

Invasive Species Survey on Cypress Creek NWR

Final Report

By

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March 28, 2008

Executive Summary

In Summer 2007, we conducted a systematic survey of non-native species at Cypress Creek National Wildlife Refuge, and focused on a suite of species known to be highly invasive in the region. Our survey consisted of 20 walk-through belt transects stratified over 8 management units and 239 more intensively sampled plots established at intervals along the transects. We found 25 non-native species along the transects, and 24 in the plots. The top five species were *Lonicera japonica*, *Rosa multiflora*, *Lespedeza cuneata*, *Microstegium vimineum*, and *Rumex crispus*. The majority of plots sampled (51.5%) contained one or more co-occurring non-natives, an indication of the heavy infestation of non-natives in this system. Non-native species were present on every transect, and many of the infestations were not roadside. The location data presented in this report should be useful to managers for eradication on an individual species basis, but other measures are necessary for detection of non-natives present on the refuge but not captured in our sample. Early detection and elimination of new exotics will also be important for future management efforts.

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Introduction

Exotic, or non-native species are a major problem in natural areas in Illinois (Spyreas *et al.* 2004) and throughout the United States (Kaufman and Kaufman 2007).

Approximately 31% of the taxa in Illinois are considered non-native (Mohlenbrock 2002). In southern Illinois alone, 603 species in 345 genera from 93 plant families of non-native taxa have been recorded (Gibson *et al.* 2006). As a result, land managers are seeking inventories and surveys to assist in the development of control strategies.

The objective of this study was to conduct a systematic survey of non-native species at Cypress Creek National Wildlife Refuge. We focused on a suite of species known to be highly invasive in the region. In this report we document and summarize results of this survey. Anecdotal reports prior to our survey suggested that non-native species may be a problem in certain areas.

Methods

Methodology adopted for this survey follows recommendations by the North American Weed Management Association for invasive species monitoring (North American Weed Management Association 2002).

Study Area

The site for this study, the Cypress Creek National Wildlife Refuge. Cypress Creek, was established in 1990 and is a part of the Cache River watershed, which is located in southern Illinois (Lant *et al.* 2001). This area is recognized as a wetland of international importance by the Ramsar Convention on Wetlands (2002). Cypress Creek National Wildlife Refuge is part of a restoration plan for the Cache River watershed by the Illinois Department of Natural Resources (IDNR), the Nature Conservancy, and Ducks Unlimited (Kruse and Groninger 2003). Ideally, these restoration efforts will return the refuge to the conditions that had been present before the bottomland forests were cleared for agriculture (Kruse and Groninger 2003).

Data collection

In Summer 2007, a survey crew walked 20 transects across terrestrial portions of 8 management units Cypress Creek NWR (Table 1 and shown on maps in Appendix 3). Transects were 3 m wide and were placed mostly at random, using Hawth's tools in ArcMap to generate random points within the refuge areas. A random number generator was used to determine the angle of each transect, which was then rounded to the nearest 10 degrees. Some transects towards the end of the project were placed haphazardly to

ensure greater coverage of the refuge area. In addition, 239 3 m wide by 10 m long survey plots were paced off at ~ 100 m intervals along each transect with exact locations recorded using GPS (Garmin GPS 60, Garmin Ltd., Olathe, KA). The presence of 49 non-native species on a pre-determined watch list, which was divided into primary and secondary lists (Table 2), was recorded in 100 sections along each transect. The locations of patches with non-native species from the priority list were recorded with GPS; periodic GPS recordings were made within non-native species patches if encountered along a transect. A more thorough and detailed search for all non-natives, including species from the secondary list, was made in the survey plots. The severity of infestation of non-natives was recorded, as they were encountered, on a 1 – 5 scale, using a modified Braun-Blanquet cover-abundance scale (Mueller-Dombois and Ellenberg 1974). The categories were:

1. Species is present, but uncommon. < 5 % cover.
2. Species is present, and established in the area, possibly with small scattered patches. Between 5 and 25 % cover.
3. Species is common in the area, with a frequent presence or large scattered patches. Between 25 and 50 % cover.
4. Species is abundant in the area, with a steady presence or many large scattered patches. Between 50 and 75% cover.
5. Species is dominant in the area, with a constant presence. > 75 % cover.

General habitat notes were recorded along each transect and for survey plots.

Data analysis

The transect and plot data are summarized in Excel worksheets (Appendices 1 & 2) allowing summary statistics to be calculated. Maps of the occurrence of non-native taxa were prepared in ArcMap. Only sightings with exact coordinates were used for map creation, and a layer showing each occurrence was created for this purpose. A layer representing each of the transects was also created. These map layers were overlain over a base map to obtain distribution maps for each species along the transects in Cypress Creek NWR.

Table 1. Transect coordinates and lengths. Some transects were surveyed in two or more portions where bodies of water were omitted designated as a), b), c), respectively. Coordinates are in UTM units using the NAD83 coordinate system (Zone 16N). * Start or end coordinate unknown, so nearest known point was used.

