±0)**
Broadleaf Deciduous Medium (BDM)										
Ash	2	3	16	5	1	0	0	0	0	27 (±0)
Callery pear	0	0	11	9	0	0	0	0	0	20 (±0)
Honeylocust	0	0	3	3	0	0	0	0	0	6 (±0)
Norway maple	0	0	4	0	0	0	0	0	0	4 (±0)
Siberian elm	0	1	1	1	0	0	0	0	0	3 (±0)
Ginkgo	1	0	1	0	0	0	0	0	0	2 (±0)
Total	**3**	**4**	**36**	**18**	**1**	**0**	**0**	**0**	**0**	**62 (±0)**
Broadleaf Deciduous Small (BDS)										
Apple	3	32	11	3	0	0	0	0	0	49 (±0)
Smoke tree	1	0	0	0	0	0	0	0	0	1 (±0)
Hawthorne	0	1	0	0	0	0	0	0	0	1 (±0)
Total	**4**	**33**	**11**	**3**	**0**	**0**	**0**	**0**	**0**	**51 (±0)**
Broadleaf Evergreen Large (BEL)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Broadleaf Evergreen Medium (BEM)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Broadleaf Evergreen Small (BES)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Conifer Evergreen Large (CEL)										
Spruce	0	0	1	1	0	0	0	0	0	2 (±0)
Ponderosa pine	0	0	2	0	0	0	0	0	0	2 (±0)
Total	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**4 (±0)**
Conifer Evergreen Medium (CEM)										
Austrian pine	0	0	0	1	0	0	0	0	0	1 (±0)
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1 (±0)**
Conifer Evergreen Small (CES)										
Juniper	0	0	0	1	0	0	0	0	0	1 (±0)
Sweet mountain pine	0	0	0	1	0	0	0	0	0	1 (±0)
Total	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2 (±0)**
Grand Total	**15**	**57**	**82**	**42**	**27**	**12**	**3**	**0**	**0**	**238 (±0)**

Hickman

Species Distribution for the Five Most Abundant Species of (0) Trees

Appendix H

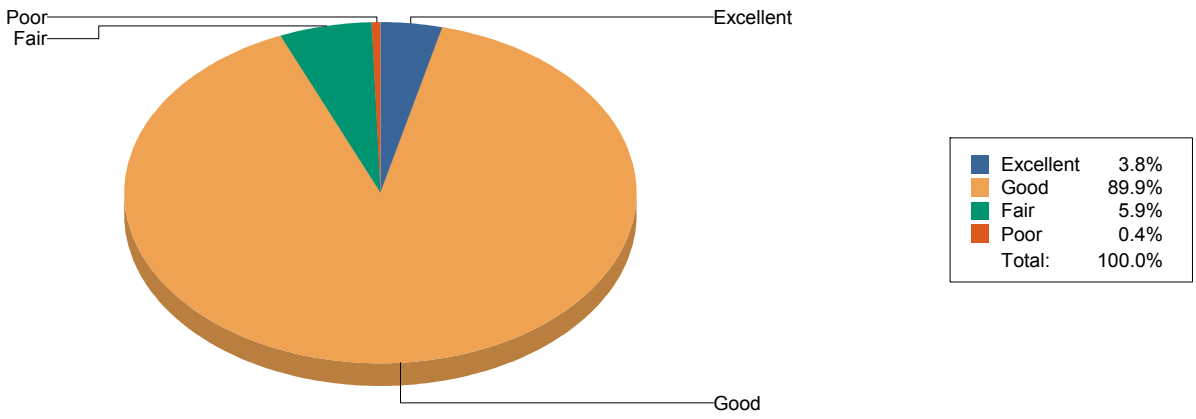
12/15/2011

Zone	1st (%)	2nd (%)	3rd (%)	4th (%)	5th (%)	# of Trees
3	Apple (20.6)	Pin oak (12.6)	Ash (11.3)	Silver maple (10.5)	Callery pear (8.4)	238
4	Northern hackberry (9.4)	Austrian pine (9.4)	Ash (8.6)	Scotch pine (8.6)	Apple (7.8)	245
Citywide total	Apple (14.1)	Ash (9.9)	Silver maple (6.8)	Pin oak (6.6)	Northern hackberry (6.4)	483

Condition Distribution

Appendix J

Report universe: All ☐ Subset ☒



Condition	Percent	Count
Excellent	3.8%	9
Good	89.9%	214
Fair	5.9%	14
Poor	0.4%	1
Total		238

