Vegetation Risk Profile Index

Initial analysis

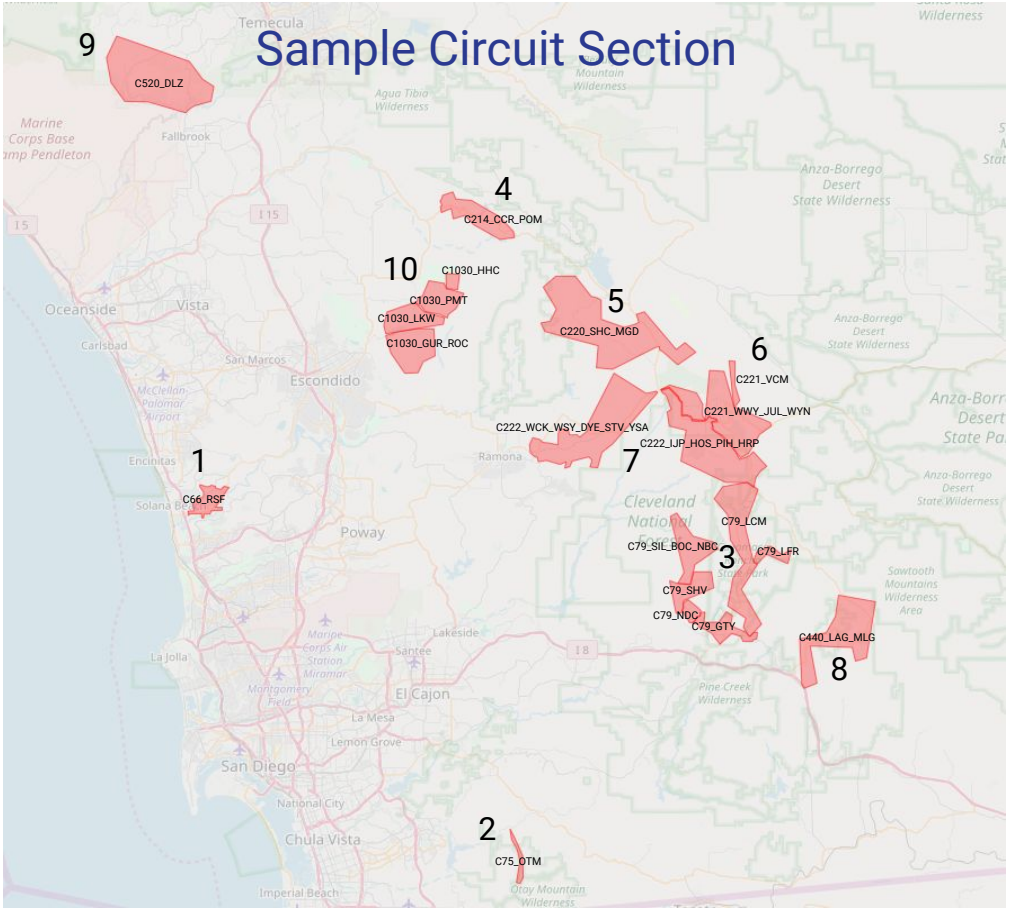
Goal: analyze the tree data within each of these circuit sections:

1. Total number of trees

2. Total number of each tree by species

3. Number of each tree by species within a size bin

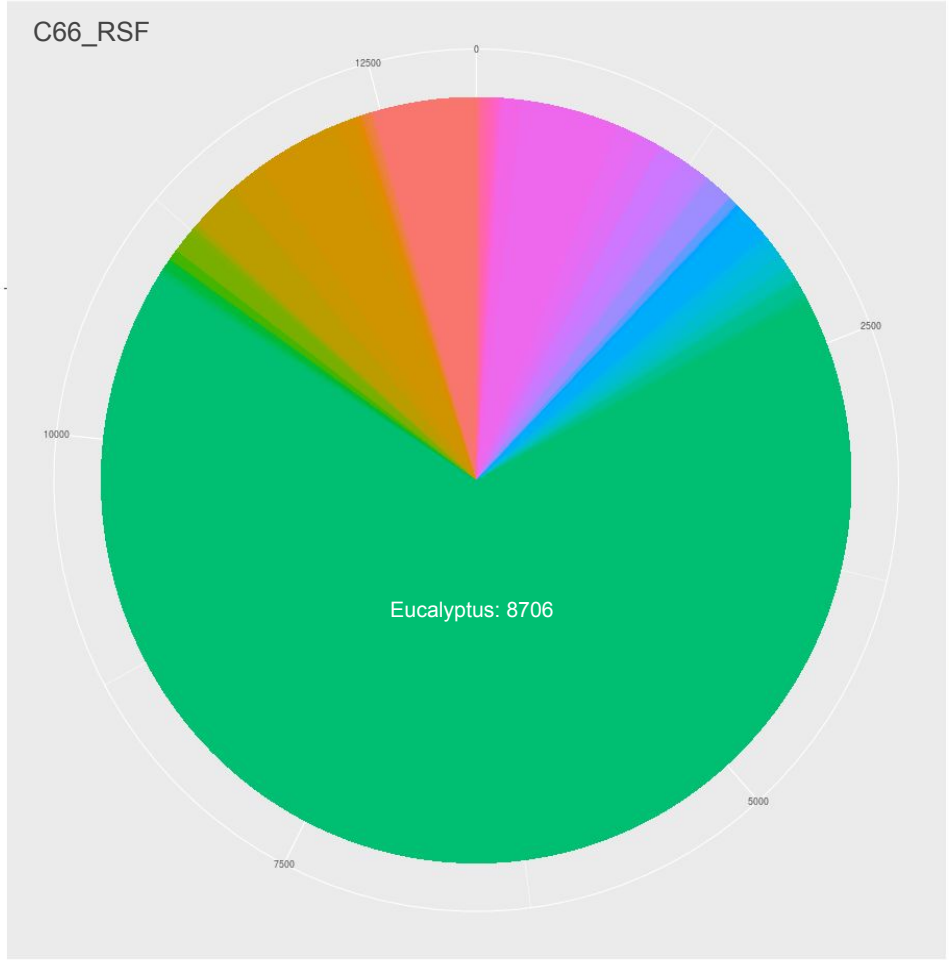
4. Number of veg outages per year



1	C66_RSF
2	C75_OTM
3	C79_GTY; C79_LCM; C79_LFR; C79_NDC; C79_SHV; C79_SIL_BOC_NBC
4	C214_CCR_POM
5	C220_SHC_MGD
6	C221_VCM; C221_WWY_JUL_WYN
7	C222_IJP_HOS_PIH_HRP; C222_WCK_WSY_DYE_STV_YSA
8	C440_LAG_MLG
9	C520_DLZ
10	C1030_GUR_ROC; C1030_HHC; C1030_LKW; C1030_PMT

Circuit Section	Total # of Trees	Circuit Section	Total # of Trees
C66_RSF	13,037	C221_VCM	757
C75_OTM	2	C221_WWY_JUL_WYN	13,469
C79_GTY	2,819	C222_IJP_HOS_PIH_HRP	21,088
C79_LCM	5,916	C222_WCK_WSY_DYE_STV_YSA	2,944
C79_LFR	335	C440_LAG_MLG	5,672
C79_NDC	699	C520_DLZ	17,677
C79_SHV	522	C1030_GUR_ROC	1,956
C79_SIL_BOC_NBC	271	C1030_HHC	191
C214_CCR_POM	4,797	C1030_LKW	2,638
C220_SHC_MGD	6,047	C1030_PMT	2,693

Total number of each tree by species & Vege outage



Group

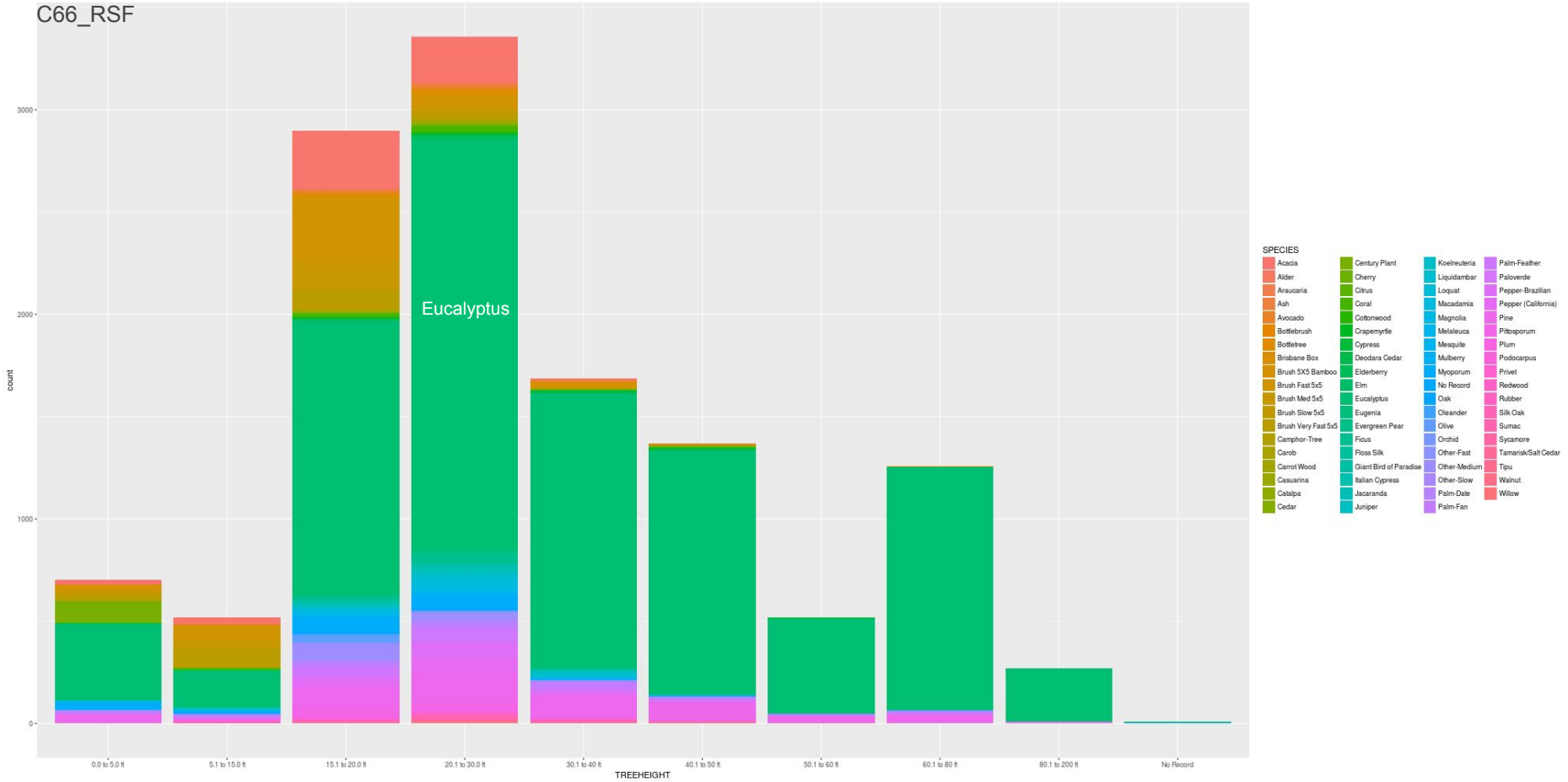
Acacia 579	Century Plant 124	Koelreuteria 3	Palm-Feather 139
Alder 10	Cherry 1	Liquidambar 75	Paloverde 1
Araucaria 3	Citrus 1	Loquat 1	Pepper-Brazilian 126
Ash 32	Coral 57	Macadamia 73	Pepper (California) 129
Avocado 26	Cottonwood 5	Magnolia 16	Pine 554
Bottlebrush 8	Crapemyrtle 1	Melaleuca 35	Pittosporum 107
Bottletree 12	Cypress 44	Mesquite 1	Plum 5
Brisbane Box 30	Deodara Cedar 16	Mulberry 29	Podocarpus 21
Brush 5X5 Bamboo 89	Elderberry 15	Myoporum 172	Privet 2
Brush Fast 5x5 478	Elm 22	No Record 2	Redwood 12
Brush Med 5x5 197	Eucalyptus 8706	Oak 27	Rubber 9
Brush Slow 5x5 19	Eugenia 29	Oleander 10	Silk Oak 28
Brush Very Fast 5x5 252	Evergreen Pear 13	Olive 45	Sumac 9
Camphor-Tree 5	Ficus 78	Orchid 4	Sycamore 34
Carob 2	Floss Silk 1	Other-Fast 6	Tamarisk/Salt Cedar 1
Carrot Wood 18	Giant Bird of Paradise 21	Other-Medium 144	Tipu 12
Casuarina 8	Italian Cypress 6	Other-Slow 12	Walnut 2
Catalpa 2	Jacaranda 53	Palm-Date 46	Willow 12
Cedar 29	Juniper 15	Palm-Fan 126	

Total number of trees: 13,037

SPECIES	OTGDATE
No Record	2/20/2000 0:00
Eucalyptus	11/24/2001 0:00
Eucalyptus	3/8/2002 6:47
No Record	5/12/2002 19:56
Eucalyptus	7/26/2002 19:12
Eucalyptus	3/17/2003 14:46
Pine	4/3/2005 10:46
Palm-Fan	8/3/2005 18:12
Eucalyptus	10/26/2005 9:17
Eucalyptus	11/1/2005 9:25
Palm-Fan	8/8/2007 14:57
Eucalyptus	5/22/2008 13:27
Eucalyptus	2/17/2009 0:26
Eucalyptus	9/4/2009 20:38
Eucalyptus	11/4/2009 11:59
Brush 5X5 Bamboo	1/18/2010 17:24
Eucalyptus	1/21/2010 11:50
Eucalyptus	1/21/2010 11:50
Eucalyptus	2/12/2010 11:20
Eucalyptus	12/23/2010 12:26
Eucalyptus	10/9/2013 15:23
Eucalyptus	8/14/2014 0:00
Eucalyptus	7/28/2015 4:41
Eucalyptus	12/24/2016 0:00
Eucalyptus	8/28/2017 0:00
Eucalyptus	9/7/2017 0:00
Eucalyptus	8/3/2018 0:00

Number of tree species within size bin

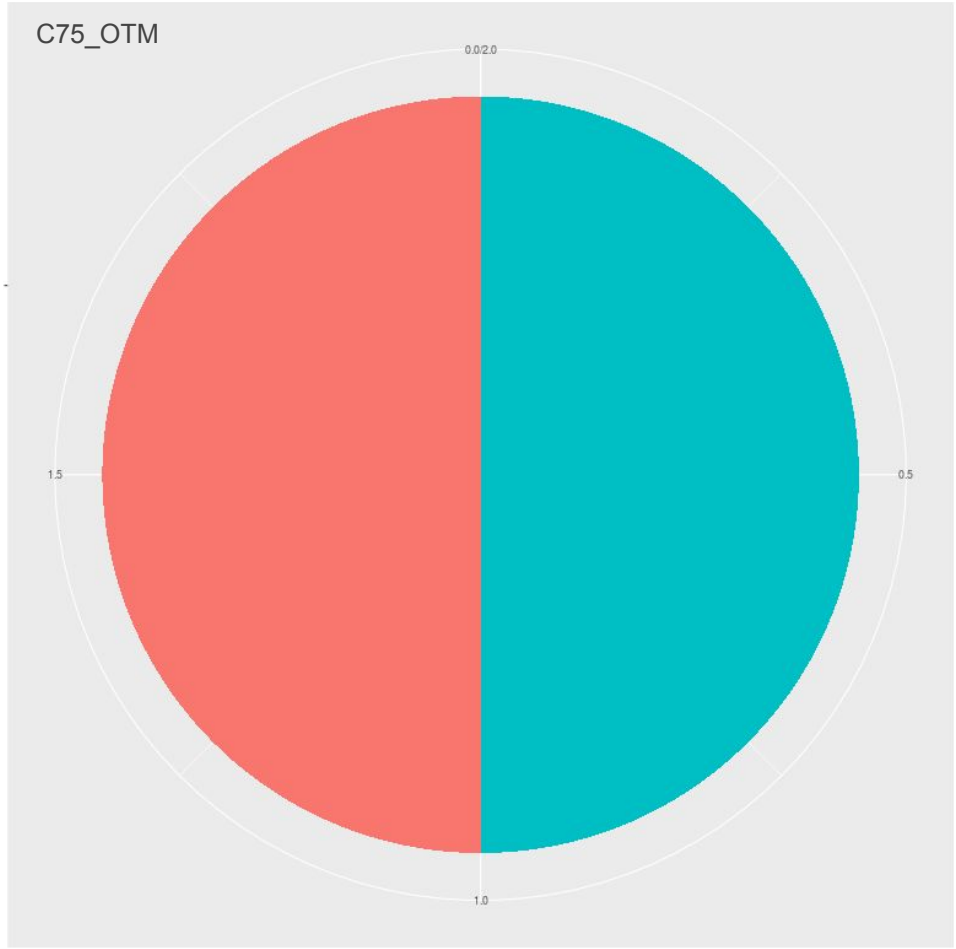
2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