Name	Management Unit	Start East	Start North	End East	End North	Length of transect (m)	Complete length (m)
SC1a	Sandy Creek	298403*	4117910*	299180	4117896	777.1	
SC1b	Sandy Creek	300303	4117922	299670	4117969	634.7	1411.9
CC1	Cypress Creek	315290	4135941	317291	4135884	2001.8	2001.8
LC1a	Lake Creek	299058	4108754	298996	4109265	514.7	
LC1b	Lake Creek	299134	4110745	299439	4109108	1665.2	2179.9
LS1	Limekiln Slough	312602	4128518	312508	4128044	483.2	
OC1	Old Channel	300127	4108167	300418	4107920	381.7	
CR1a	Cache River	318033	4130393	317256	4129672	1060.0	
CR2b	Cache River	316322	4130043	313928	4129324	2499.6	
OC2a	Old Channel	300406	4108590	300404	4108376	214.0	
OC2b	Old Channel	300399	4108337	300387	4107482	855.1	1069.1
IC1a	Indian Camp Creek	301631	4123644	301700	4123647	69.1	
IC1b	Indian Camp Creek	301896	4123647	302149	4123644	253.0	
IC1c	Indian Camp Creek	302404	4123649	302543	4123663	139.7	461.8
LC2	Lake Creek	300509	4110368	299241	4109065	1818.1	
SC2	Sandy Creek	298874	4114962	299459	4115865	1075.9	
BR1a	Butter Ridge	308591	4127976	307888	4128512	884.0	
BR2b	Butter Ridge	311710	4131992	311972	4131138	893.3	
CC2	Cypress Creek	316219	4134104	317676	4135158	1798.3	
SC3	Sandy Creek	300050	4121034	300011	4122597	1563.5	
CC3	Cypress Creek	314533	4136871	315256	4137581	1013.3	
CC4	Cypress Creek	318835	4132600	320052	4131387	1718.3	
LC3	Lake Creek	299911	4113742	299938*	4114710*	968.9	
IC2	Indian Camp Creek	303735	4124738	303299	4125389	783.5	
SC4	Sandy Creek	299092	4119720	298926	4117738	1988.9	

Table 2. Non-native species watch list. The list is a compilation of the most commonly found non-natives from the i) USDA Shawnee National Forest watch list, ii) Crab Orchard Wildlife Refuge watch list and inventory (Battaglia 2005), and iii) Inventory of Non-Native Species in the Shawnee National Forest database (Gibson *et al.* 2006). Species marked with * were not priority, and were only actively searched for in the plots.

Non-native Species		Common Name	Growth Habit
<i>Acer ginnala</i>	*	Amur maple	Tree
<i>Achillea millefolium</i>	*	Yarrow	Forb
<i>Ailanthus altissima</i>	*	Tree-of-heaven	Tree
<i>Albizia julibrissin</i>	*	Silktree	Tree
<i>Alliaria petiolata</i>		Garlic mustard	Forb
<i>Bromus racemosus</i>	*	Bald brome	Graminoid
<i>Bromus tectorum</i>	*	Cheatgrass	Graminoid
<i>Carduus nutans</i>		Musk Thistle	Forb
<i>Celastrus orbiculatus</i>	*	Asian bittersweet	Vine
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	*	Spotted knapweed	Forb
<i>Chenopodium album</i>	*	Lambsquarter	Forb
<i>Commelina communis</i>	*	Asiatic day flower	Forb
<i>Dactylis glomerata</i>	*	Orchard grass	Graminoid
<i>Daucus carota</i>	*	Queen Anne's lace	Forb
<i>Dianthus armeria</i>	*	Deptford pink	Forb
<i>Dioscorea oppositifolia</i>		Chinese Yam	Vine
<i>Dipsacus</i> sp.		Teasel	Forb
<i>Echinochloa crus-galli</i>	*	Barnyard grass	Graminoid
<i>Elaeagnus umbellata</i>		Autumn olive	Shrub
<i>Euphorbia esula</i>	*	Leafy spurge	Forb
<i>Glechoma hederacea</i>	*	Ground ivy	Forb
<i>Hemerocallis fulva</i>	*	Orange day lily	Forb
<i>Humulus japonicus</i>		Japanese hops	Vine
<i>Lespedeza cuneata</i>		Sericea lespedeza	Shrub
<i>Leucanthemum vulgare</i>	*	Oxeye daisy	Forb
<i>Lonicera japonica</i>		Japanese honeysuckle	Vine
<i>Lonicera mackii</i>		Amur honeysuckle	Shrub
<i>Lysimachia nummularia</i>	*	Creeping jenny	Forb
<i>Melilotus officinalis</i>	*	Yellow sweetclover	Forb
<i>Microstegium vimineum</i>		Japanese stilt grass	Graminoid
<i>Phalaris arundinacea</i>		Reed canary grass	Graminoid
<i>Phleum pratense</i>	*	Timothy grass	Graminoid
<i>Phragmites australis</i>		Common reed	Graminoid
<i>Poa pratensis</i>	*	Kentucky bluestem	Graminoid
<i>Prunella vulgaris</i>	*	Self-heal	Forb
<i>Pueraria montana</i> var. <i>lobata</i>		Kudzu	Vine
<i>Rosa multiflora</i>		Multiflora rose	Shrub
<i>Rumex crispus</i>	*	Curlydock	Forb
<i>Schedonorus phoenix</i>	*	Tall fescue	Graminoid
<i>Securigera varia</i>	*	Purple crownvetch	Forb
<i>Sesbania herbacea</i>		Coffeeweed	Forb