Hickman

Complete Population of Public Trees for Zone 4

Appendix K

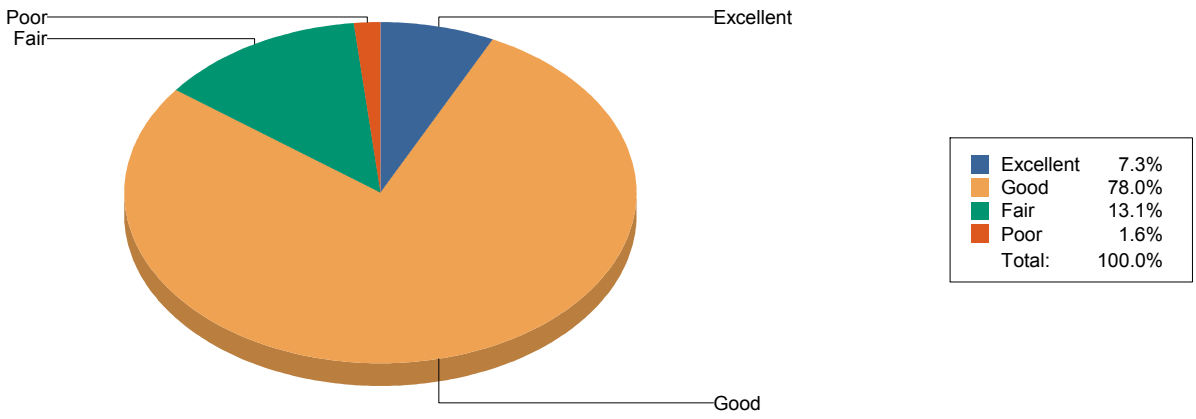
12/15/2011

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total Standard Error
Broadleaf Deciduous Large (BDL)										
Northern hackberry	9	2	8	2	1	1	0	0	0	23 (±0)
Bur oak	9	1	1	0	0	0	0	0	0	11 (±0)
Northern red oak	4	4	1	0	0	0	0	0	0	9 (±0)
Silver maple	1	0	2	2	1	0	0	0	2	8 (±0)
Black walnut	0	0	2	1	2	2	0	0	0	7 (±0)
American basswood	4	0	3	0	0	0	0	0	0	7 (±0)
Kentucky coffeetree	5	0	1	0	0	0	0	0	0	6 (±0)
Maple	3	1	1	0	0	0	0	0	0	5 (±0)
Shingle oak	3	1	0	0	0	0	0	0	0	4 (±0)
Chinkapin oak	3	0	0	0	0	0	0	0	0	3 (±0)
Baldcypress	3	0	0	0	0	0	0	0	0	3 (±0)
Sugar maple	0	1	0	1	0	0	0	0	0	2 (±0)
Eastern cottonwood	0	0	0	0	0	1	0	0	1	2 (±0)
Pin oak	0	0	0	0	1	1	0	0	0	2 (±0)
Red maple	1	0	0	0	0	0	0	0	0	1 (±0)
Total	**45**	**10**	**19**	**6**	**5**	**5**	**0**	**0**	**3**	**93 (±0)**
Broadleaf Deciduous Medium (BDM)										
Ash	0	4	13	1	2	0	0	1	0	21 (±0)
Honeylocust	0	0	8	6	1	0	0	0	0	15 (±0)
Swamp white oak	3	0	1	1	0	0	0	0	0	5 (±0)
Callery pear	1	3	0	0	0	0	0	0	0	4 (±0)
Willow	3	0	0	0	0	0	0	0	0	3 (±0)
Norway maple	2	0	0	0	0	0	0	0	0	2 (±0)
River birch	1	0	0	0	0	0	0	0	0	1 (±0)
Total	**10**	**7**	**22**	**8**	**3**	**0**	**0**	**1**	**0**	**51 (±0)**
Broadleaf Deciduous Small (BDS)										
Apple	10	3	6	0	0	0	0	0	0	19 (±0)
Eastern redbud	6	1	0	0	0	0	0	0	0	7 (±0)
Hawthorne	2	1	0	0	0	0	0	0	0	3 (±0)
Japanese tree lilac	2	0	0	0	0	0	0	0	0	2 (±0)
Total	**20**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**31 (±0)**
Broadleaf Evergreen Large (BEL)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Broadleaf Evergreen Medium (BEM)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Broadleaf Evergreen Small (BES)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Conifer Evergreen Large (CEL)										
Scotch pine	0	1	11	9	0	0	0	0	0	21 (±0)
Spruce	11	0	0	0	0	0	0	0	0	11 (±0)
Eastern white pine	3	1	2	0	0	0	0	0	0	6 (±0)
Ponderosa pine	0	5	0	0	0	0	0	0	0	5 (±0)
Fir	2	0	0	0	0	0	0	0	0	2 (±0)
Northern white cedar	0	2	0	0	0	0	0	0	0	2 (±0)
Total	**16**	**9**	**13**	**9**	**0**	**0**	**0**	**0**	**0**	**47 (±0)**
Conifer Evergreen Medium (CEM)										
Austrian pine	0	6	8	8	1	0	0	0	0	23 (±0)
Total	**0**	**6**	**8**	**8**	**1**	**0**	**0**	**0**	**0**	**23 (±0)**
Conifer Evergreen Small (CES)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 (±0)**
Grand Total	**91**	**37**	**68**	**31**	**9**	**5**	**0**	**1**	**3**	**245 (±0)**