SPECIES	OTGDATE
Oak	4/18/2008 17:57
Eucalyptus	9/2/2010 15:48

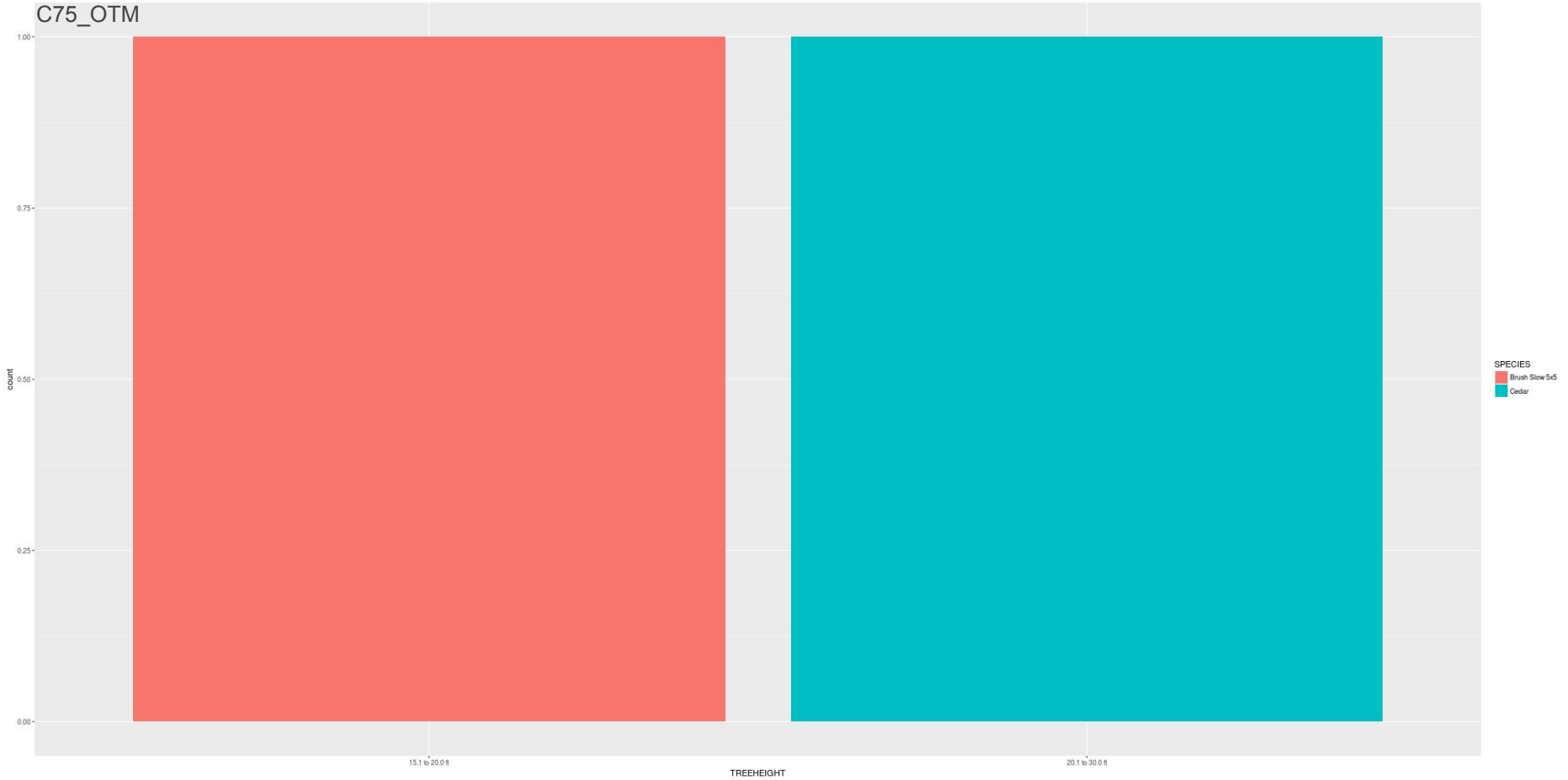


Total number of trees: 2

May need historical vegetation data set

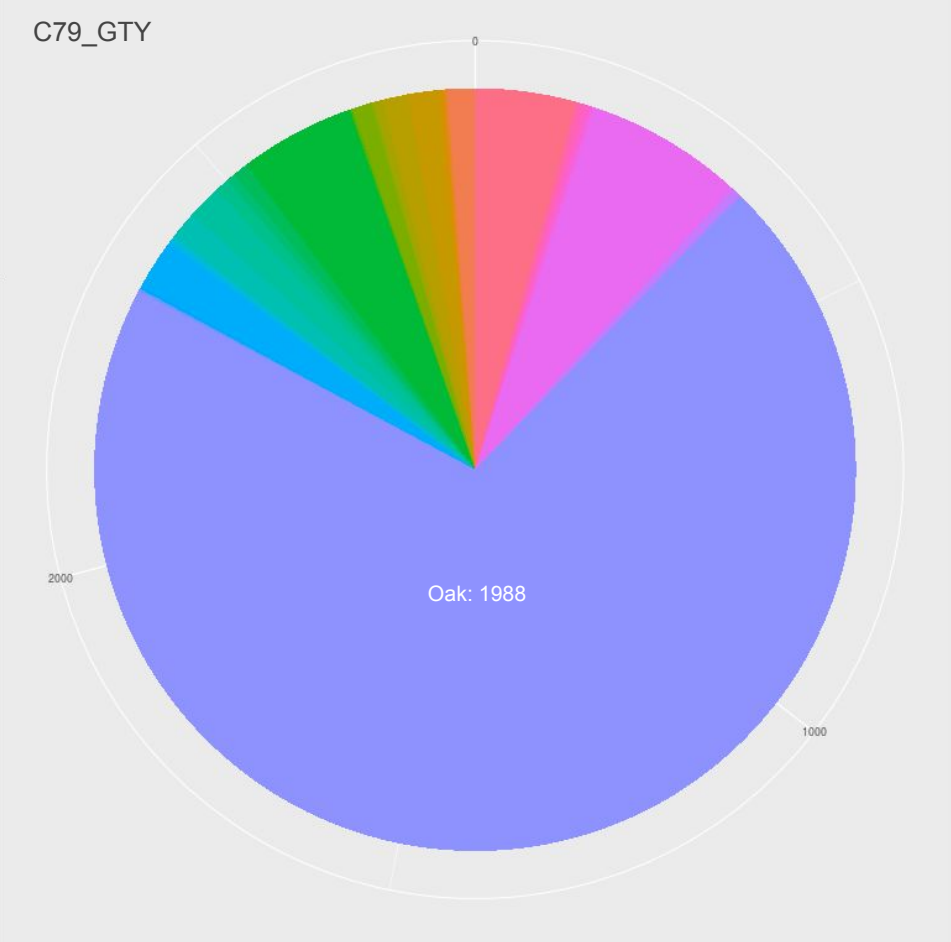
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69



Group

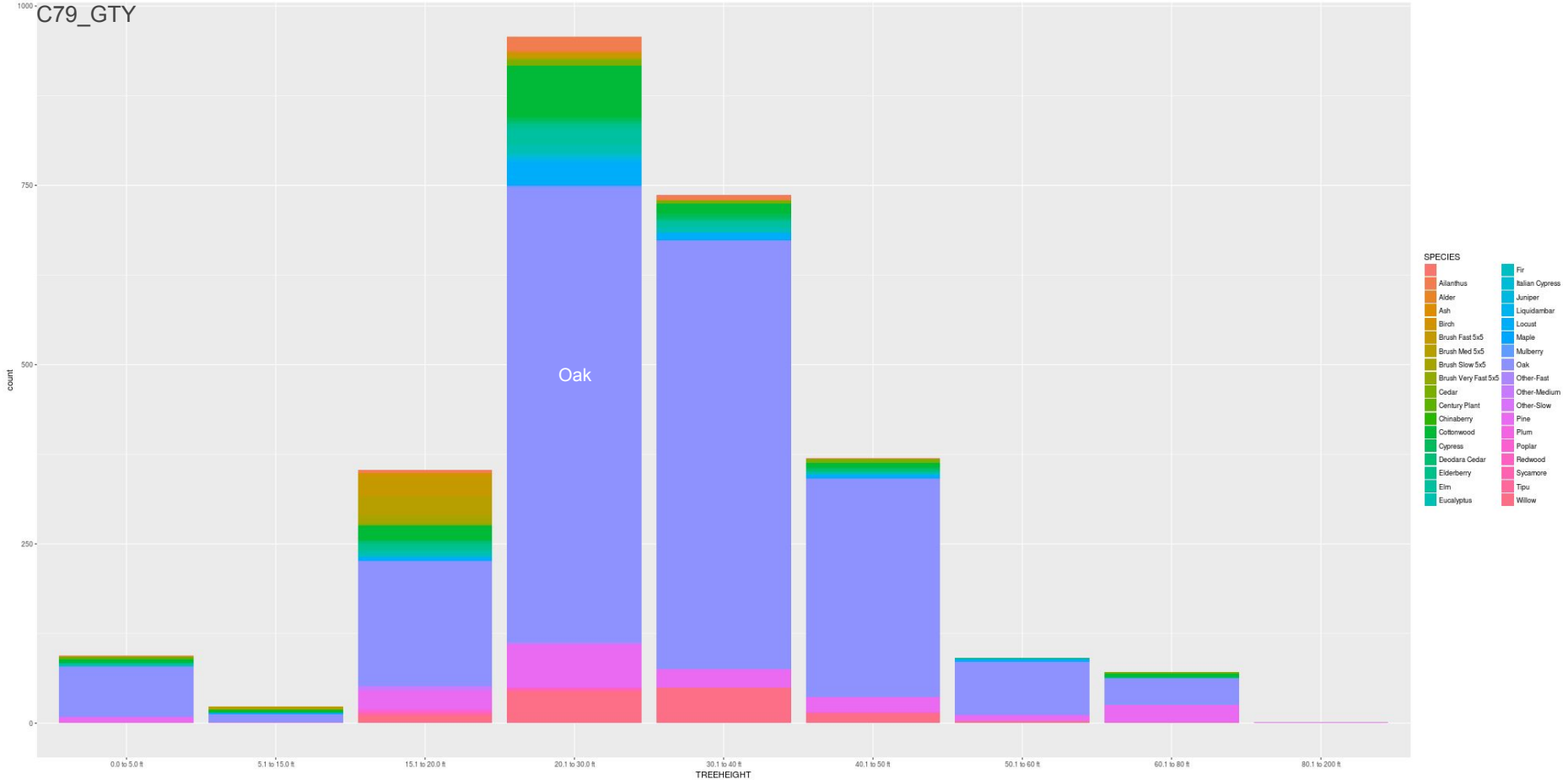
1	Fir 2
Ailanthus 32	Italian Cypress 5
Alder 4	Juniper 1
Ash 1	Liquidambar 4
Birch 7	Locust 60
Brush Fast 5x5 35	Maple 3
Brush Med 5x5 30	Mulberry 3
Brush Slow 5x5 11	Oak 1988
Brush Very Fast 5x5 3	Other-Fast 1
Cedar 23	Other-Medium 11
Century Plant 3	Other-Slow 1
Chinaberry 1	Pine 190
Cottonwood 138	Plum 2
Cypress 18	Poplar 6
Deodara Cedar 11	Redwood 5
Elderberry 17	Sycamore 7
Elm 40	Tipu 1
Eucalyptus 33	Willow 121

Total number of trees: 2,819

SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

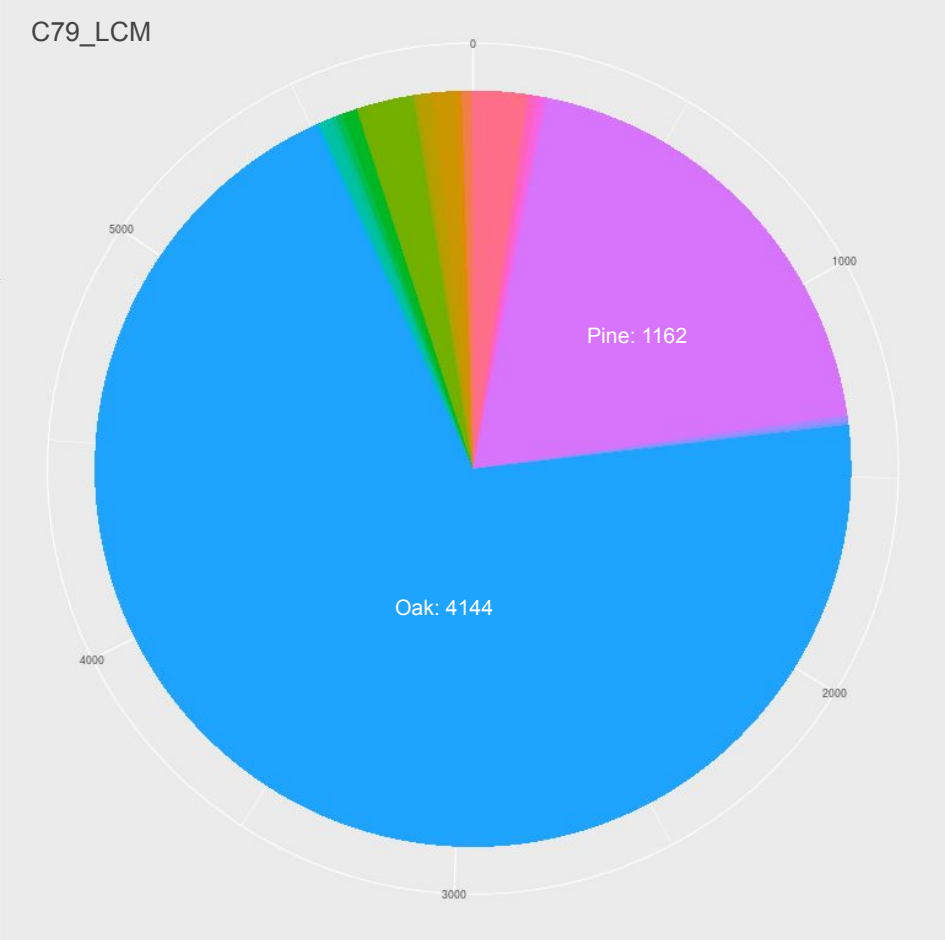
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

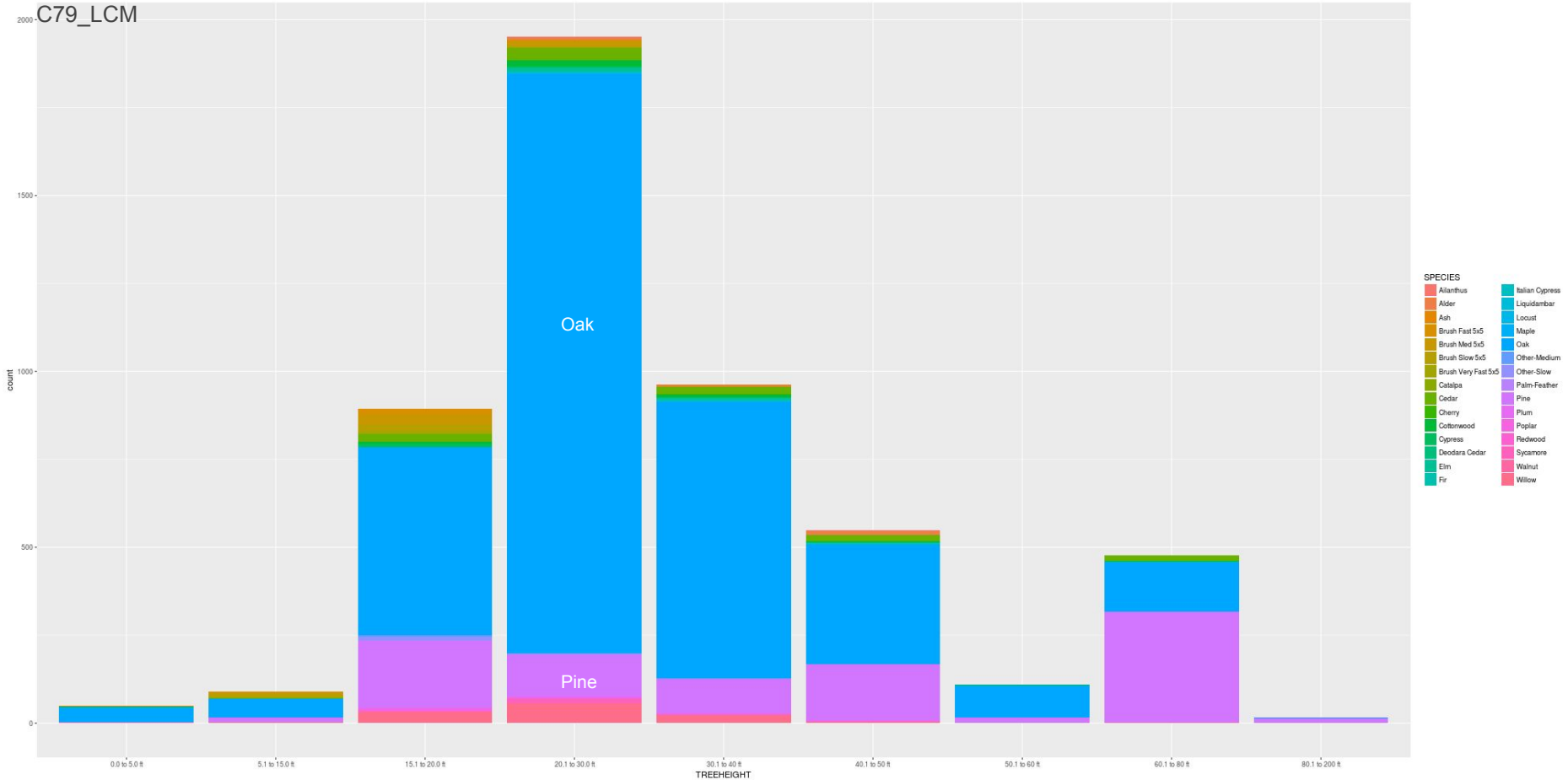


SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

Total number of trees: 5,916

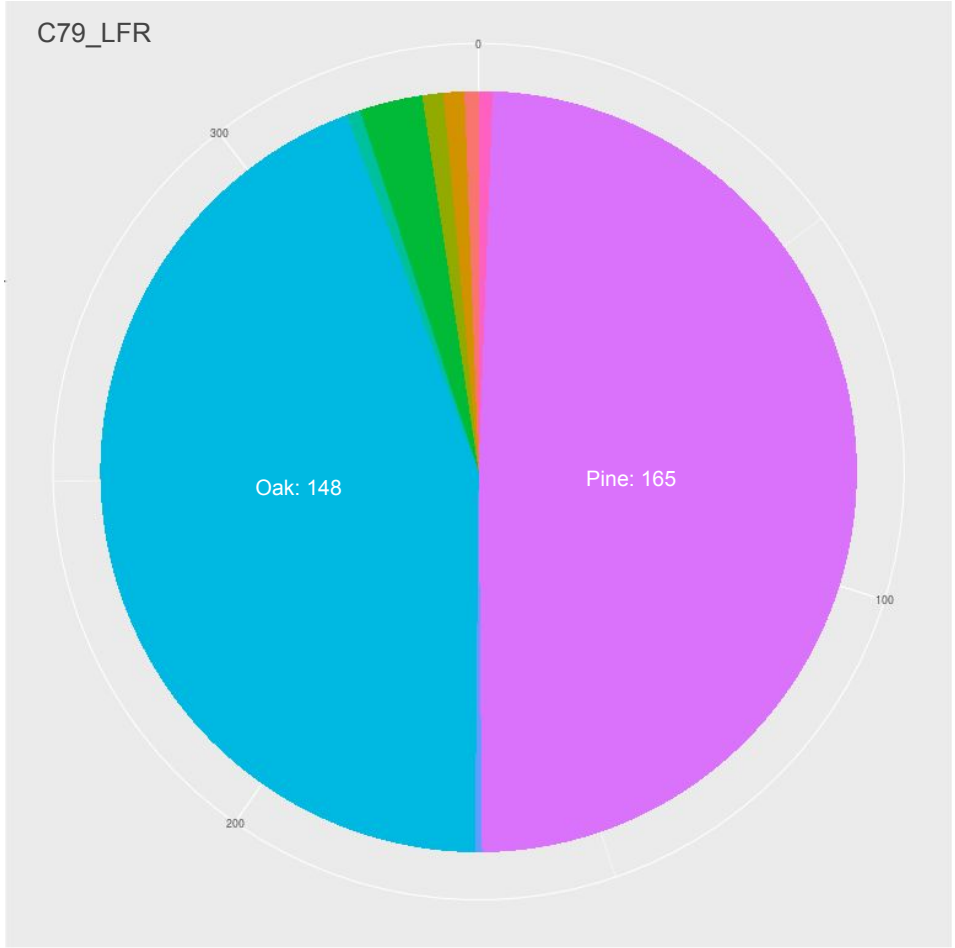
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