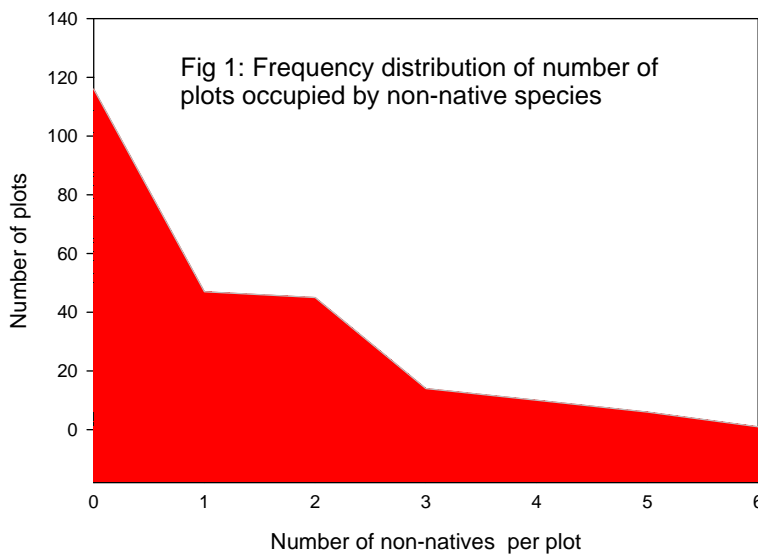
<i>Sorghum halepense</i>		Johnson grass	Graminoid
<i>Torilis japonica</i>	*	Japanese hedge parsley	Forb
<i>Trifolium campestre</i>	*	Low Hop clover	Forb
<i>Trifolium pratense</i>	*	Red clover	Forb
<i>Verbascum blattaria</i>	*	Moth mullein	Forb
<i>Vinca minor</i>	*	Periwinkle	Vine
<i>Wisteria sinensis</i>	*	Chinese wisteria	Vine

Results & Discussion

The raw data are entered as Excel datafiles and included in this report as Appendices 1 and 2.

Analysis of the data reveals the following: along transects, 842 occurrences of 25 of these non-native species were noted with the top five species being *Lonicera japonica* (205 occurrences), *Rosa multiflora* (132), *Lespedeza cuneata* (116), *Microstegium vimineum* (85), and *Rumex crispus* (49).

Survey of the 239 plots revealed 280 occurrences of 24 non-native species with the most



frequent being *Lonicera japonica* (47 occurrences), *Microstegium vimineum* (29), *Rosa multiflora* (27), *Rumex crispus* (26) and *Lespedeza cuneata* (25). These 5 plants were the only non-native

species occurring in > 10% of the plots; all other species were infrequent. The absence of non-natives was recorded in 48.5% (116 of 239) of the plots; thus 51.5% of plots

contained one or more co-occurring non-natives, of which 31 plots contained 3 or more co-occurring non-natives (Fig 1) reflecting areas of non-native species infestation.

Non-native species were distributed widely across Cypress Creek NWR with some species occurring along each transect that was surveyed. However, not all of every transect contained non-natives, and, as noted above, non-natives were absent from 48.5% of the plots. The occurrence of non-natives as a group did not appear to vary appreciably from one part of the reserve to another, although severity may have been higher in the southernmost management units. Only a few individual non-native species showed marked distributional patterns; e.g., *Microstegium vimineum* and *Trifolium pretense* were most frequent in the southernmost management units (Appendices 3i, and 3bb, respectively).

Non-natives on the watch list (Table 1) that were not recorded include *Acer ginnala*, *Carduus nutans*, *Chenopodium album*, *Commelina communis*, *Dioscorea oppositifolia*, *Glechoma hederacea*, *Hemerocallis fulva*, *Leucanthemum vulgare*, *Melilotus officinalis*, *Prunella vulgaris*, *Pueraria lobata*, *Verbascum blattaria*, *Vinca minor*, and *Wisteria sinensis*. Although non-natives not on the watch list were not searched for, *Humulus japonicus* was recorded on 11 occasions along the transects and in two plots.

This study represents one of the most comprehensive surveys of non-native species distributions in southern Illinois and indicates that non-native species are widespread in occurrence across Cypress Creek NWR. Another survey at nearby Crab Orchard NWR also indicated a landscape invaded by numerous non-native species, many of which are

the same as we found at Cypress Creek NWR. For example, *Rosa multiflora* and *Lonicera japonica* were in the top three most abundant non-natives in both surveys. The results presented here represent a management challenge for Cypress Creek personnel that is shared with natural resource managers throughout the United States (Osborn *et al.* 2002). It is recommended that the data presented here are used to target eradication of non-natives on an individual species basis. It may be possible to control some of the less common species through use of selective and target herbicide application or physical removal. Control of the more common non-native may require application of management strategies (e.g., burning or mowing) that encourage growth of native species at the expense of non-natives.

While the location data for infestations reported in this document are an excellent aid in helping managers to prioritize areas and begin controlling for non-natives on the refuge, it is likely that there are many other infestations not captured by our transect sampling. These populations could act as sources and lead to re-infestations of sites where non-natives have been eradicated. Since it is not feasible to cover the entire refuge to locate non-natives, other approaches are needed to strategically target non-native hotspots and severe infestations, as well as to eliminate new invasions as soon as possible. Many of the areas being added to the refuge and reforested were once under cultivation. Weedy and exotic flora thrive in areas with such a legacy of anthropogenic disturbance; Managing for non-natives in this landscape will require diligence and should be an integral part of the habitat management plan currently being developed by refuge managers. While targeting known areas at risk such as roadsides and other disturbed

areas is likely to be beneficial, detection of patches in more inaccessible areas will also be critical and may require species-specific remote sensing applications. Awareness and early detection of new invaders will also be crucial for future planning and successful control of non-native species.