Condition Distribution

Appendix L

Report universe: All ☐ Subset ☒



Condition	Percent	Count
Excellent	7.3%	18
Good	78.0%	191
Fair	13.1%	32
Poor	1.6%	4
Total		245

Appendix O

Code	Tree Species
1	Arborvitae species
2	Ash species
3	Quaking Aspen
4	Baldcypress
5	Beech species
6	Birch species
7	Paper Birch
8	River Birch
9	Ohio Buckeye
10	Northern Catalpa
11	Black Cherry
12	Chestnut species
13	Coniferous Large Other
14	Coniferous Medium Other
15	Coniferous Small Other
16	Amur Corktree
17	Eastern Cottonwood
18	Crabapple (Apple) species
19	Deciduous Large Other
20	Deciduous Medium Other
21	Deciduous Small Other
22	Dogwood species
23	Douglas Fir
24	Elm species
25	American Elm
26	Lacebark Elm
27	Siberian Elm
28	Fir species
29	Ginkgo
30	Goldenraintree
31	Hackberry
32	Hawthorn species
33	Hickory species
34	Honeylocust
35	Hophornbeam (Ironwood)
36	Horsechestnut
37	Japanese Pagodatree
38	Juniper species (including Eastern redcedar)
39	Kentucky Coffeetree
40	Western Larch
41	Japanese Tree Lilac
42	American Linden (Basswood)
43	Littleleaf Linden
44	Black Locust
45	Magnolia species
46	Boxelder
47	Norway Maple
48	Red Maple
49	Silver Maple
50	Sugar Maple
51	Maple species
52	Mountain Ash species
53	Mulberry species
54	Oak species
55	Black oak
56	Blackjack Oak
57	Bur Oak
58	Chestnut Oak
59	Chinkapin Oak
60	English Oak
61	Northern Red Oak
62	Pin Oak
63	Sawtooth Oak
64	Shingle Oak
65	Swamp White Oak
66	White Oak
67	Russian Olive
68	Osage Orange
69	Pear species
70	Pecan
71	Persimmon
72	Pine species
73	Austrian Pine
74	Eastern White Pine
75	Jack Pine
76	Lacebark Pine
77	Mugo Pine
78	Ponderosa Pine
79	Scotch Pine
80	Prunus species
81	Poplar species
82	Eastern Redbud
83	Downy Serviceberry
84	Smoketree
85	Spruce species
86	Sweetgum
87	Sycamore
88	Tree-of-Heaven
89	Tuliptree (Yellow Poplar)
90	Walnut species
91	Willow species
92	Yellowwood

****Names including "species" include all specimens of that group not included in the list or all species within the group in general****

Example: "Oak species" includes Shumard Oak specimens due to low number of individuals

Example: "Mountain Ash species" contains all Mountain Ash cultivars

Nebraska Forest Service UNL

Community Threat Assessment Protocol


Created by
Adam Smith
Nebraska Forest Service
Note: Imagery is from 2009 and may not reflect current landscape or park layout
Hickman, NE - (SE of Intersection of Hickman Rd. and Chestnut St.)
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
40
80
160
240
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
NEBRASKA FOREST SERVICE
UNL