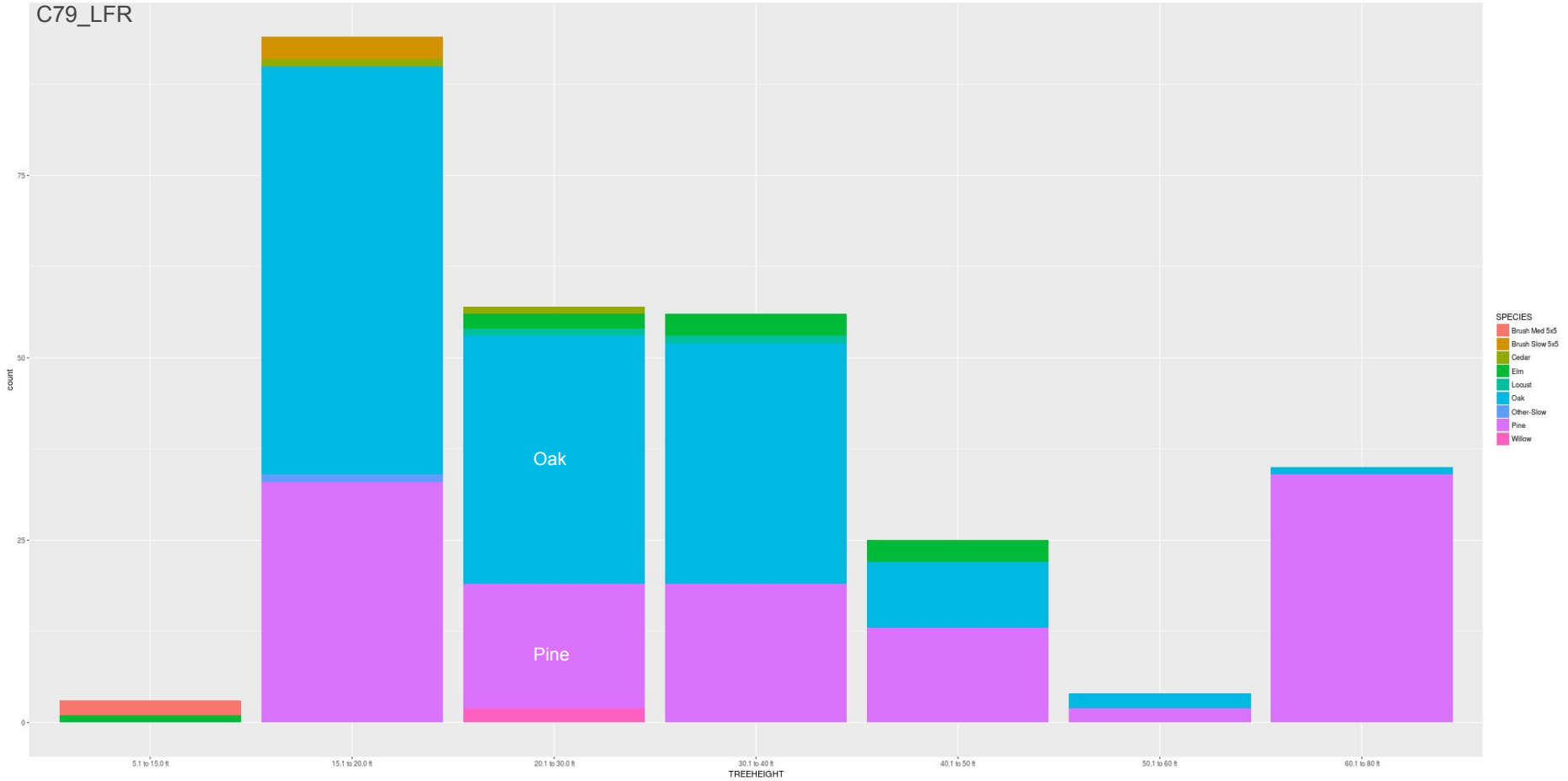


SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

Total number of trees: 335

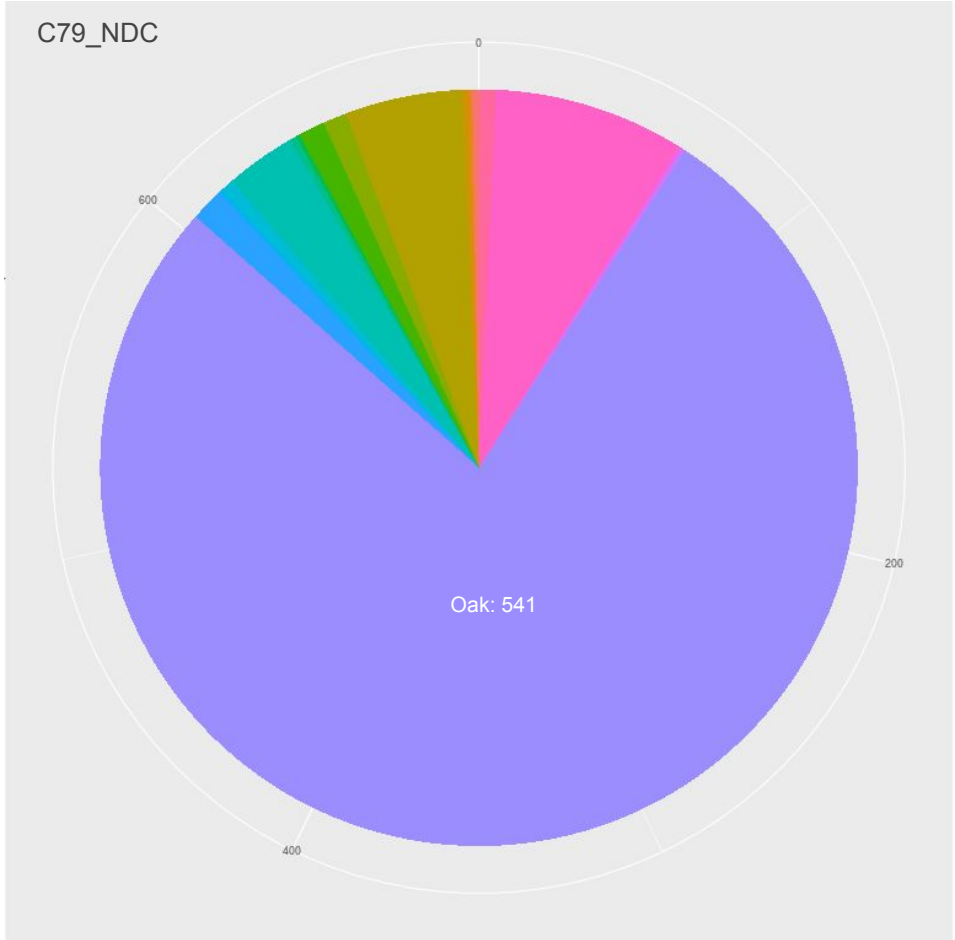
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

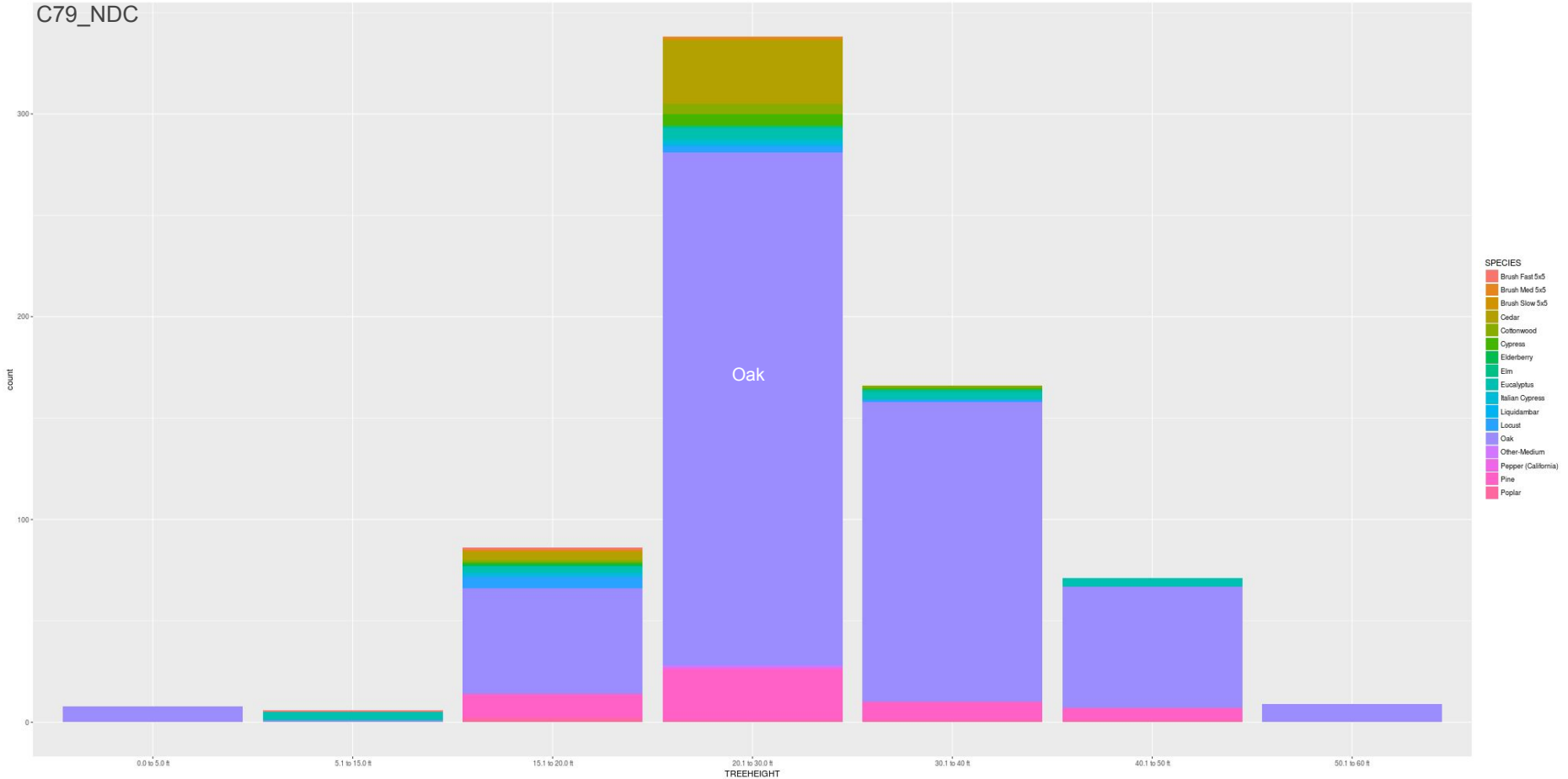


SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

Total number of trees: 699

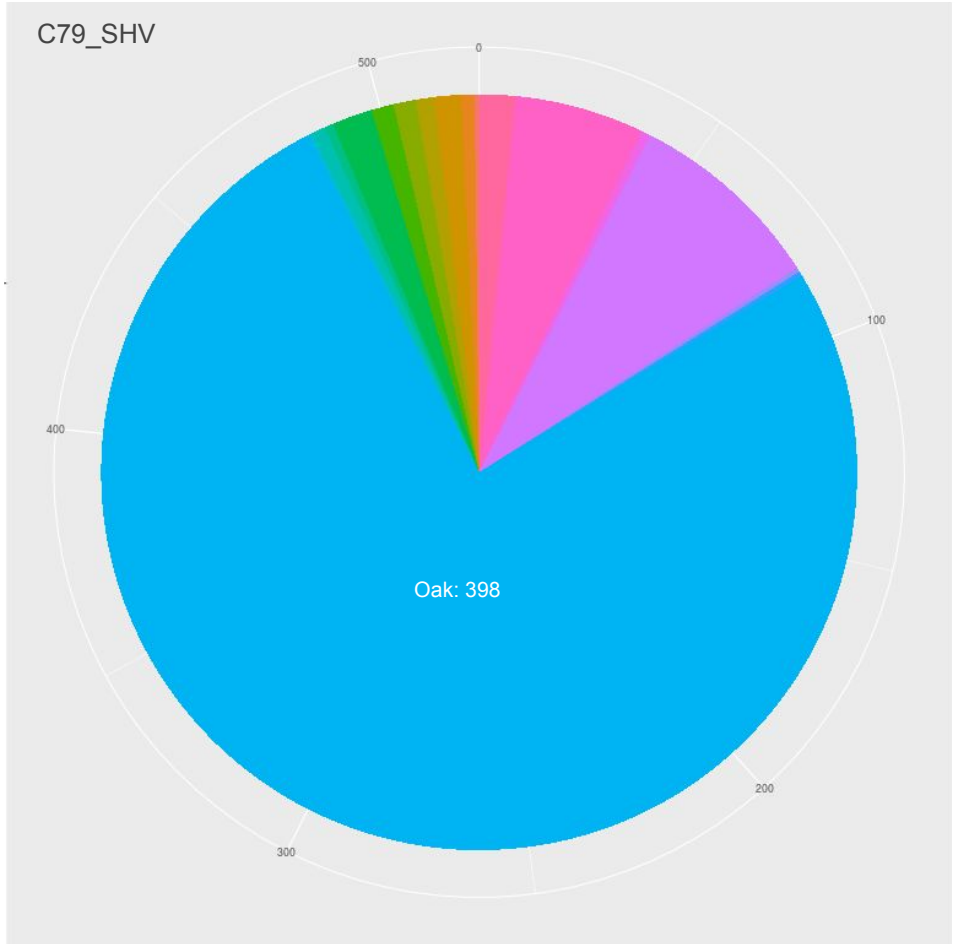
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

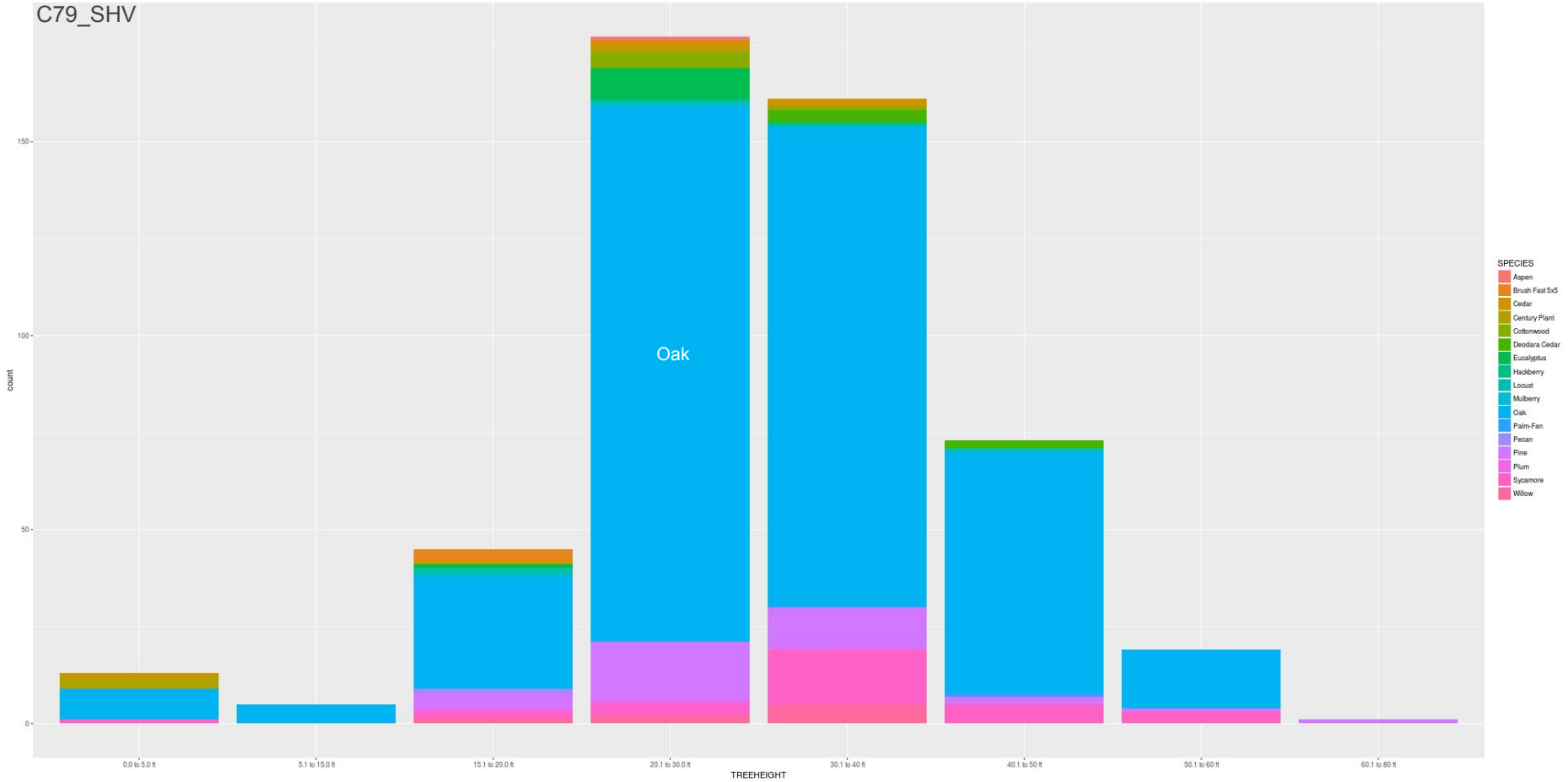


SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

Total number of trees: 522

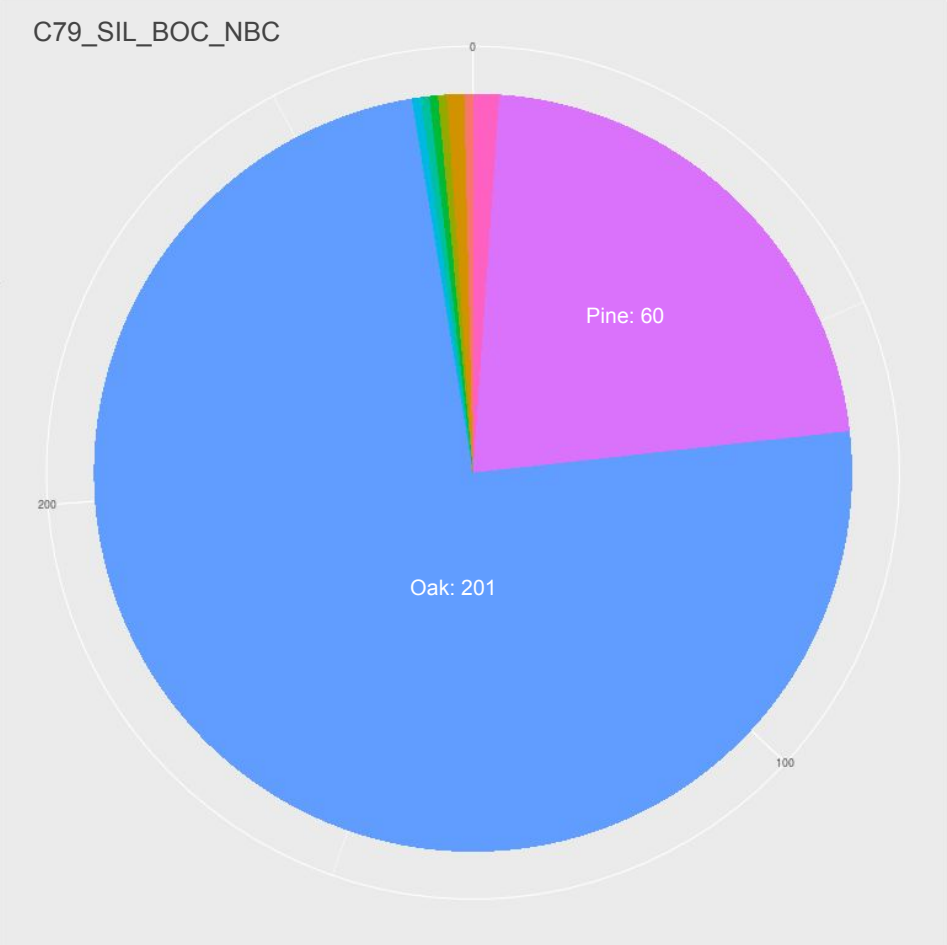
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