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Appendix 1. Transect data for non-native species at CCNWR. Species codes

Management Unit	Transect	Increment	Code	Severity	Easting UTM	Northing UTM	Notes
Butter Ridge	1	0-100	HUJA	2	308571	4127952	
Butter Ridge	1	0-100	MIVI	4	308571	4127952	
Butter Ridge	1	0-100	HUJA	3	308562	4127967	
Butter Ridge	1	0-100	MIVI	3	308562	4124967	
Butter Ridge	1	0-100	HUJA	2	308533	4127981	
Butter Ridge	1	0-100	HUJA	2	308518	4128001	
Butter Ridge	1	0-100	MIVI	2	308518	4128001	
Butter Ridge	1	0-100	MIVI	3	308510	4128012	
Butter Ridge	1	0-100	HUJA	2	308510	4128012	
Butter Ridge	1	100-200	MIVI	3	308490	4128040	
Butter Ridge	1	100-200	MIVI	2	308479	4128040	
Butter Ridge	1	200-300					Nothing
Butter Ridge	1	300-400					Nothing
Butter Ridge	1	400-500					Nothing
Butter Ridge	1	500-600	MIVI	2	308131	4128272	
Butter Ridge	1	600-700					Nothing
Butter Ridge	1	700-800					Nothing
Butter Ridge	1	800-end					Nothing
Butter Ridge	1	End			307888	4128512	End at creek
Butter Ridge	2	0-100	SOHA	3	311717	4131979	
Butter Ridge	2	0-100	ROMU	4	311717	4131979	
Butter Ridge	2	0-100	ROMU	2	311721	4131965	
Butter Ridge	2	0-100	ROMU	3	311718	4131956	
Butter Ridge	2	0-100	ROMU	4	311721	4131935	
Butter Ridge	2	0-100	LOJA	2	311738	4131914	
Butter Ridge	2	100-200	LOJA	2	311750	4131859	
Butter Ridge	2	200-300	ELUM	2	311778	4131801	
Butter Ridge	2	200-300	LOJA	3	311778	4131801	
Butter Ridge	2	200-300	LOJA	2	311788	4131768	
Butter Ridge	2	300-400	LOJA	2	311822	4131666	
Butter Ridge	2	300-400	ELUM	2	311831	4131630	
Butter Ridge	2	400-500	LOJA	4	311842	4131598	
Butter Ridge	2	400-500	ELUM	3	311843	4131590	
Butter Ridge	2	400-500	LECU	2	311843	4131590	
Butter Ridge	2	400-500	LOJA	3	311843	4131590	
Butter Ridge	2	400-500	LOMA6	3	311844	4131577	
Butter Ridge	2	400-500	ROMU	1	311844	4131577	
Butter Ridge	2	400-500	LOJA	2	311844	4131577	
Butter Ridge	2	400-500	LECU	3	311845	4131562	
Butter Ridge	2	400-500	LOJA	3	311845	4131562	
Butter Ridge	2	400-500	LECU	3	311853	4131548	
Butter Ridge	2	400-500	LOJA	3	311853	4131548	
Butter Ridge	2	500-600					Nothing
Butter Ridge	2	600-700	BRRA2	1			secondary
Butter Ridge	2	600-700	LOJA	3	311910	4131338	
Butter Ridge	2	700-800	LOJA	4	311916	4131316	

Butter Ridge	2	700-800	LECU	3	311924	4131288	
Butter Ridge	2	700-800	LECU	2	311932	4131270	
Butter Ridge	2	700-800	RUCR	1			secondary
Butter Ridge	2	700-800	LECU	2	311942	4131226	
Butter Ridge	2	800-End	RUCR	1			secondary
Butter Ridge	2	800-End	LECU	2	311950	4131202	
Butter Ridge	2	800-end	BRRA2	2	311950	4131202	secondary
Butter Ridge	2	800-end			311972	4131138	End at boundary
Cache River	1	0-100	RUCR	2			secondary
Cache River	1	0-100	BRRA2	4			secondary
Cache River	1	0-100	LOJA	1	318013	4130369	
Cache River	1	0-100	DACA6	2			secondary
Cache River	1	0-100	LOJA	2	318001	4130352	
Cache River	1	0-100	BRRA2	3			secondary
Cache River	1	0-100	DACA6	2			secondary
Cache River	1	1000-1100	BRRA2	3			secondary
Cache River	1	100-200	LECU	1	317958	4130294	
Cache River	1	100-200	BRRA2	3	317958	4130294	secondary
Cache River	1	100-200	DACA6	2			secondary
Cache River	1	100-200	TRCA5	1			secondary
Cache River	1	100-200	DACA6	2			secondary
Cache River	1	100-200	ROMU	2	317926	4130237	
Cache River	1	200-300	DACA6	2			secondary
Cache River	1	200-300	BRRA2	3			secondary
Cache River	1	300-400	ELUM	2	317810	4130140	
Cache River	1	300-400	ROMU	3	317796	4130130	
Cache River	1	300-400	LECU	2	317783	4130119	
Cache River	1	400-500	SOHA	3	317739	4130080	
Cache River	1	500-600	LOJA	2	317631	4129998	
Cache River	1	500-600	ELUM	2	317631	4129998	
Cache River	1	600-700	RUCR	2			secondary
Cache River	1	700-800	TRCA5	3			secondary
Cache River	1	700-800	LECU	2	317535	4129922	
Cache River	1	700-800	SOHA	2	317535	4129922	
Cache River	1	700-800	BRRA2	2			secondary
Cache River	1	700-800	LECU	2	317505	4129901	
Cache River	1	700-800	TRCA5	1	317505	4129901	secondary
Cache River	1	700-800	LECU	3	317479	4129879	
Cache River	1	700-800	LECU	2	317470	4129873	
Cache River	1	800-900	LECU	2	317454	4129864	
Cache River	1	800-900	RUCR	1			secondary
Cache River	1	800-900	TRCA5	2			secondary
Cache River	1	800-900	LECU	4	317425	4129815	
Cache River	1	900-1000					Nothing
Cache River	2	0-100	BRRA2	3			secondary
Cache River	2	0-100	LECU	3	316274	4130023	
Cache River	2	0-100	LECU	2	316258	4130019	
Cache River	2	0-100	LOJA	3	316258	4130019	