Hickman, NE - (SE of Intersection of 4th St. and Chestnut St.)
Created by
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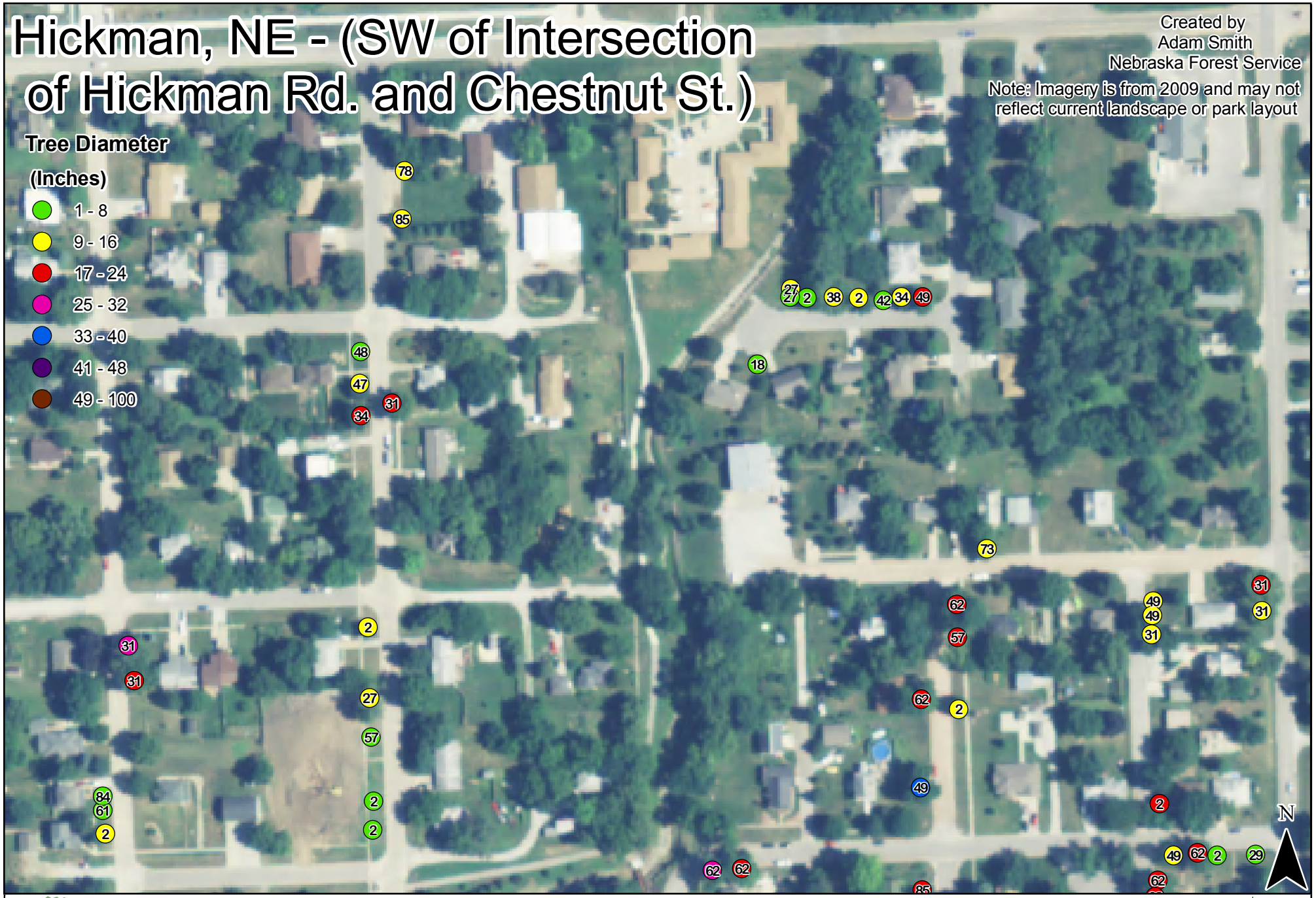
Nebraska Forest Service
Note: Imagery is from 2009 and may not reflect current landscape or park layout
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
40
80
160
240
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
NEBRASKA FOREST SERVICE
UNL


Hickman, NE - (SW of Intersection of Hickman Rd. and Chestnut St.)
Created by
Adam Smith
Nebraska Forest Service
Note: Imagery is from 2009 and may not reflect current landscape or park layout
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
40
80
160
240
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
Nebraska Forest Service UNL


Hickman, NE - (SW of Intersection of 4th St. and Chestnut St.)
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
Created by
Adam Smith
Nebraska Forest Service
Note: Imagery is from 2009 and may not reflect current landscape or park layout
N
0
40
80
160
240
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
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Hickman, NE - City Park
(East and South of parking lot)
Created by
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Note: Imagery is from 2009 and may not reflect current landscape or park layout
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
20
40
80
120
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
NEBRASKA FOREST SERVICE
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Created by
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Nebraska Forest Service
Note: Imagery is from 2009 and may not reflect current landscape or park layout
Hickman, NE - City Park
(West of parking lot)
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
25
50
100
150
Yards
Date Created: November 28, 2011
Community Threat Assessment Protocol
Nebraska Forest Service
UNL