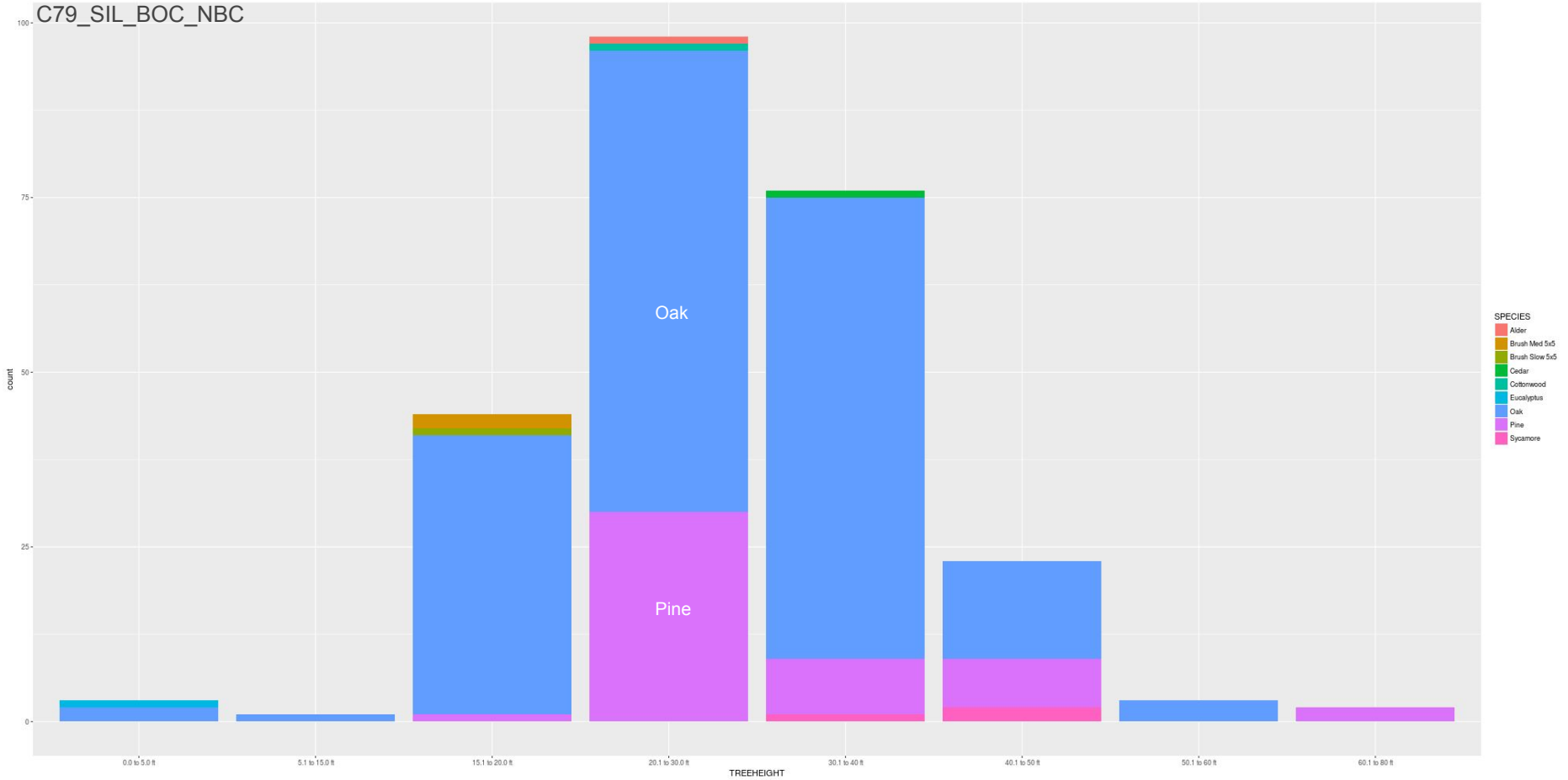


SPECIES	OTGDATE
Oak	2/10/2002 10:40
Cypress	12/16/2004 18:11
Pine	4/10/2007 7:12
Oak	10/13/2008 23:55
Oak	12/18/2008 3:41
Oak	2/27/2011 2:35
Pine	3/9/2014 0:00
Pine	3/9/2014 0:00
Willow	4/30/2014 0:00
Oak	5/6/2017 0:00

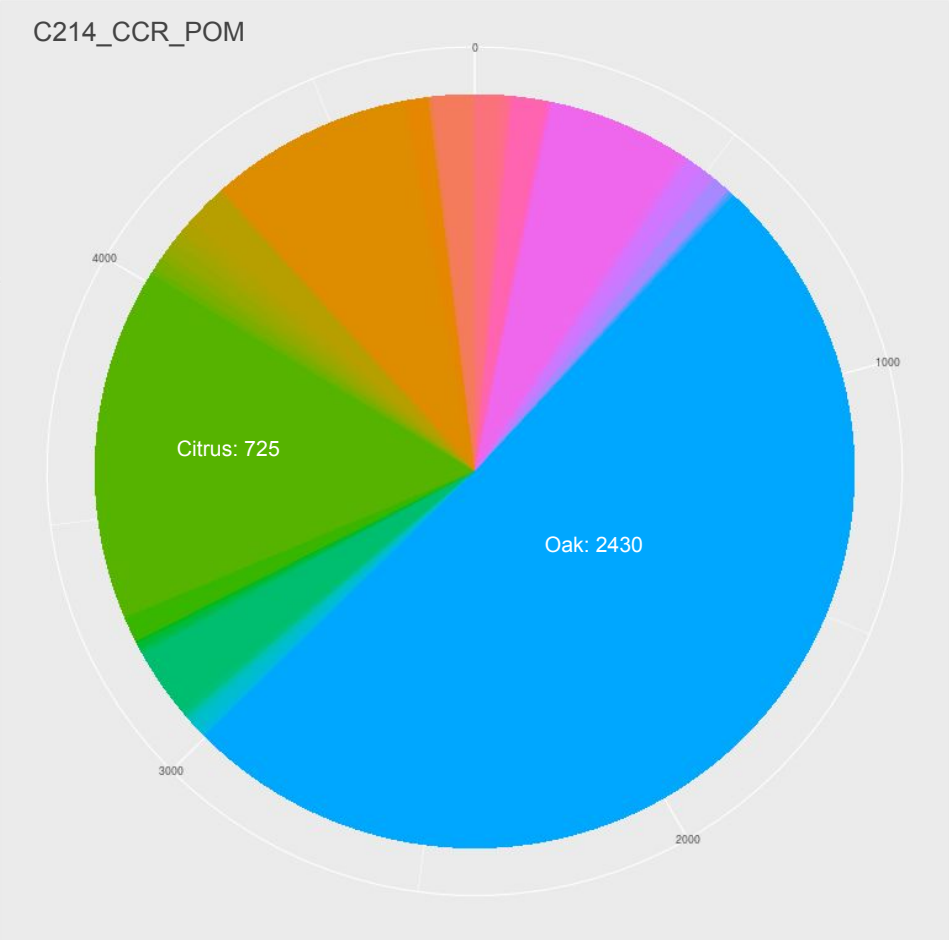
Total number of trees: 271

Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage



Group

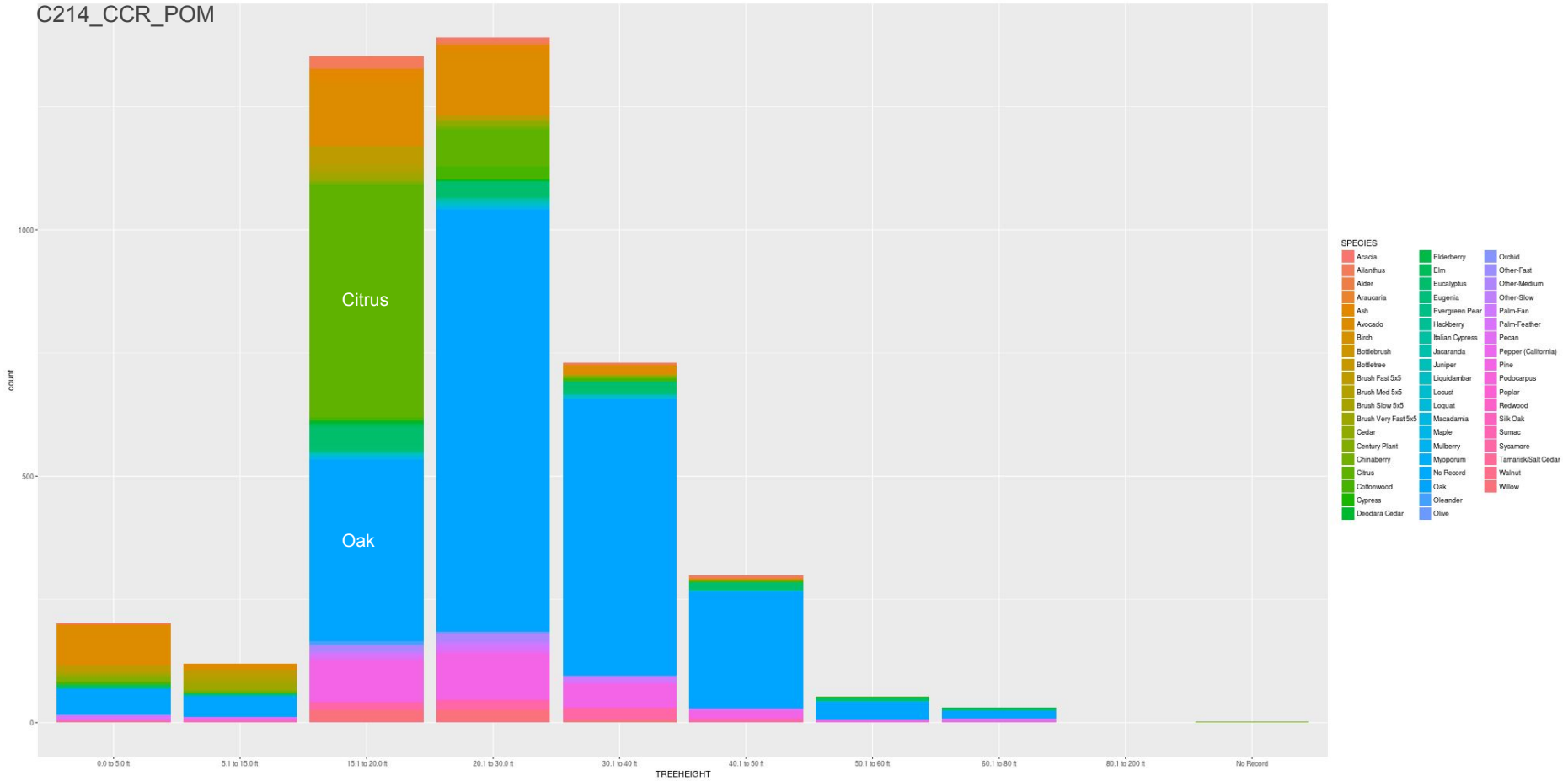
Acacia 5	Deodara Cedar 13	Olive 6
Ailanthus 81	Elderberry 7	Orchid 1
Alder 7	Elm 4	Other-Fast 2
Araucaria 1	Eucalyptus 138	Other-Medium 36
Ash 49	Eugenia 13	Other-Slow 2
Avocado 413	Evergreen Pear 3	Palm-Fan 29
Birch 1	Hackberry 1	Palm-Feather 33
Bottlebrush 1	Italian Cypress 4	Pecan 6
Bottletree 3	Jacaranda 4	Pepper (California) 13
Brisbane Box 1	Juniper 3	Pine 281
Brush Fast 5x5 85	Liquidambar 7	Podocarpus 2
Brush Med 5x5 29	Locust 18	Poplar 1
Brush Slow 5x5 22	Loquat 3	Redwood 2
Brush Very Fast 5x5 27	Macadamia 10	Silk Oak 4
Cedar 17	Maple 2	Sumac 4
Century Plant 23	Mulberry 2	Sycamore 69
Chinaberry 14	Myoporum 1	Tamarisk/Salt Cedar 2
Citrus 725	No Record 1	Tipu 1
Cottonwood 53	Oak 2430	Walnut 17
Cypress 4	Oleander 7	Willow 54

Total number of trees: 4,797

SPECIES	OTGDATE
Oak	4/16/2001 0:00
No Record	4/21/2001 0:00
Oak	7/25/2002 5:26
Oak	9/23/2002 4:30
Fir	12/16/2002 19:38
Cedar	7/15/2003 9:50
Oak	6/23/2004 18:32
Fir	2/2/2005 5:01
Oak	3/11/2006 19:38
Cedar	10/22/2007 19:55
Oak	12/18/2008 2:04
Citrus	1/9/2009 23:14
Cedar	1/12/2010 13:22
Sycamore	5/28/2016 0:00
Oak	5/7/2017 0:00
Oak	2/22/2018 0:00

Number of tree species within size bin

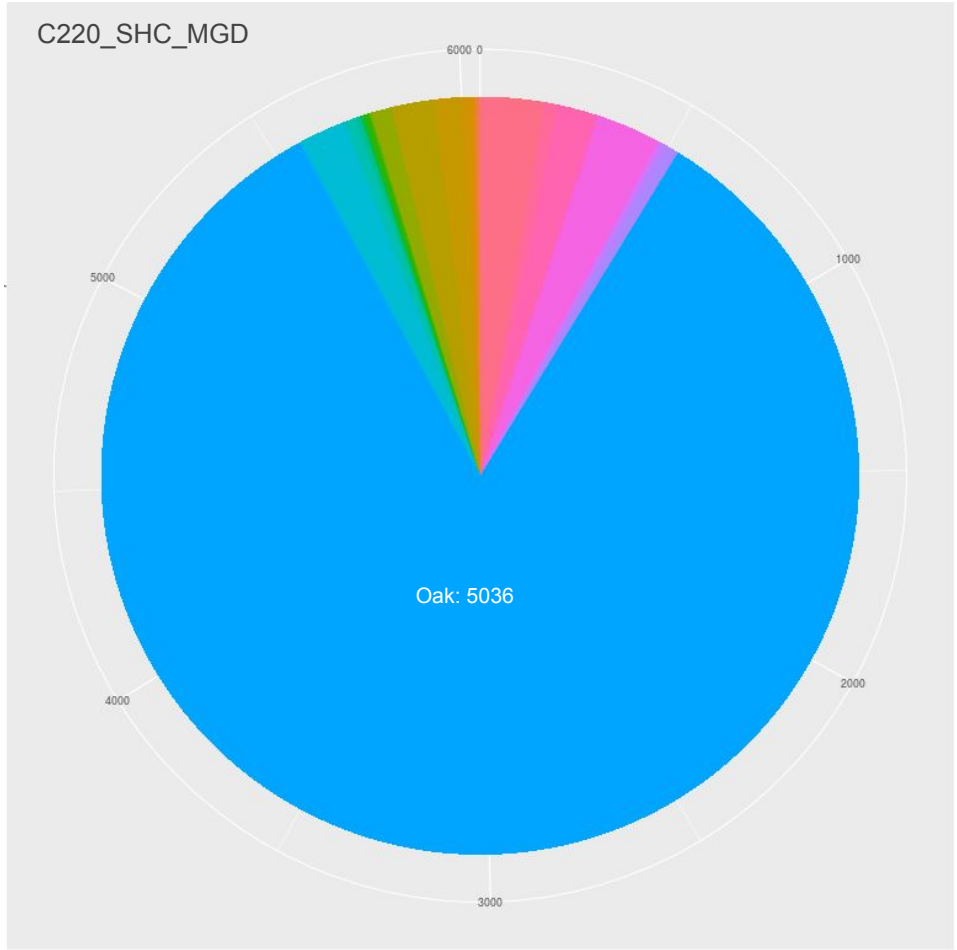
2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