Cache River	2	0-100	BRRA2	3			secondary
Cache River	2	0-100	SOHA	2	316244	4130017	
Cache River	2	0-100	ELUM	2	316239	4130016	
Cache River	2	0-100	LECU	3	316239	4130016	
Cache River	2	1000-1100	LECU	1	315300	4129790	
Cache River	2	100-200	BRRA2	3			secondary
Cache River	2	100-200	LECU	1	316211	4130011	
Cache River	2	100-200	LOJA	3	316165	4129999	
Cache River	2	100-200	SOHA	2	316151	4129996	
Cache River	2	100-200	LECU	1	316151	4129996	
Cache River	2	100-200	LECU	3	316146	4129997	
Cache River	2	1100-1200					Nothing
Cache River	2	1200-1300	MIVI	2	315126	4129742	
Cache River	2	1200-1300	MIVI	2	315101	4129743	
Cache River	2	1300-1400	POPR	1			secondary
Cache River	2	1400-1500					Nothing
Cache River	2	1500-1600					Nothing
Cache River	2	1600-1700					Nothing
Cache River	2	1700-1800					Nothing
Cache River	2	1800-1900					Nothing
Cache River	2	1900-2000					Nothing
Cache River	2	2000-2100					Nothing
Cache River	2	200-300	BRRA2	3			secondary
Cache River	2	200-300	LECU	2	316086	4129980	
Cache River	2	2100-2200					Nothing
Cache River	2	2200-2300	MIVI	1	NO	SIGNAL	
Cache River	2	2300-2400	MIVI	1	314092	4129395	
Cache River	2	2400-End			313928	4129324	Nothing
Cache River	2	300-400	SOHA	2	316024	4129964	
Cache River	2	300-400	BRRA2	3			secondary
Cache River	2	300-400	LECU	1	316006	4129961	
Cache River	2	300-400	LECU	2	315995	4129959	
Cache River	2	300-400	LOJA	2	315995	4129959	
Cache River	2	300-400	SOHA	2	315981	4129956	
Cache River	2	300-400	LOJA	2	315950	4129951	
Cache River	2	400-500	LECU	2	315913	4129943	
Cache River	2	400-500	BRRA2	2	315913	4129943	secondary
Cache River	2	400-500	LECU	1	315903	4129943	
Cache River	2	400-500	LECU	2	315876	4129937	
Cache River	2	400-500	LECU	3	315866	4129933	
Cache River	2	400-500	BRRA2	3	315866	4129933	secondary
Cache River	2	400-500	LECU	3	315847	4129930	
Cache River	2	500-600	LECU	4	315826	4129925	
Cache River	2	500-600	BRRA2	2	315826	4129925	secondary
Cache River	2	500-600	LECU	2	315808	4129922	
Cache River	2	500-600	ROMU	1	315808	4129922	
Cache River	2	500-600	LECU	3	315798	4129919	
Cache River	2	500-600	SOHA	2	315788	4129917	

Cache River	2	600-700	RUCR	1			secondary
Cache River	2	600-700	LOJA	2	315672	4129885	
Cache River	2	700-800	SOHA	2	315610	4129865	
Cache River	2	800-900	LECU	2	315513	4129834	
Cache River	2	800-900	RUCR	2			secondary
Cache River	2	800-900	LECU	2	315493	4129834	
Cache River	2	900-1000	LECU	1	315415	4129814	
Cache River	2	900-1000	LECU	1	315378	4129808	
Cache River	2	900-1000	LECU	2	315367	4129806	
Cache River	2	900-1000	LECU	3	315360	4129806	
Cypress Creek	1	0-100	TRCA5	2			secondary
Cypress Creek	1	0-100	POPR	4			secondary
Cypress Creek	1	0-100	ROMU	2	315322	4135945	
Cypress Creek	1	0-100	ELUM	2	315333	4135944	
Cypress Creek	1	0-100	DAGL	2			secondary
Cypress Creek	1	0-100	LECU	1	315355	4135942	
Cypress Creek	1	0-100	TRCA5	2			secondary
Cypress Creek	1	0-100	LECU	2	315364	4135943	
Cypress Creek	1	0-100	POPR	4			secondary
Cypress Creek	1	0-100	TRCA5	1			secondary
Cypress Creek	1	0-100	ELUM	2	315381	4135938	
Cypress Creek	1	1000-1100	LYNU	4			secondary
Cypress Creek	1	1000-1100	POPR	2			secondary
Cypress Creek	1	100-200	POPR	4			secondary
Cypress Creek	1	100-200	DIAR	2			secondary
Cypress Creek	1	100-200	ELUM	2	315482	4135929	
Cypress Creek	1	100-200	TRCA5	2			secondary
Cypress Creek	1	100-200	ELUM	2	315504	4135929	
Cypress Creek	1	1100-1200	LYNU	4			secondary
Cypress Creek	1	1200-1300					Nothing
Cypress Creek	1	1300-1400	LYNU	2			secondary
Cypress Creek	1	1400-1500					Nothing
Cypress Creek	1	1500-1600					Nothing
Cypress Creek	1	1600-1700					Nothing
Cypress Creek	1	1700-1800					Nothing
Cypress Creek	1	1800-1900	POPR	2			secondary
Cypress Creek	1	1800-1900			317291	4135884	End at creek (property boundary)
Cypress Creek	1	200-300	ELUM	2	315525	4135924	
Cypress Creek	1	200-300	TRCA5	2			secondary
Cypress Creek	1	200-300	LECU	3	315558	4135923	
Cypress Creek	1	200-300	LECU	2	315569	4135923	
Cypress Creek	1	200-300	ELUM	1	315577	4135921	
Cypress Creek	1	300-400					Nothing
Cypress Creek	1	400-500					Nothing
Cypress Creek	1	500-600	LYNU	2			secondary
Cypress Creek	1	600-700					Nothing