Created by
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Nebraska Forest Service
Hickman, NE - New Park
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
15
30
60
90
Yards
Date Created: November 28, 2011
Community
Threat
Assessment
Protocol
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Created by
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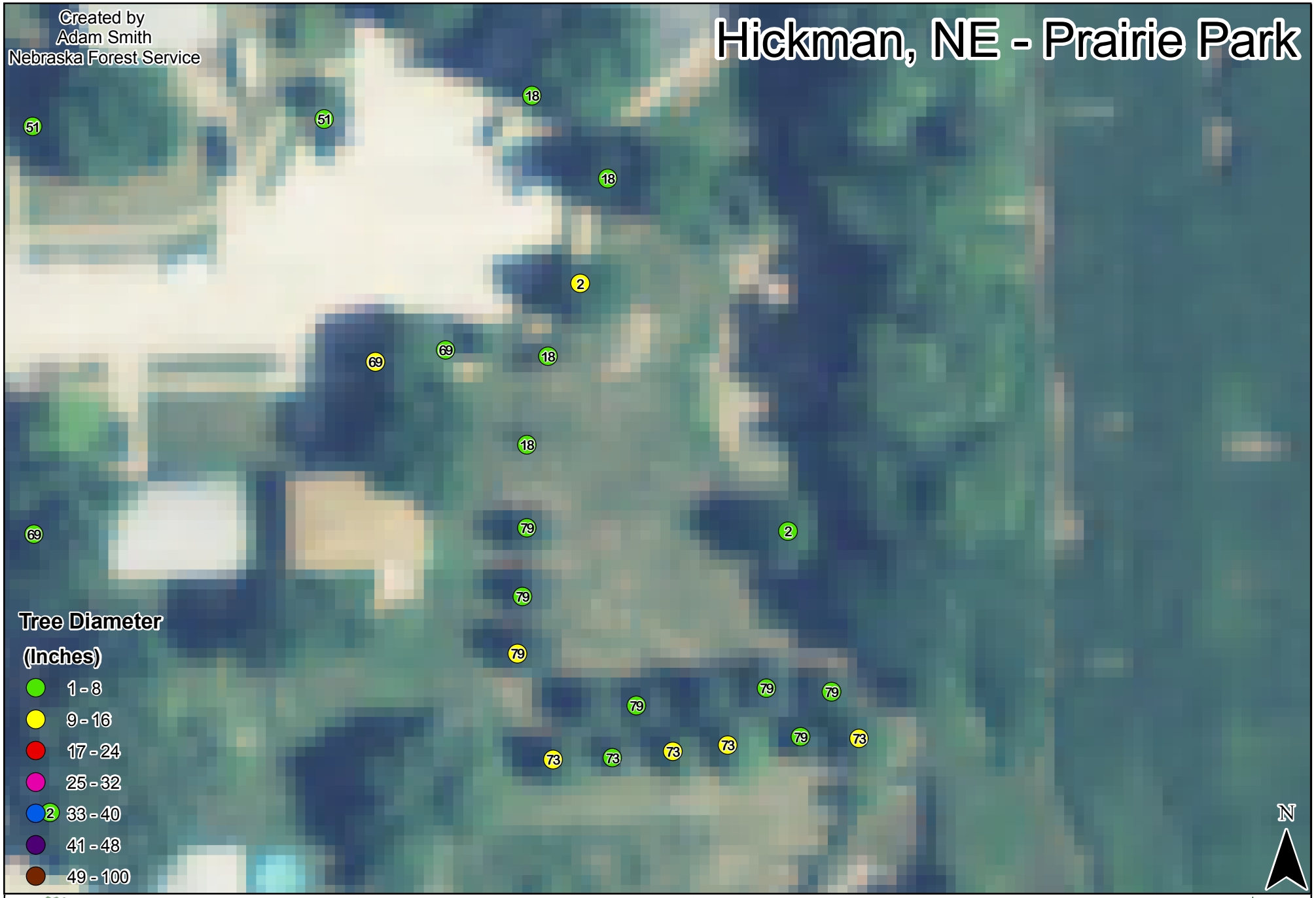
Hickman, NE - Olde Town Park
62
62
51
73
50
2
73
73
48
8
62
82
49
62
34
82
34
2
50
2
74
61
74
74
18
34
34
18
42
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
12.5
25
50
75
Yards
Date Created: November 28, 2011
Community
Threat
Assessment
Protocol
NEBRASKA FOREST SERVICE
UNL


Created by
Adam Smith
Nebraska Forest Service
Hickman, NE - Prairie Park
Tree Diameter
(Inches)
1 - 8
9 - 16
17 - 24
25 - 32
33 - 40
41 - 48
49 - 100
N
0
10
20
40
60
Yards
Date Created: November 28, 2011
Community
Threat
Assessment
Protocol