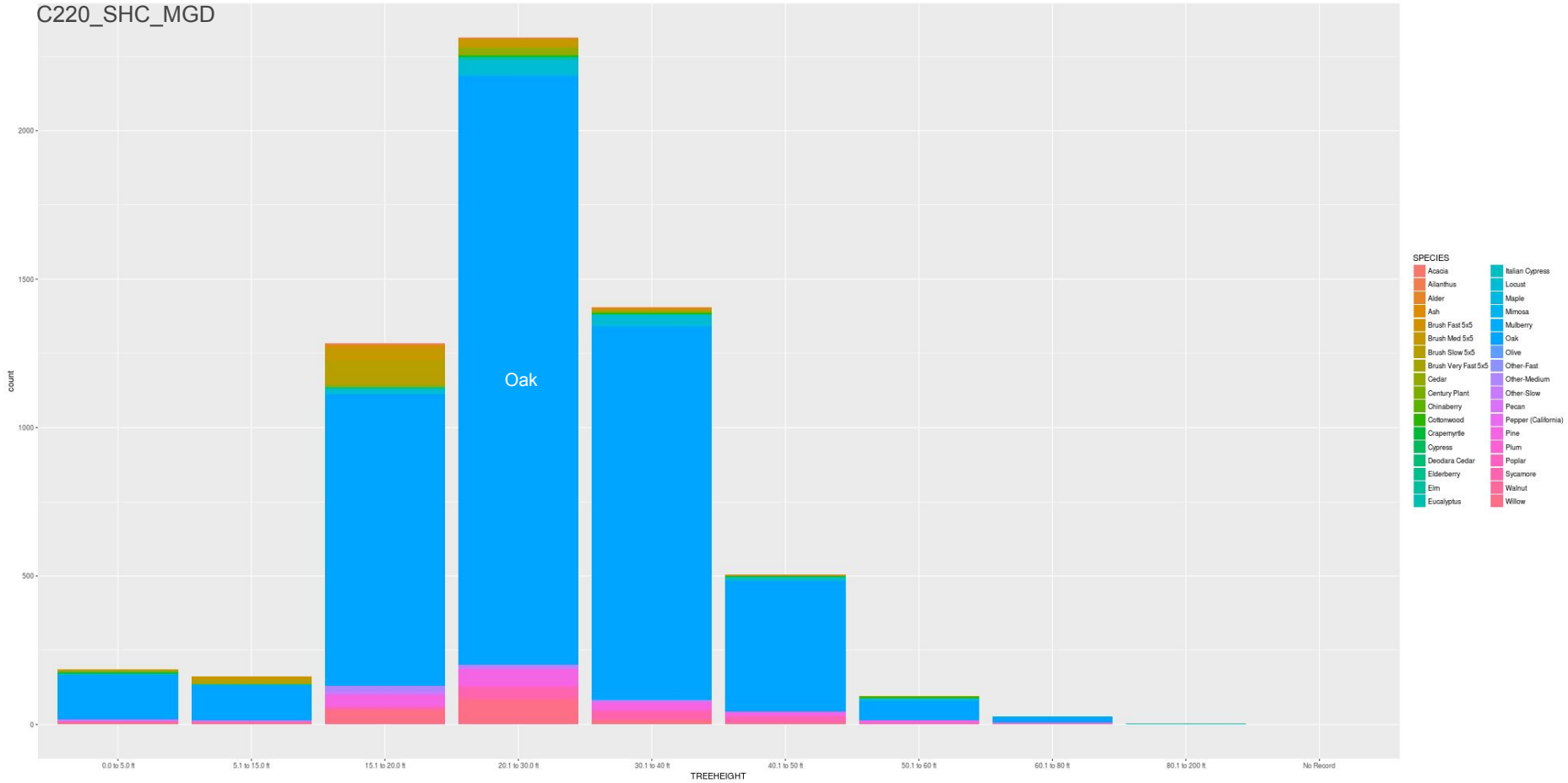
SPECIES	OTGDATE
Oak	3/28/2006 23:24



Total number of trees: 6,047

Number of tree species within size bin

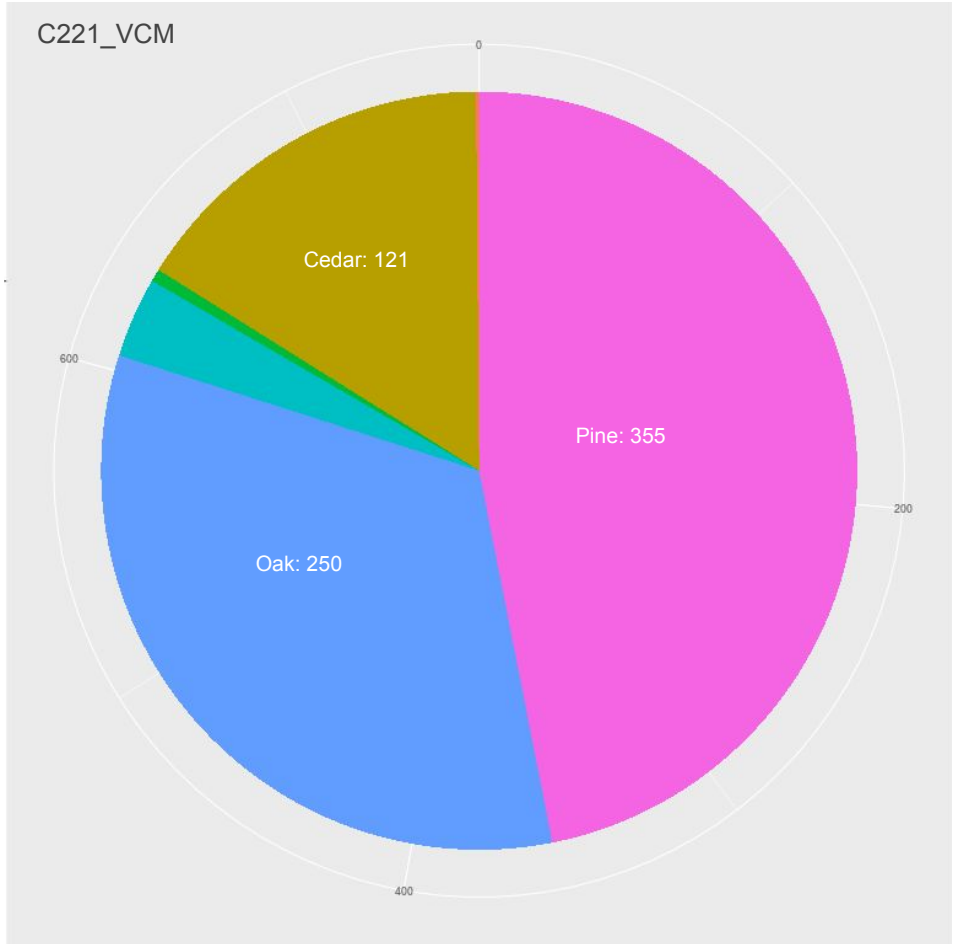
2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

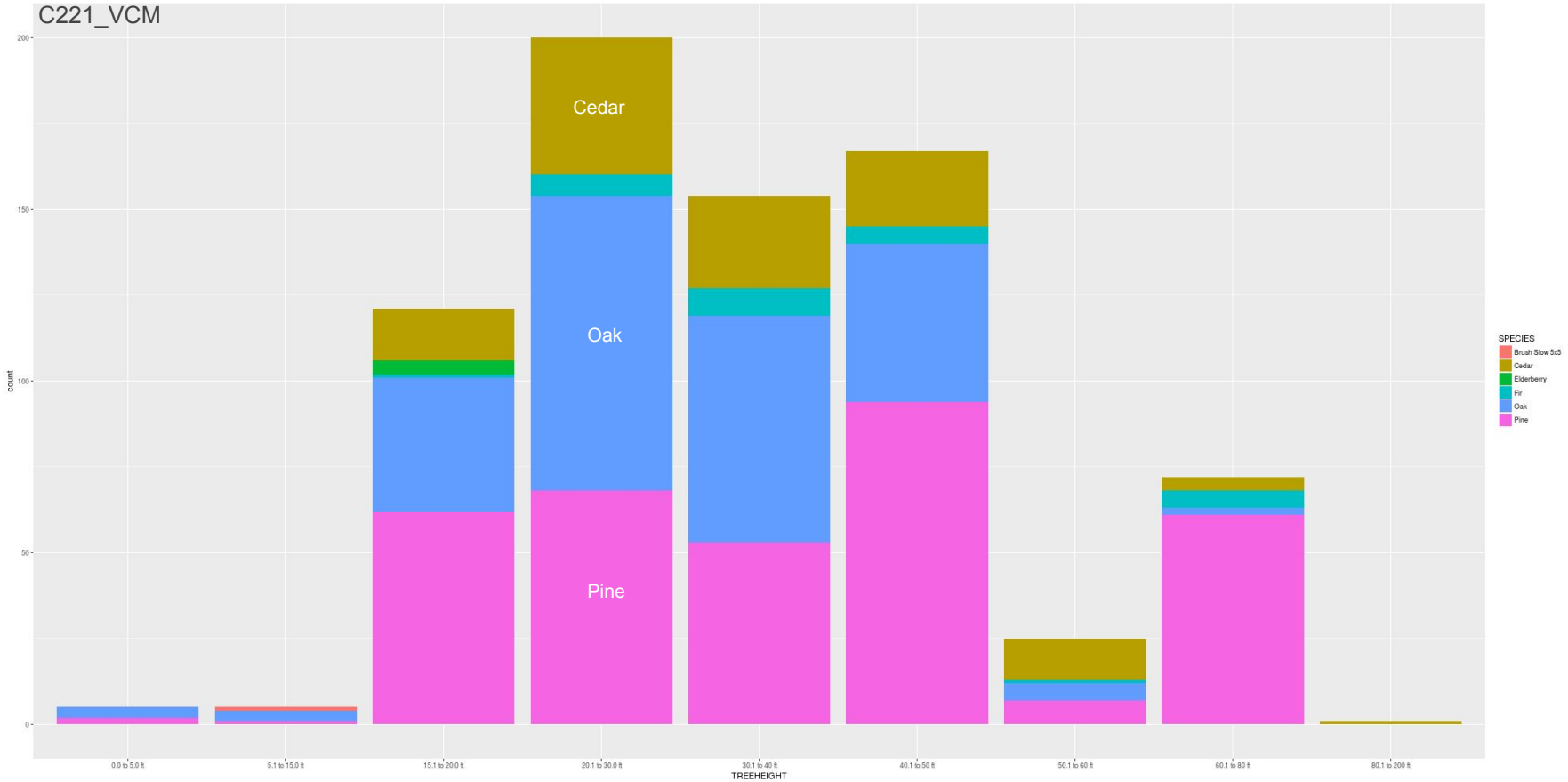
SPECIES	OTGDATE
Pine	1/29/2003 11:37
Oak	10/26/2007 8:39



Total number of trees: 757

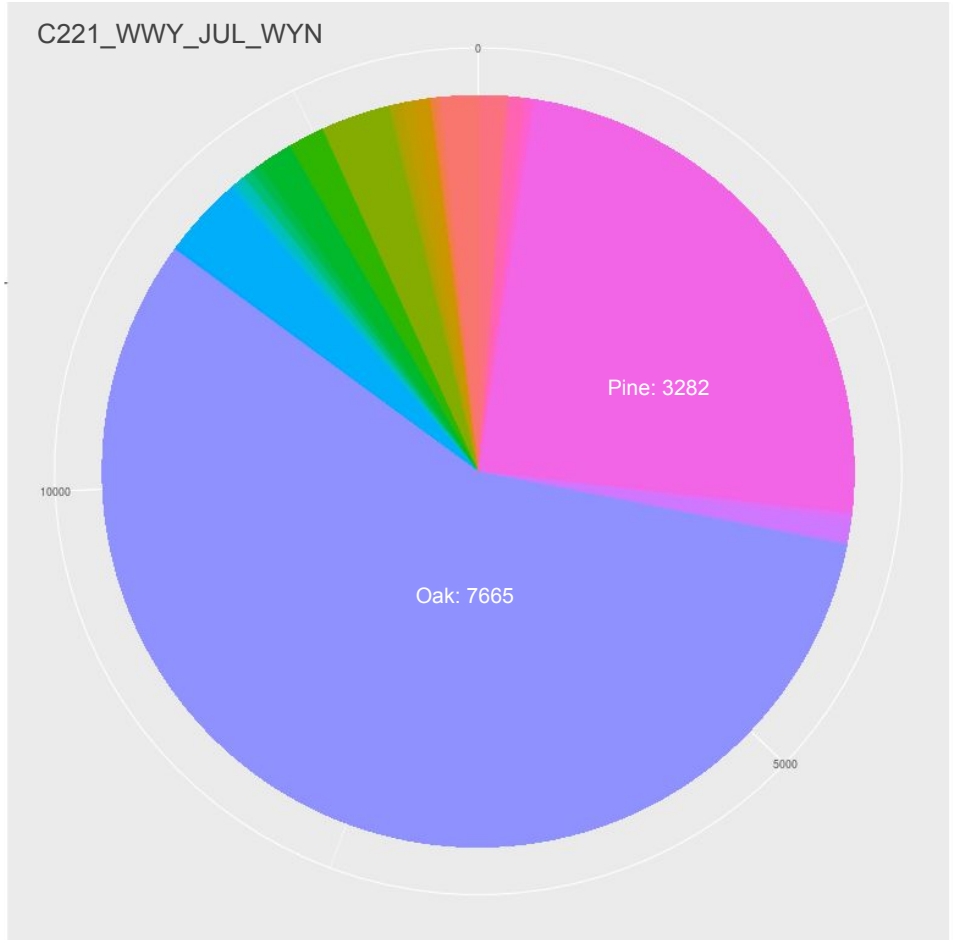
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

SPECIES	OTGDATE
Pine	1/29/2003 11:37
Oak	10/26/2007 8:39



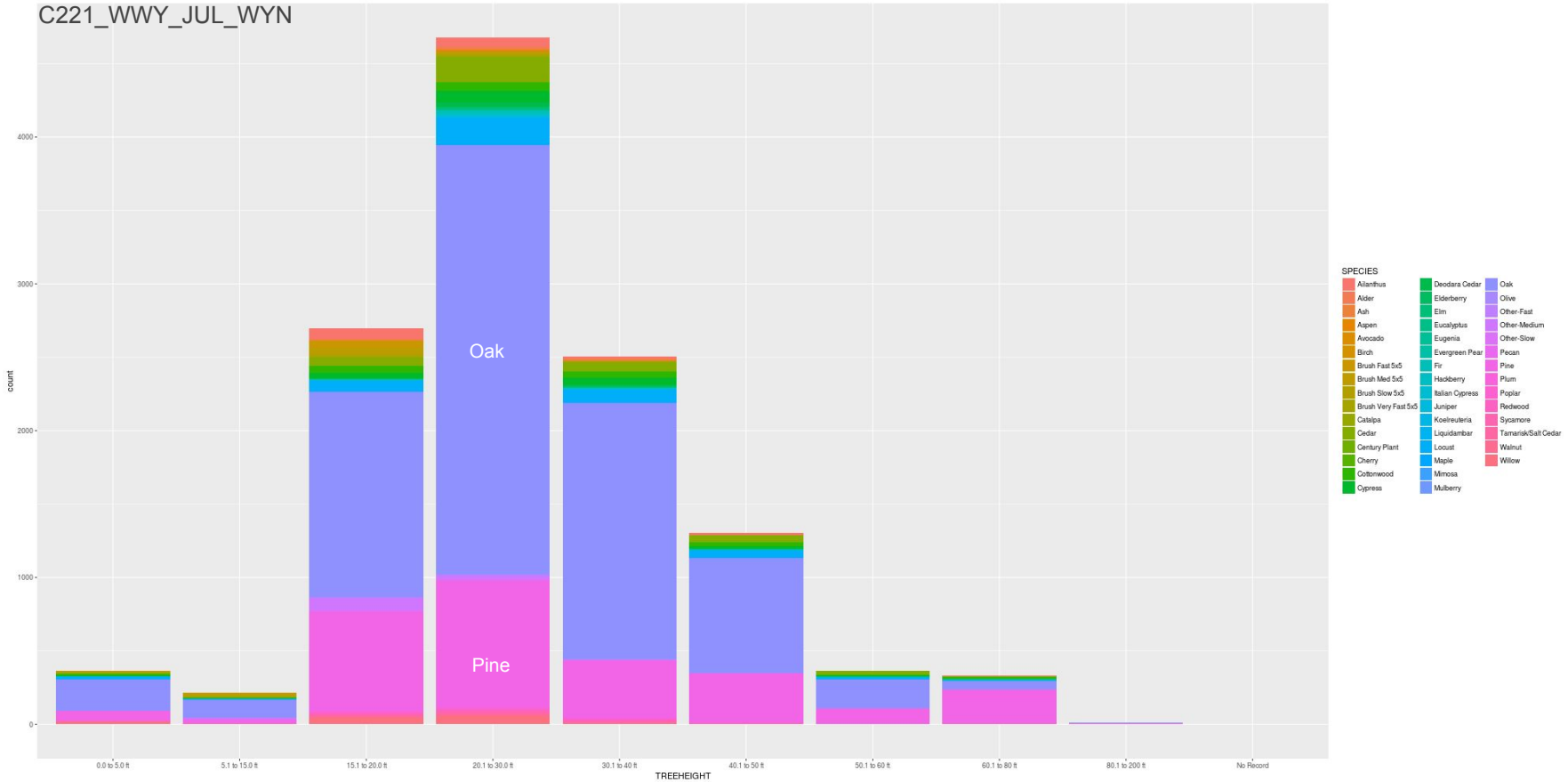
Group

Ailanthus 217	Deodara Cedar 48	Oak 7665
Alder 32	Elderberry 15	Olive 6
Ash 25	Elm 45	Other-Fast 9
Aspen 6	Eucalyptus 7	Other-Medium 126
Avocado 2	Eugenia 1	Other-Slow 38
Birch 2	Evergreen Pear 2	Pecan 4
Brush Fast 5x5 89	Fir 46	Pine 3282
Brush Med 5x5 68	Hackberry 1	Plum 10
Brush Slow 5x5 49	Italian Cypress 19	Poplar 44
Brush Very Fast 5x5 21	Juniper 17	Redwood 3
Catalpa 5	Koelreuteria 1	Sycamore 90
Cedar 396	Liquidambar 13	Tamarisk/Salt Cedar 5
Century Plant 3	Locust 444	Walnut 18
Cherry 1	Maple 22	Willow 155
Cottonwood 209	Mimosa 2	
Cypress 203	Mulberry 3	

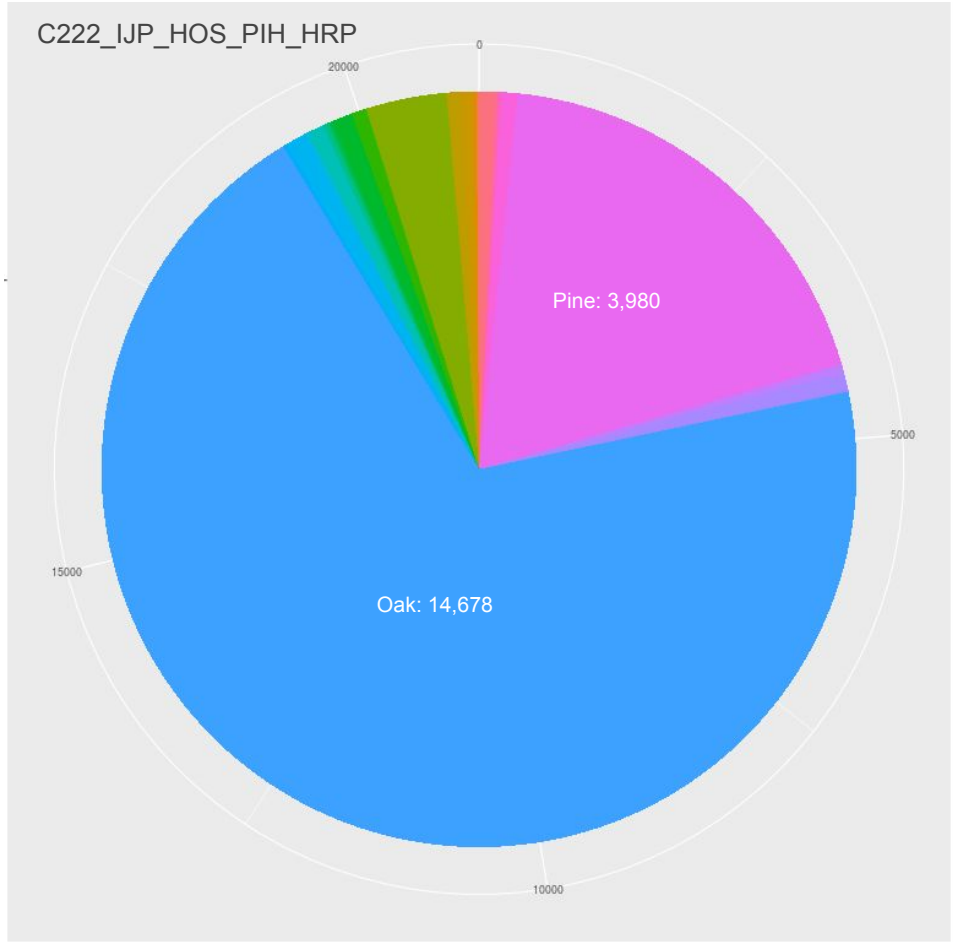
Total number of trees: 13,469

Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage



Group

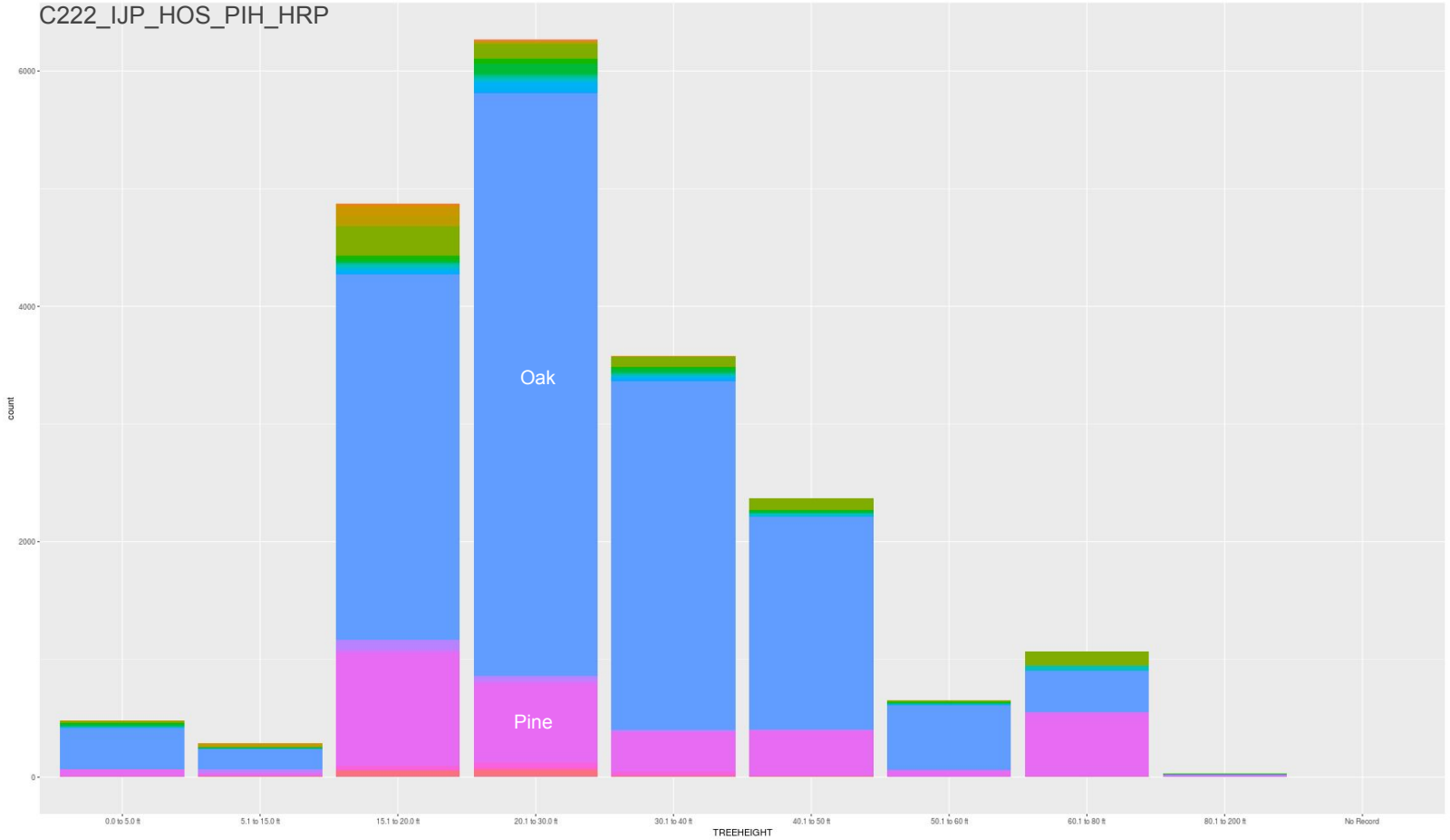
Acacia 1	Deodara Cedar 27	Other-Fast 15
Ailanthus 15	Elderberry 4	Other-Medium 158
Alder 7	Elm 21	Other-Slow 76
Ash 18	Eucalyptus 28	Paloverde 1
Aspen 4	Evergreen Pear 9	Pecan 1
Brush Fast 5x5 31	Ficus 1	Pine 3980
Brush Med 5x5 88	Fir 141	Plum 3
Brush Slow 5x5 118	Hackberry 1	Poplar 148
Brush Very Fast 5x5 6	Italian Cypress 9	Redwood 6
Casuarina 2	Juniper 15	Sumac 1
Catalpa 5	Liquidambar 17	Sycamore 21
Cedar 718	Locust 171	Tipu 2
Century Plant 9	Maple 34	Walnut 27
Cherry 2	Mulberry 8	Willow 139
Cottonwood 133	Oak 14678	
Cypress 188	Olive 1	