Cypress Creek	1	700-800	LYNU	3			secondary
Cypress Creek	1	800-900	LYNU	4			secondary
Cypress Creek	1	900-1000	LYNU	3			secondary
Cypress Creek	2	0-100	ACMI2	3			secondary
Cypress Creek	2	0-100	DACA6	2			secondary
Cypress Creek	2	0-100	BRAA2	2			secondary
Cypress Creek	2	0-100	ELUM	3	316270	4134141	
Cypress Creek	2	0-100	ACMI2	2			secondary
Cypress Creek	2	0-100	DACA6	2			secondary
Cypress Creek	2	0-100					stop at cornfield
Cypress Creek	2	1000-1100	RUCR	1			secondary
Cypress Creek	2	1000-1100	LYNU	2			secondary
Cypress Creek	2	100-200					start on other side of field
Cypress Creek	2	100-200	LOJA	1	316502	4134315	
Cypress Creek	2	100-200	LOJA	2	316515	4134319	
Cypress Creek	2	100-200	LOJA	3	316522	4134321	
Cypress Creek	2	100-200	LOJA	2	316567	4134363	
Cypress Creek	2	1100-1200	TRCA5	3			secondary
Cypress Creek	2	1200-1300	RUCR	1			secondary
Cypress Creek	2	1200-1300	TRCA5	3			secondary
Cypress Creek	2	1300-1400	TRCA5	3			secondary
Cypress Creek	2	1300-1400	RUCR	2			secondary
Cypress Creek	2	1300-1400	LECU	2	317569	4135077	
Cypress Creek	2	1400-End	LECU	1	317587	4135085	
Cypress Creek	2	1400-End	TRCA5	3			secondary
Cypress Creek	2	1400-End	BRAA2	2			secondary
Cypress Creek	2	1400-End	LECU	3	317649	4135136	
Cypress Creek	2	1400-End	SOHA	2	317676	4135158	
Cypress Creek	2	1400-End			317676	4135158	End at boundary
Cypress Creek	2	200-300	LYNU	4			secondary
Cypress Creek	2	300-400	SCPH	4			secondary
Cypress Creek	2	300-400	LYNU	3			secondary
Cypress Creek	2	400-500					Nothing
Cypress Creek	2	500-600					Nothing
Cypress Creek	2	600-700					Nothing
Cypress Creek	2	700-800	LOJA	3	317016	4134680	
Cypress Creek	2	800-900	LYNU	2			secondary
Cypress Creek	2	900-1000					Nothing
Cypress Creek	3	0-100	SOHA	3	314540	4136880	
Cypress Creek	3	0-100	LOJA	4	314540	4136880	
Cypress Creek	3	0-100	LOJA	3	314554	4136894	
Cypress Creek	3	0-100	LOJA	3	314562	4136902	
Cypress Creek	3	0-100	LOJA	4	314569	4136906	
Cypress Creek	3	0-100	LOJA	4	314579	4136910	
Cypress Creek	3	1000-1100					Nothing
Cypress Creek	3	100-200	LOJA	1	314611	4136935	
Cypress Creek	3	100-200	BRAA2	2			secondary

Cypress Creek	3	100-200	DAGL	2			secondary
Cypress Creek	3	100-200	SOHA	1	314621	4136942	
Cypress Creek	3	1100-1200					Nothing
Cypress Creek	3	1200-1300	LOJA	3	315217	4137551	
Cypress Creek	3	1300-End	ROMU	2	315256	4137581	
Cypress Creek	3	1300-End			315256	4137581	End at swamp
Cypress Creek	3	200-300	SOHA	2	314648	4136961	
Cypress Creek	3	200-300	DAGL	2			secondary
Cypress Creek	3	200-300	LOJA	2	314680	4136978	
Cypress Creek	3	200-300	DAGL	2			secondary
Cypress Creek	3	200-300	DACA6	2			secondary
Cypress Creek	3	300-400	LOJA	3	314712	4137008	
Cypress Creek	3	300-400	SOHA	2	314720	4137014	
Cypress Creek	3	300-400	LOJA	4	314720	4137014	
Cypress Creek	3	300-400	RUCR	1			secondary
Cypress Creek	3	400-500	DAGL	2			secondary
Cypress Creek	3	400-500	POPR	2			secondary
Cypress Creek	3	400-500	RUCR	2			secondary
Cypress Creek	3	400-500	SOHA	4	314783	4137064	
Cypress Creek	3	400-500	SOHA	2	314818	4137104	cornfield
Cypress Creek	3	500-600					Nothing
Cypress Creek	3	600-700					Nothing
Cypress Creek	3	700-800					Nothing
Cypress Creek	3	800-900	ROMU	4	315004	4137301	
Cypress Creek	3	900-1000					Nothing
Cypress Creek	4	0-100	RUCR	1			secondary
Cypress Creek	4	1000-1100	LECU	4	319488	4132029	
Cypress Creek	4	1000-1100	RUCR	2	319488	4132029	
Cypress Creek	4	1000-1100	LECU	5	319496	4132021	
Cypress Creek	4	1000-1100	ELUM	2	319515	4132013	
Cypress Creek	4	1000-1100	LECU	3	319515	4132013	
Cypress Creek	4	1000-1100	RUCR	2			secondary
Cypress Creek	4	1000-1100	LECU	5	319530	4132001	
Cypress Creek	4	1000-1100	ELUM	3	319539	4131991	
Cypress Creek	4	1000-1100	LECU	2	319539	4131991	
Cypress Creek	4	1000-1100	BRTE	3			secondary
Cypress Creek	4	1000-1100	LECU	4	319548	4131982	
Cypress Creek	4	100-200					Nothing
Cypress Creek	4	1100-1200	LECU	3	319575	4131961	
Cypress Creek	4	1100-1200	BRTE	3	319575	4131961	secondary
Cypress Creek	4	1100-1200	LECU	5	319588	4131949	
Cypress Creek	4	1100-1200	LECU	4	319598	4131939	
Cypress Creek	4	1100-1200	BRTE	3			secondary
Cypress Creek	4	1100-1200	RUCR	2			secondary
Cypress Creek	4	1200-1300	RUCR	2			secondary
Cypress Creek	4	1200-1300	LECU	4	319658	4131882	
Cypress Creek	4	1200-1300	LECU	2	319689	4131854	
Cypress Creek	4	1300-1400					Nothing