Total number of trees: 21,088

SPECIES	OTGDATE
Pine	11/12/2001 0:00
Pine	1/3/2003 20:12
Oak	7/29/2003 19:42
Pine	8/17/2004 11:00
Pine	11/21/2004 10:00
Oak	9/21/2005 7:20
Oak	9/2/2007 14:26
Cottonwood	1/7/2008 4:00
Oak	10/23/2008 15:46
Oak	12/17/2008 9:21
Pine	3/22/2009 15:51
Other-Medium	1/21/2010 14:27
Oak	2/27/2011 8:27
Oak	2/20/2013 5:08

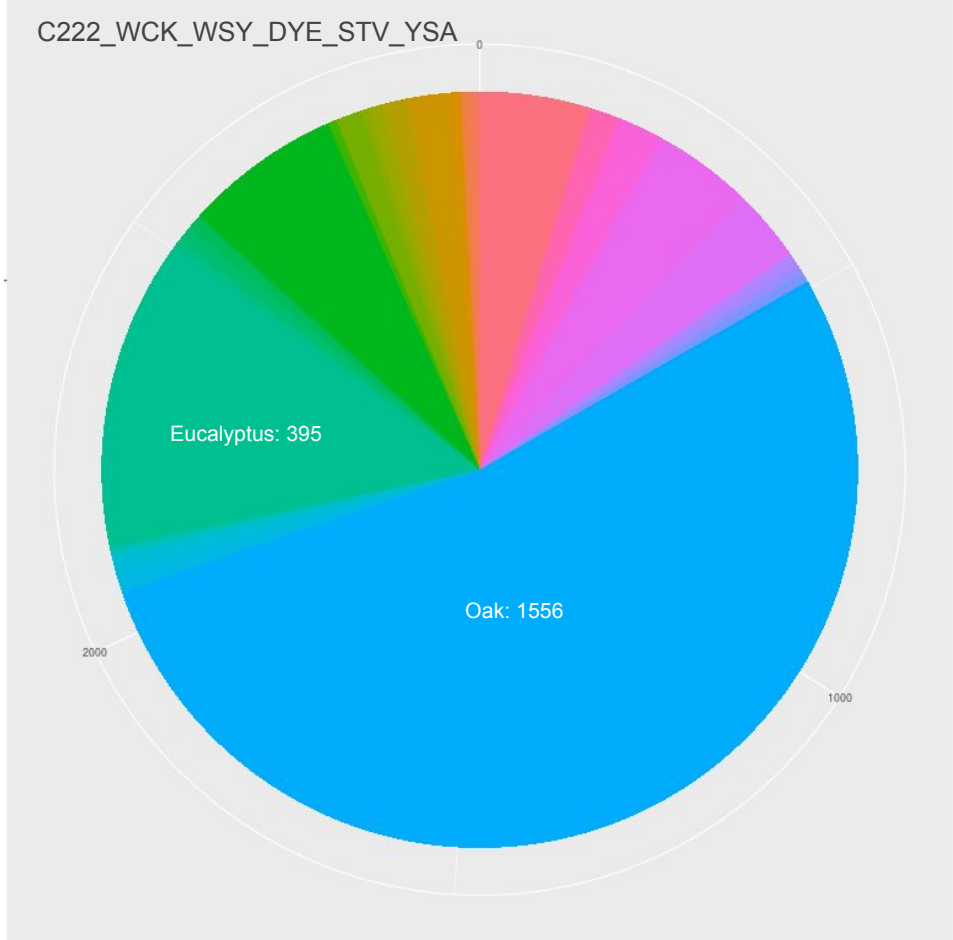
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69



Group

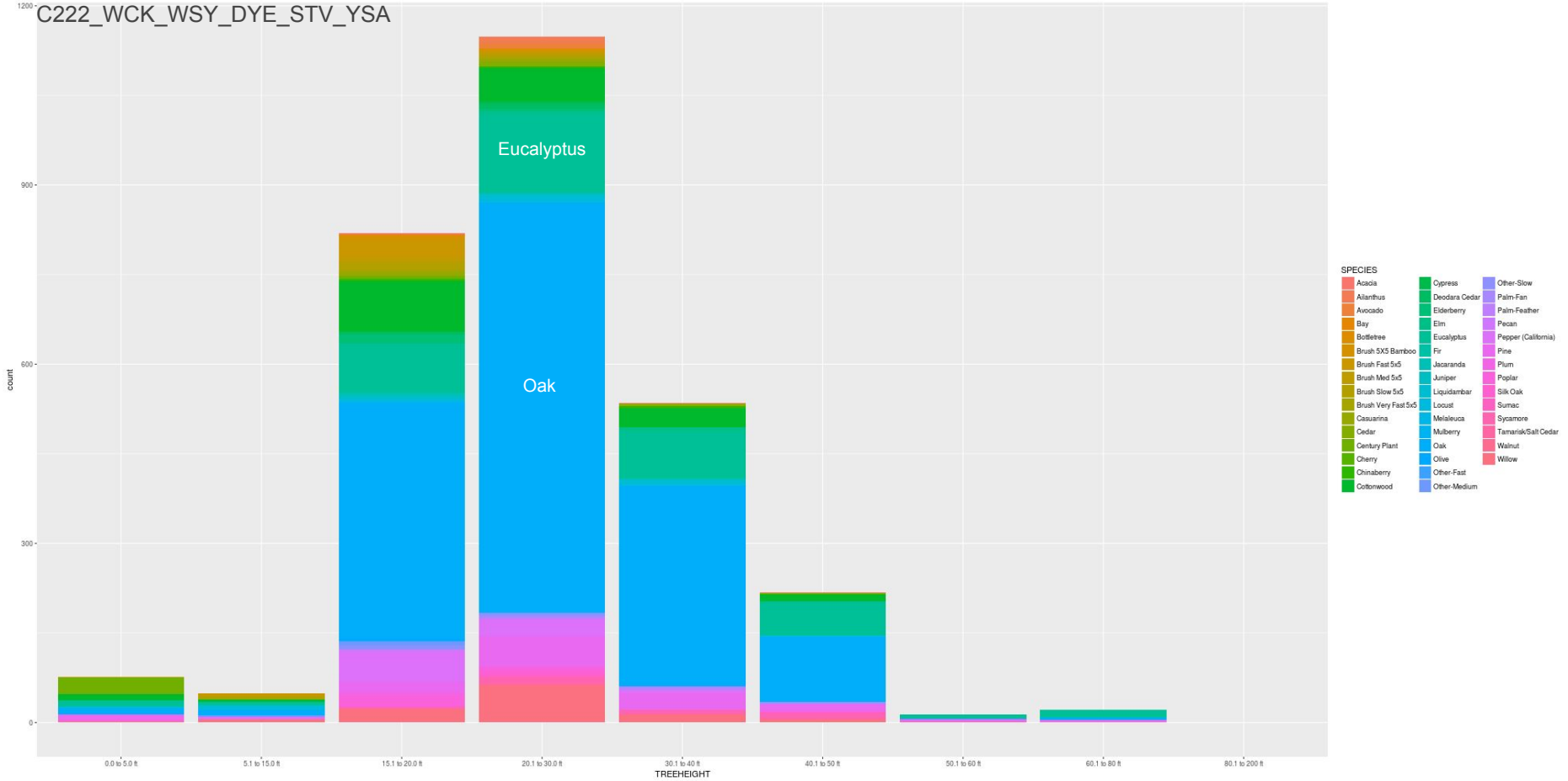
Acacia 2	Cypress 3	Other-Medium 12
Ailanthus 13	Deodara Cedar 16	Other-Slow 11
Avocado 9	Elderberry 19	Palm-Fan 15
Bay 1	Elm 10	Palm-Feather 1
Bottletree 1	Eucalyptus 395	Pecan 1
Brush 5X5 Bamboo 16	Fir 1	Pepper (California) 91
Brush Fast 5x5 44	Italian Cypress 1	Pine 124
Brush Med 5x5 8	Jacaranda 7	Plum 6
Brush Slow 5x5 22	Juniper 5	Poplar 47
Brush Very Fast 5x5 9	Liquidambar 18	Silk Oak 7
Casuarina 16	Locust 22	Sumac 3
Cedar 10	Melaleuca 2	Sycamore 31
Century Plant 31	Mulberry 2	Tamarisk/Salt Cedar 2
Cherry 1	Oak 1556	Walnut 6
Chinaberry 11	Olive 4	Willow 134
Cottonwood 197	Other-Fast 1	

Total number of trees: 2,944

SPECIES	OTGDATE
Pine	11/12/2001 0:00
Pine	1/3/2003 20:12
Oak	7/29/2003 19:42
Pine	8/17/2004 11:00
Pine	11/21/2004 10:00
Oak	9/21/2005 7:20
Oak	9/2/2007 14:26
Cottonwood	1/7/2008 4:00
Oak	10/23/2008 15:46
Oak	12/17/2008 9:21
Pine	3/22/2009 15:51
Other-Medium	1/21/2010 14:27
Oak	2/27/2011 8:27
Oak	2/20/2013 5:08

Number of tree species within size bin

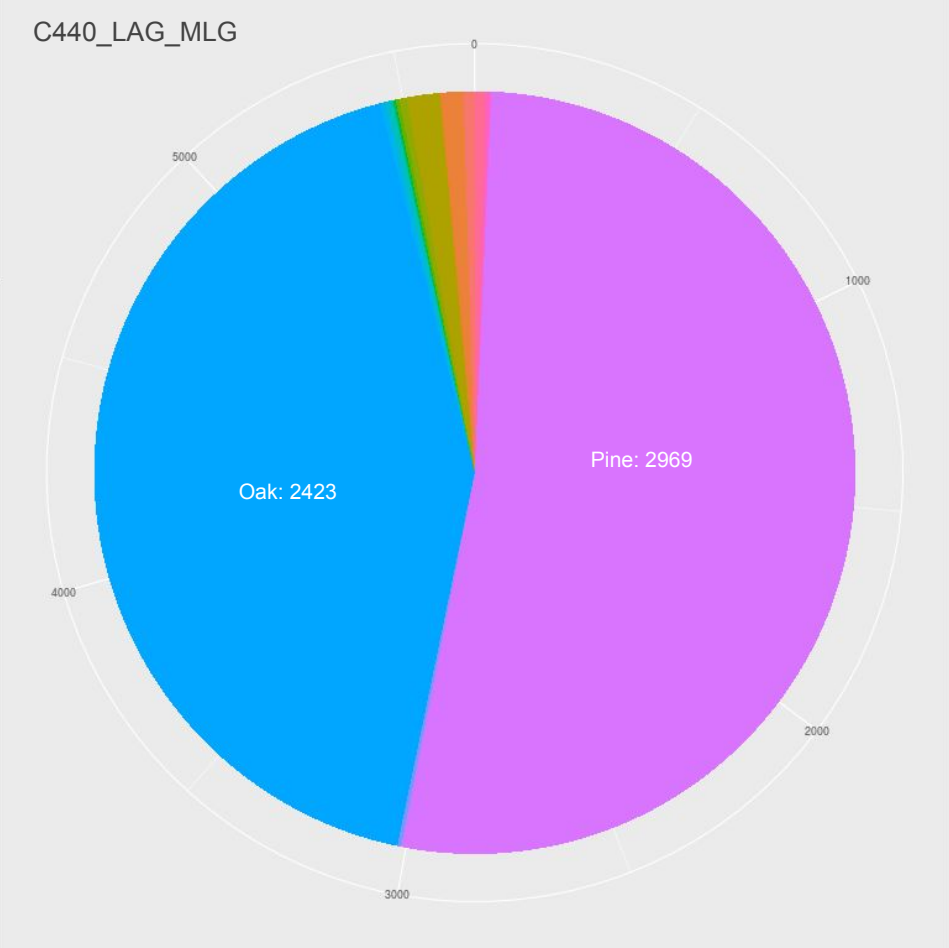
2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

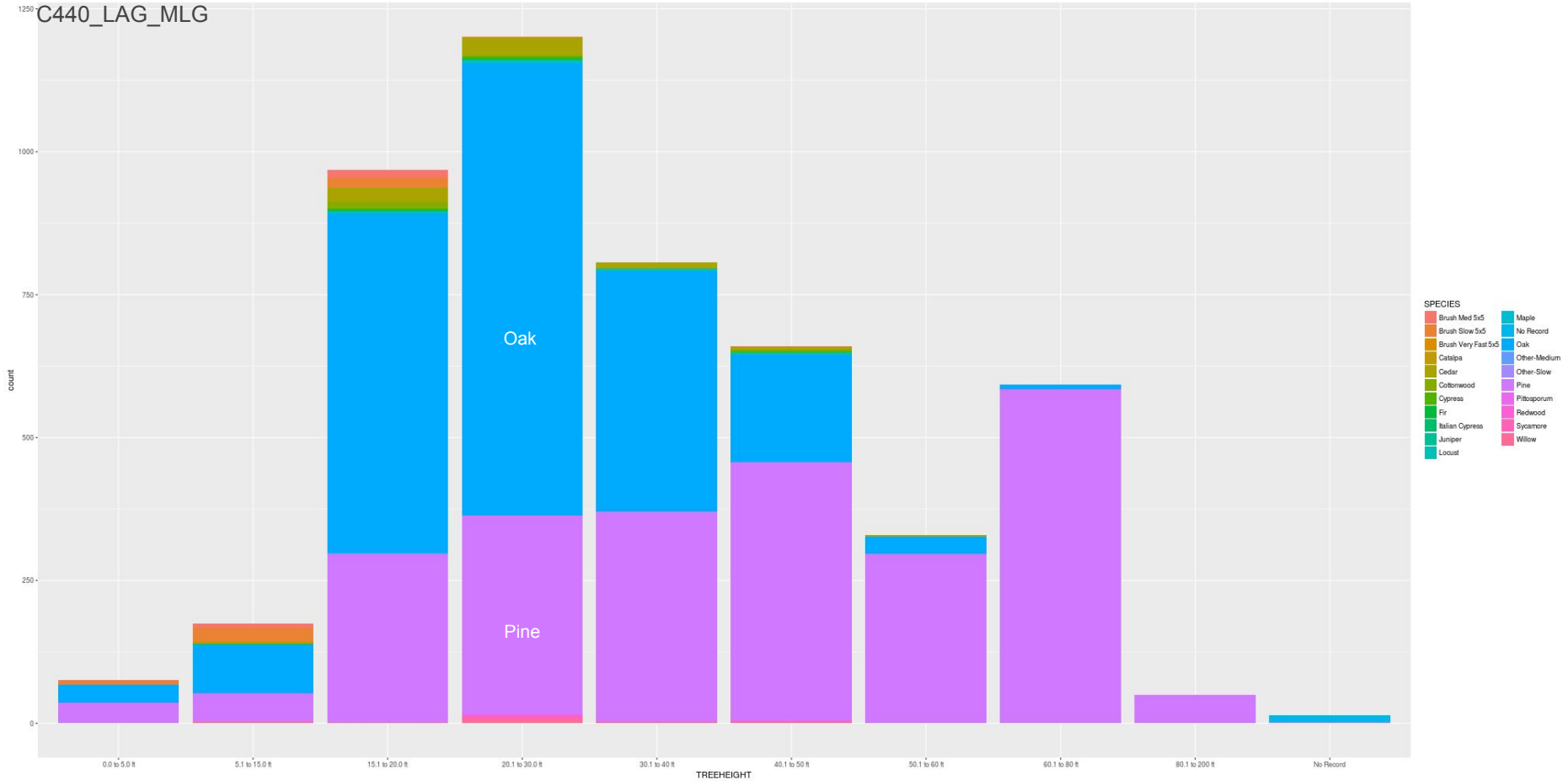
SPECIES	OTGDATE
Brush Slow 5x5	2/20/2011 7:57



Total number of trees: 5,672

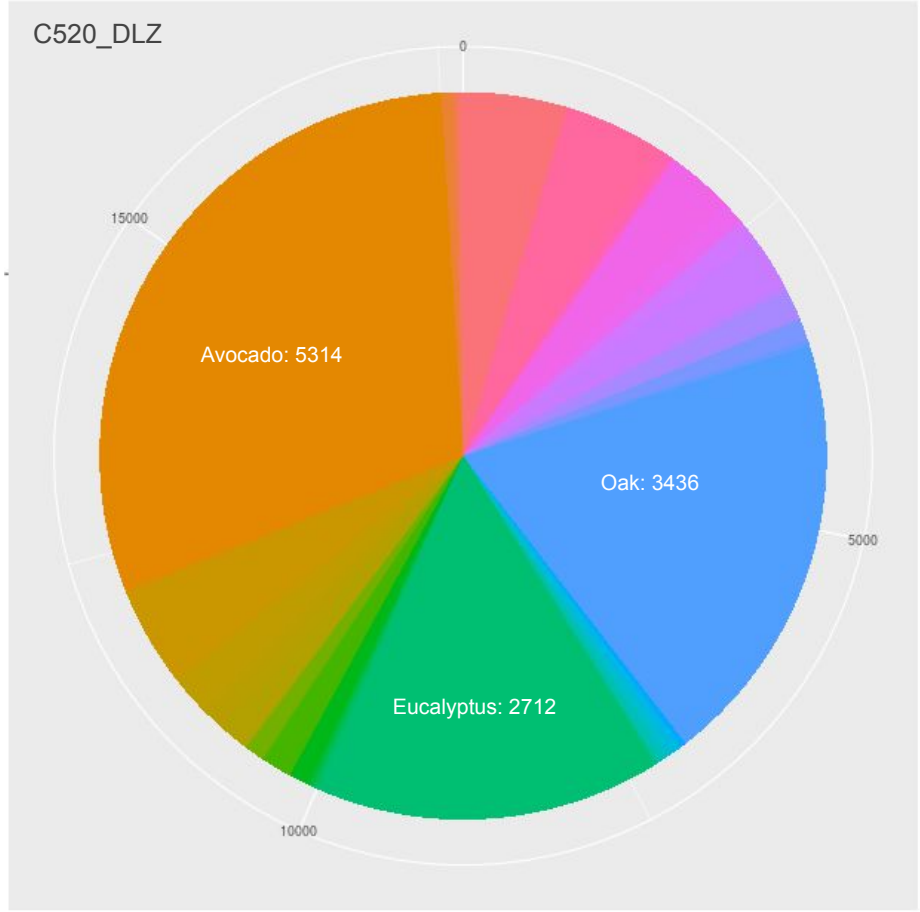
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69



SPECIES	OTGDATE
Pine	2/28/2001 0:00
Sycamore	7/16/2004 14:20
No Record	4/8/2005 11:00
Eucalyptus	1/15/2006 14:18
Oak	10/14/2008 14:54
Avocado	3/19/2012 5:54
Pine	2/13/2014 0:00

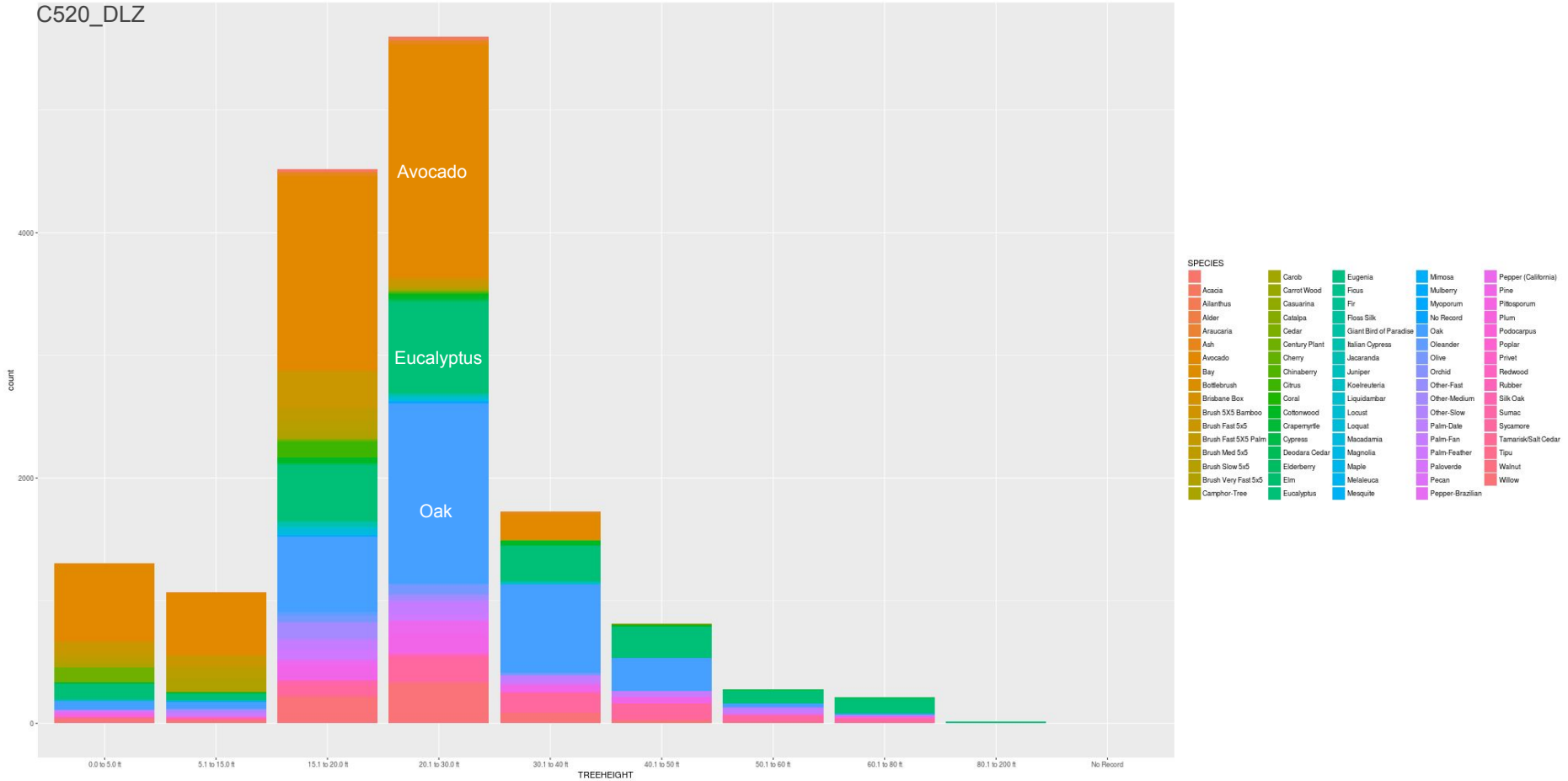
Group

Acacia 34	Carob 1	Eugenia 3	Mesquite 2	Pepper-Brazilian 25
Ailanthus 21	Carrot Wood 5	Evergreen Pear 1	Mimosa 6	Pepper (California) 159
Alder 12	Casuarina 4	Ficus 18	Mulberry 18	Pine 522
Araucaria 4	Catalpa 1	Fir 1	Myoporum 15	Pittosporum 3
Ash 98	Cedar 9	Floss Silk 4	No Record 1	Plum 2
Aspen 1	Century Plant 142	Giant Bird of Paradise 1	Oak 3436	Podocarpus 1
Avocado 5314	Cherry 1	Italian Cypress 54	Oleander 43	Poplar 17
Bay 2	Chinaberry 12	Jacaranda 13	Olive 171	Privet 1
Bottlebrush 6	Citrus 234	Juniper 16	Orchid 1	Redwood 8
Brisbane Box 3	Coral 3	Koelreuteria 1	Other-Fast 6	Rubber 2
Brush 5X5 Bamboo 28	Cottonwood 165	Liquidambar 52	Other-Medium 230	Silk Oak 49
Brush Fast 5x5 751	Crapemyrtle 1	Locust 4	Other-Slow 24	Sumac 71
Brush Fast 5X5 Palm 29	Cypress 33	Loquat 4	Palm-Date 29	Sycamore 772
Brush Med 5x5 306	Deodara Cedar 9	Macadamia 58	Palm-Fan 413	Tamarisk/Salt Cedar 2
Brush Slow 5x5 187	Elderberry 22	Magnolia 2	Palm-Feather 164	Tipu 3
Brush Very Fast 5x5 230	Elm 23	Maple 1	Paloverde 2	Walnut 10
Camphor-Tree 1	Eucalyptus 2712	Melaleuca 11	Pecan 12	Willow 807

Total number of trees: 17,677

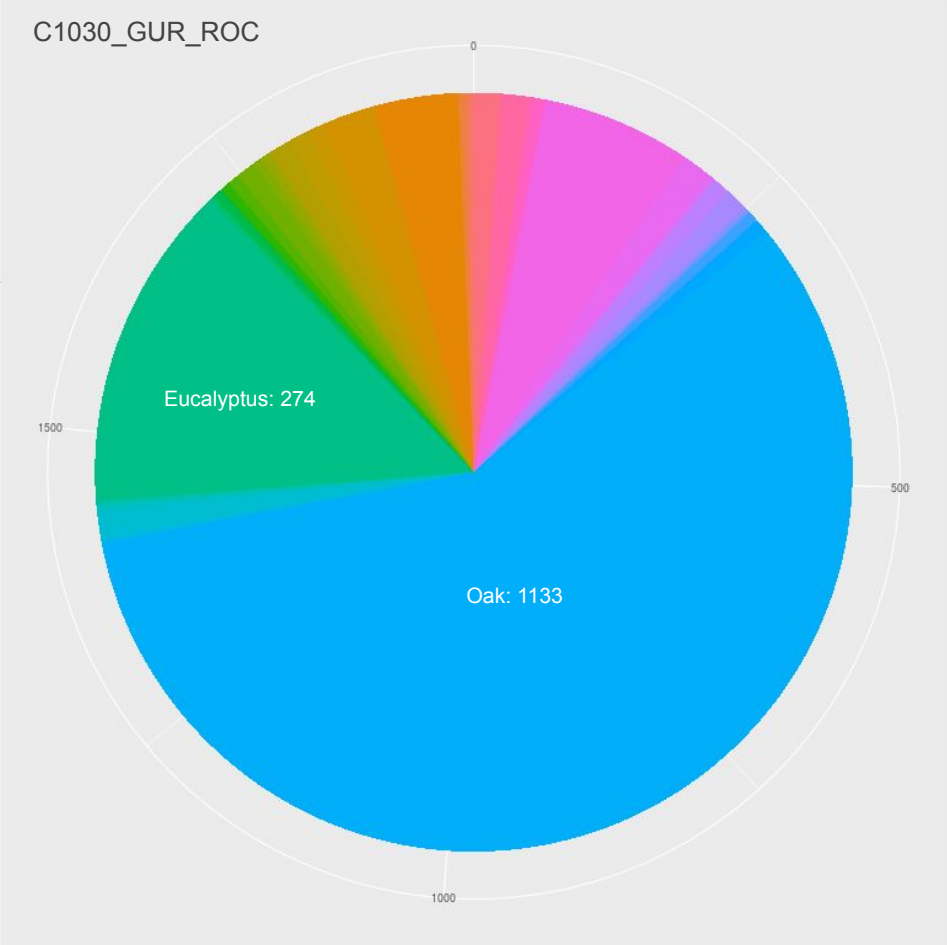
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

SPECIES	OTGDATE
Eucalyptus	12/16/2004 10:18
Palm-Fan	12/7/2009 5:25
Oak	12/22/2010 7:11
Oak	12/29/2010 14:37



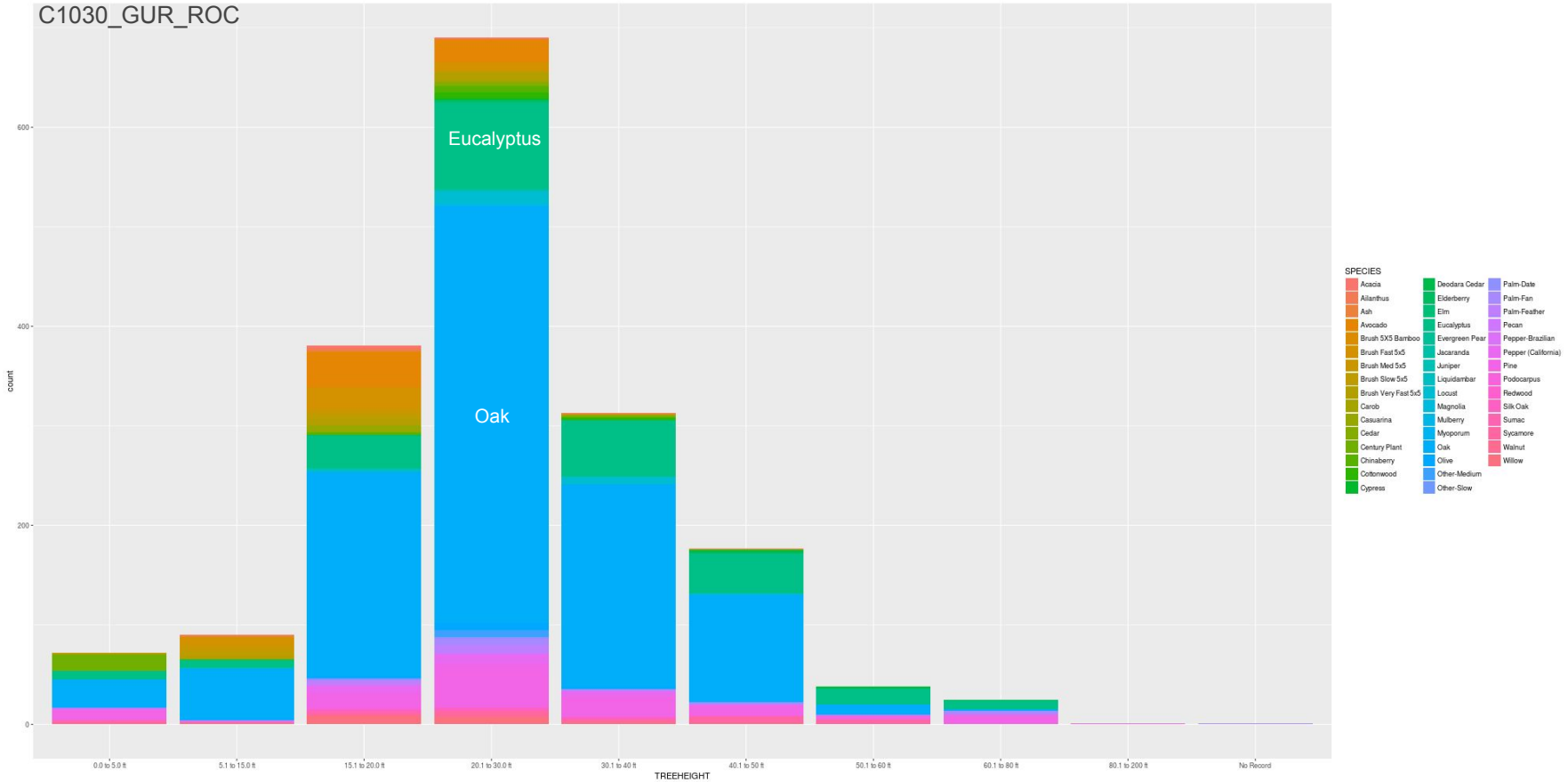
Group

Acacia 4	Deodara Cedar 7	Palm-Date 3
Ailanthus 3	Elderberry 2	Palm-Fan 18
Ash 6	Elm 3	Palm-Feather 15
Avocado 70	Eucalyptus 272	Pecan 2
Brush 5X5 Bamboo 1	Evergreen Pear 2	Pepper-Brazilian 1
Brush Fast 5x5 42	Jacaranda 1	Pepper (California) 28
Brush Med 5x5 15	Juniper 3	Pine 124
Brush Slow 5x5 17	Liquidambar 4	Podocarpus 1
Brush Very Fast 5x5 18	Locust 21	Redwood 1
Carob 3	Magnolia 3	Silk Oak 10
Casuarina 7	Mulberry 1	Sumac 1
Cedar 7	Myoporum 1	Sycamore 24
Century Plant 16	Oak 1133	Walnut 1
Chinaberry 10	Olive 12	Willow 22
Cottonwood 8	Other-Medium 9	
Cypress 1	Other-Slow 3	

Total number of trees: 1,956

Number of tree species within size bin

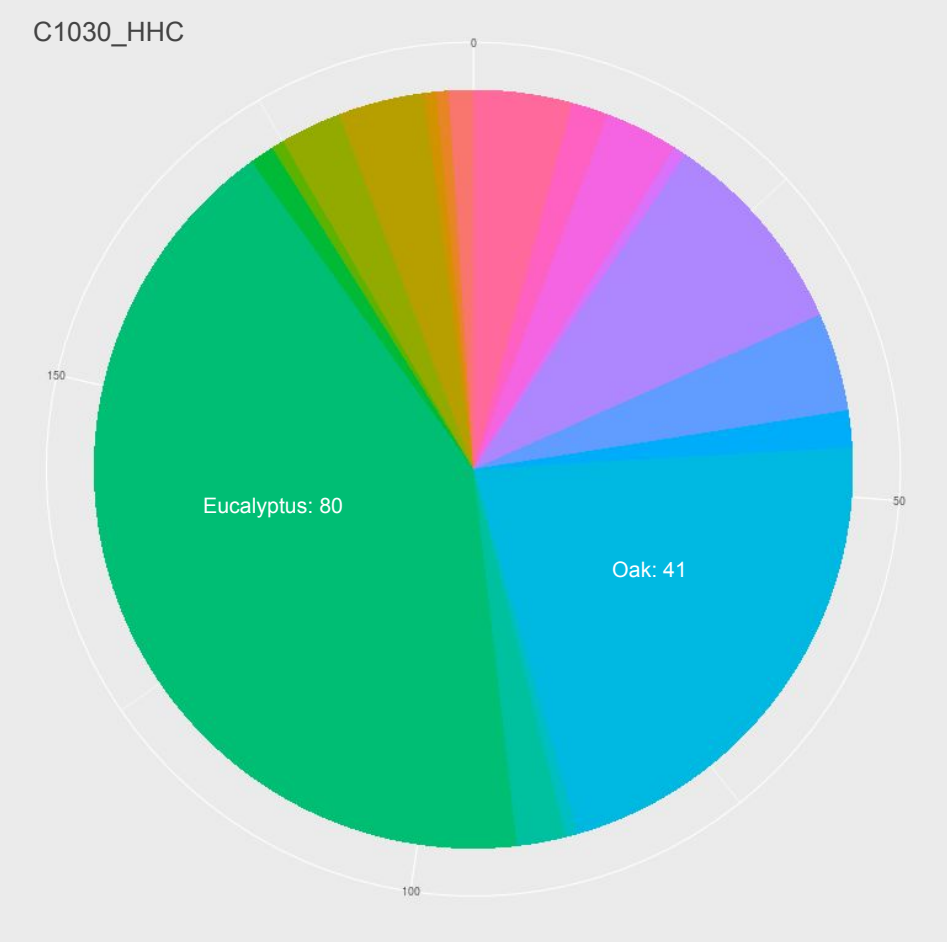
2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