Cypress Creek	4	1400-1500	RUCR	1			secondary
Cypress Creek	4	1500-1600	SOHA	2	319844	4131630	
Cypress Creek	4	1500-1600	BRTE	3	319844	4131630	secondary
Cypress Creek	4	1600-1700	BRTE	2			secondary
Cypress Creek	4	1600-1700	LECU	2	319947	4131533	
Cypress Creek	4	1600-1700	LECU	3	319956	4131521	
Cypress Creek	4	1700-End	LECU	2	320006	4131472	
Cypress Creek	4	1700-End	BRTE	2	320006	4131472	secondary
Cypress Creek	4	1700-End	LOJA	2	320019	4131453	
Cypress Creek	4	1700-End	LECU	3	320031	4131430	
Cypress Creek	4	1700-End	ALJU	2			secondary
Cypress Creek	4	1700-End	TRPR2	3			secondary
Cypress Creek	4	1700-End	SOHA	2	320052	4131387	
Cypress Creek	4	1700-End			320052	4131387	End at Road
Cypress Creek	4	200-300	LOJA	2	318967	4132460	
Cypress Creek	4	200-300	POPR	2			secondary
Cypress Creek	4	200-300	ROMU	3	318992	4132440	
Cypress Creek	4	300-400	POPR	3			secondary
Cypress Creek	4	300-400	RUCR	1			secondary
Cypress Creek	4	300-400	ROMU	2	319030	4132408	
Cypress Creek	4	300-400	LOJA	3	319032	4132401	
Cypress Creek	4	300-400	LECU	3	319052	4132387	
Cypress Creek	4	400-500	POPR	4			secondary
Cypress Creek	4	400-500	RUCR	2			secondary
Cypress Creek	4	400-500	LECU	2	319123	4132318	
Cypress Creek	4	500-600	LECU	2	319161	4132284	
Cypress Creek	4	500-600	RUCR	2	319161	4132284	secondary
Cypress Creek	4	500-600	SOHA	2	319168	4132273	
Cypress Creek	4	600-700					Nothing
Cypress Creek	4	700-800	RUCR	1			secondary
Cypress Creek	4	800-900					Nothing
Cypress Creek	4	900-1000	LECU	3	319459	4132054	
Cypress Creek	4	900-1000	LECU	4	319472	4132041	
Cypress Creek	4	900-1000	RUCR	1	319472	4132041	secondary
Indian Camp Creek	1	0-100	MIVI	2	301643	4123643	
Indian Camp Creek	1	0-100	HUJA	2	301643	4123643	
Indian Camp Creek	1	0-100	LYNU	1			secondary
Indian Camp Creek	1	100-200					Nothing
Indian Camp Creek	1	200-300					Nothing
Indian Camp Creek	1	300-400	MIVI	3	302107	4123646	
Indian Camp Creek	1	400-500	MIVI	2	302429	4123646	
Indian Camp Creek	1	400-500	SOHA	1	302452	4123646	
Indian Camp Creek	1	400-500	LOJA	2	302452	4123646	
Indian Camp Creek	1	400-500	LOJA	2	302458	4123649	
Indian Camp Creek	1	400-500	LOJA	3	302479	4123656	
Indian Camp Creek	1	500-End	LOJA	2	NO	SIGNAL	
Indian Camp Creek	1	500-End	MIVI	2	NO	SIGNAL	
Indian Camp Creek	1	500-End			302543	4123663	End at agricultural