2020 WMP: WSD-SDGE-DR 2 Q69

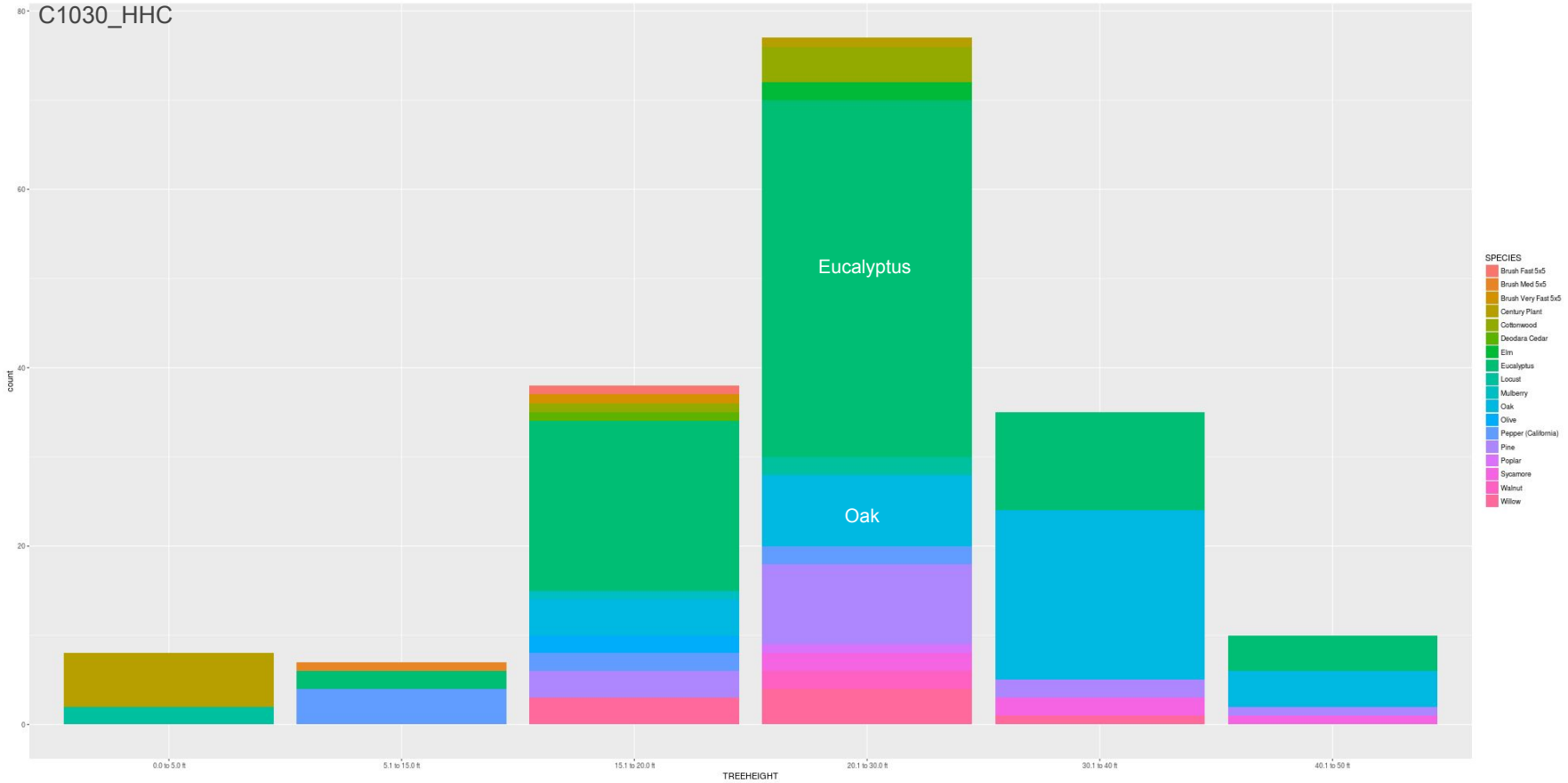
SPECIES	OTGDATE
Eucalyptus	12/16/2004 10:18
Palm-Fan	12/7/2009 5:25
Oak	12/22/2010 7:11
Oak	12/29/2010 14:37



Total number of trees: 191

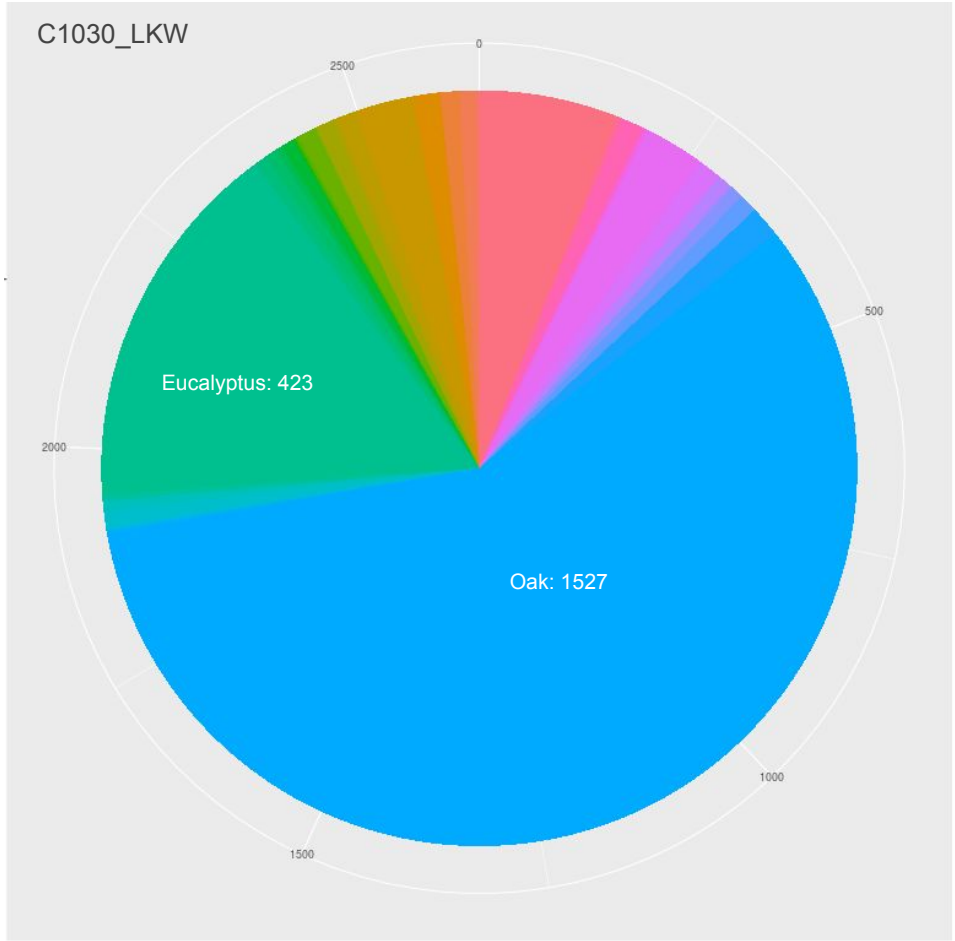
Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

SPECIES	OTGDATE
Eucalyptus	12/16/2004 10:18
Palm-Fan	12/7/2009 5:25
Oak	12/22/2010 7:11
Oak	12/29/2010 14:37



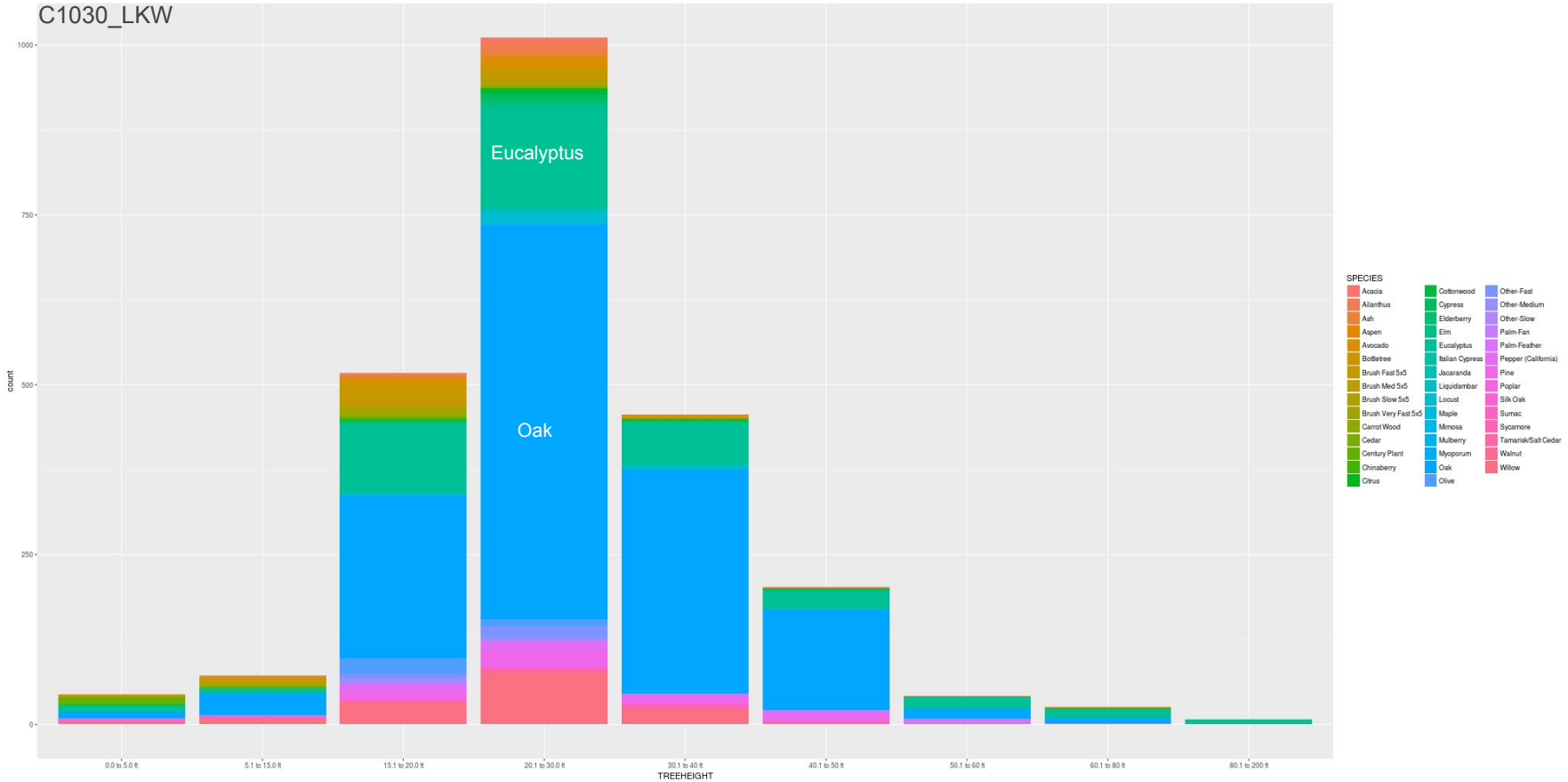
Group

Acacia 3	Cottonwood 15	Other-Fast 21
Ailanthus 19	Cypress 7	Other-Medium 15
Ash 22	Elderberry 14	Other-Slow 2
Aspen 1	Elm 14	Palm-Fan 16
Avocado 29	Eucalyptus 423	Palm-Feather 1
Bottletree 1	Italian Cypress 7	Pepper (California) 25
Brush Fast 5x5 65	Jacaranda 1	Pine 69
Brush Med 5x5 23	Liquidambar 11	Poplar 3
Brush Slow 5x5 4	Locust 18	Privet 1
Brush Very Fast 5x5 20	Maple 1	Silk Oak 1
Carrot Wood 1	Mimosa 1	Sumac 2
Cedar 1	Mulberry 2	Sycamore 25
Century Plant 21	Myoporum 3	Tamarisk/Salt Cedar 1
Chinaberry 4	Oak 1527	Walnut 4
Citrus 2	Olive 35	Willow 157

Total number of trees: 2,638

Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Total number of each tree by species & Vege outage

SPECIES	OTGDATE
Eucalyptus	12/16/2004 10:18
Palm-Fan	12/7/2009 5:25
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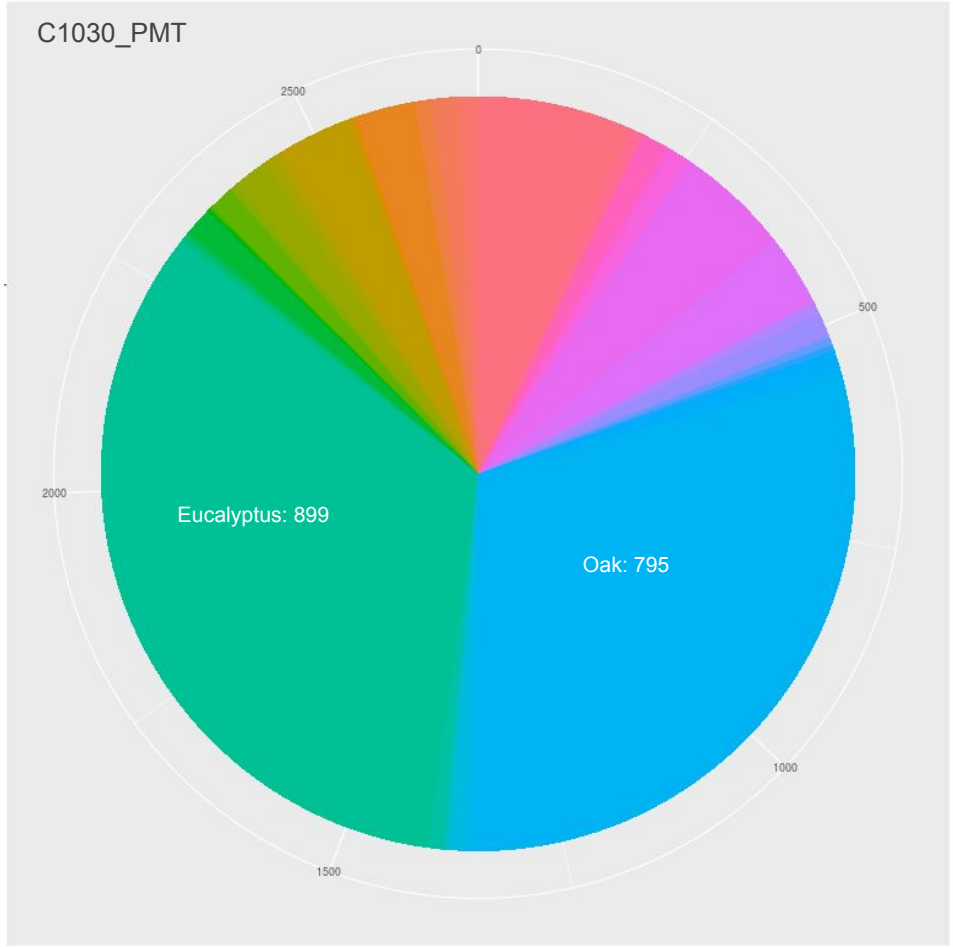


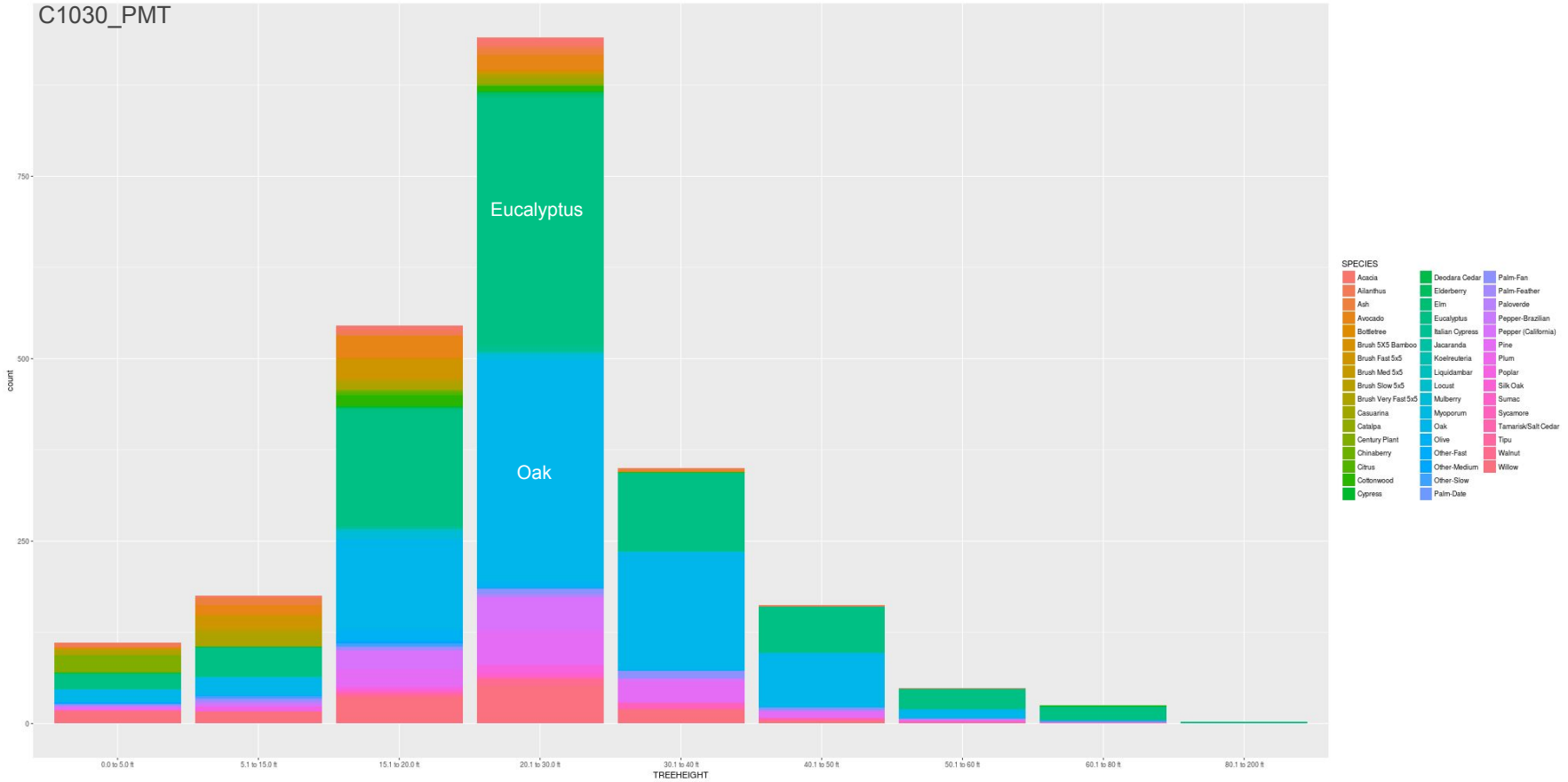
Group

Acacia 23	Cottonwood 32	Other-Slow 9
Ailanthus 30	Cypress 4	Palm-Date 2
Ash 20	Deodara Cedar 2	Palm-Fan 28
Avocado 69	Elderberry 4	Palm-Feather 12
Bottlebrush 1	Elm 5	Paloverde 1
Bottletree 4	Eucalyptus 899	Pepper-Brazilian 2
Brisbane Box 1	Italian Cypress 15	Pepper (California) 83
Brush 5X5 Bamboo 4	Jacaranda 5	Pine 133
Brush Fast 5x5 85	Koelreuteria 1	Plum 1
Brush Med 5x5 9	Liquidambar 2	Poplar 22
Brush Slow 5x5 14	Locust 2	Silk Oak 6
Brush Very Fast 5x5 38	Mulberry 16	Sumac 4
Casuarina 9	Myoporum 11	Sycamore 26
Catalpa 1	Oak 795	Tamarisk/Salt Cedar 2
Century Plant 28	Olive 25	Tipu 1
Chinaberry 3	Other-Fast 1	Walnut 15
Citrus 4	Other-Medium 7	Willow 177

Total number of trees: 2,693

Number of tree species within size bin

2020 WMP: WSD-SDGE-DR 2 Q69



Question

1. TREEHEIGHT

x_10.0 to 20.0 ft x_20.0 to 30.0 ft x_30.0 to 40.0 ft x_40.0 to 55.0 ft x_55.0 to 90.0 ft

2. Too many tree species
   - Only focus on certain tree species?

3. Currently, we are using vegetation data @ Jan 2019
   Link vege outage with historical data set