							field
Indian Camp Creek	2	0-100	LOMA6	1	303731	4124646	
Indian Camp Creek	2	0-100	LOJA	2	303731	4124646	
Indian Camp Creek	2	100-200					Nothing
Indian Camp Creek	2	200-300					Nothing
Indian Camp Creek	2	300-400					Nothing
Indian Camp Creek	2	400-500					Nothing
Indian Camp Creek	2	500-600					Nothing
Indian Camp Creek	2	600-700					Nothing
Indian Camp Creek	2	700-800					Nothing
Indian Camp Creek	2	800-end	HUJA	3	303342	4125376	
Indian Camp Creek	2	800-end	HUJA	3	303299	4125389	
Indian Camp Creek	2	800-end			303299	4125389	End at River
Lake Creek	2	0-100	LOJA	2	300503	4110360	
Lake Creek	2	0-100	MIVI	2	300494	4110358	
Lake Creek	2	0-100	LOJA	2	300494	4110358	
Lake Creek	2	0-100	MIVI	2	300486	4110357	
Lake Creek	2	1000-1100	LOJA	2	NO	SIGNAL	
Lake Creek	2	1000-1100	ROMU	1	NO	SIGNAL	
Lake Creek	2	1000-1100	LOJA	2	299824	4109651	
Lake Creek	2	1000-1100	LOJA	2	299809	4109639	
Lake Creek	2	1000-1100	ROMU	1	299807	4109664	
Lake Creek	2	1000-1100	LOJA	2	299807	4109664	
Lake Creek	2	100-200	ROMU	1	300404	4110259	
Lake Creek	2	100-200	LOMA6	2	300405	4110257	
Lake Creek	2	100-200	TRPR2	2			secondary
Lake Creek	2	100-200	TRCA5	1			secondary
Lake Creek	2	100-200	SOHA	2	300391	4110247	
Lake Creek	2	100-200	ROMU	1	300391	4110247	
Lake Creek	2	100-200	DACA6	2			secondary
Lake Creek	2	1100-1200	LOJA	3	NO	SIGNAL	
Lake Creek	2	1100-1200	LOJA	2	299765	4109608	
Lake Creek	2	1100-1200	LOJA	2	299762	4109607	
Lake Creek	2	1100-1200	ROMU	2	299762	4109607	
Lake Creek	2	1100-1200	ROMU	2	299723	4109559	
Lake Creek	2	1100-1200	MIVI	3	299723	4109559	
Lake Creek	2	1200-1300	ROMU	3	299704	4109537	
Lake Creek	2	1200-1300	MIVI	3	299690	4109506	
Lake Creek	2	1200-1300	ROMU	1	299690	4109506	
Lake Creek	2	1200-1300	LOJA	2	299650	4109508	
Lake Creek	2	1300-1400	LOJA	2	299630	4109452	
Lake Creek	2	1300-1400	LOJA	2	299605	4109438	
Lake Creek	2	1300-1400	MIVI	1	299605	4109438	
Lake Creek	2	1300-1400	ROMU	2	299605	4109438	
Lake Creek	2	1400-1500	ROMU	1	299549	4109370	
Lake Creek	2	1500-1600	MIVI	2	299490	4109308	
Lake Creek	2	1500-1600	MIVI	4	299458	4109280	
Lake Creek	2	1500-1600	ROMU	2	299444	4109260	

Lake Creek	2	1500-1600	LOJA	2	299444	4109260	
Lake Creek	2	1500-1600	MIVI	3	299444	4109260	
Lake Creek	2	1500-1600	MIVI	4	299430	4109258	
Lake Creek	2	1500-1600	ROMU	3	299428	4109246	
Lake Creek	2	1500-1600	MIVI	3	299428	4109246	
Lake Creek	2	1500-1600	ROMU	3	299422	4109235	
Lake Creek	2	1600-1700	LOJA	2	299401	4109217	
Lake Creek	2	1600-1700	MIVI	2	299401	4109217	
Lake Creek	2	1600-1700	LOJA	2	299404	4109214	
Lake Creek	2	1600-1700	MIVI	4	299404	4109214	
Lake Creek	2	1600-1700	LOJA	2	299388	4109212	
Lake Creek	2	1600-1700	ROMU	2	299388	4109212	
Lake Creek	2	1600-1700	LOJA	3	299379	4109206	
Lake Creek	2	1600-1700	ROMU	3	299379	4109206	
Lake Creek	2	1600-1700	ROMU	1	299393	4109147	
Lake Creek	2	1600-1700	LOJA	2	299393	4109147	
Lake Creek	2	1600-1700	LOJA	2	299378	4109160	
Lake Creek	2	1600-1700	ROMU	1	299378	4109160	
Lake Creek	2	1700-End	LOJA	2	NO	SIGNAL	
Lake Creek	2	1700-End			299241	4109065	End
Lake Creek	2	200-300	DACA6	2			secondary
Lake Creek	2	200-300	BRRA2	2			secondary
Lake Creek	2	200-300	SOHA	2	300379	4110232	
Lake Creek	2	200-300	BRRA2	2			secondary
Lake Creek	2	200-300	DACA6	2			secondary
Lake Creek	2	200-300	SOHA	2	300368	4110225	
Lake Creek	2	200-300	DACA6	2			secondary
Lake Creek	2	200-300	TRPR2	2			secondary
Lake Creek	2	200-300	SOHA	2	300357	4110213	
Lake Creek	2	200-300	SOHA	4	300346	4110202	
Lake Creek	2	200-300	BRRA2	2			secondary
Lake Creek	2	200-300	SOHA	3	300340	4110194	
Lake Creek	2	200-300	TRPR2	1			secondary
Lake Creek	2	200-300	DACA6	1			secondary
Lake Creek	2	300-400	SOHA	3	300318	4110166	
Lake Creek	2	300-400	SOHA	3	300307	4110158	
Lake Creek	2	300-400	ROMU	2	300299	4110154	
Lake Creek	2	300-400	ELUM	1	300299	4110154	
Lake Creek	2	300-400	ROMU	2	300286	4110134	
Lake Creek	2	300-400	LOJA	2	300286	4110134	
Lake Creek	2	300-400	LOJA	2	300285	4110128	
Lake Creek	2	300-400	LOJA	2	300280	4110125	
Lake Creek	2	400-500	LOJA	2	300247	4110093	
Lake Creek	2	400-500	LOJA	2	300235	4110093	
Lake Creek	2	400-500	ROMU	1	300210	4110053	
Lake Creek	2	400-500	MIVI	3	300210	4110053	
Lake Creek	2	500-600	ROMU	2	300135	4109997	
Lake Creek	2	500-600	MIVI	1	300135	4109997	

Lake Creek	2	500-600	ROMU	2	300143	4109987	
Lake Creek	2	500-600	LOMA6	1	300143	4109987	
Lake Creek	2	600-700	ROMU	2	300125	4109981	
Lake Creek	2	600-700	LOJA	2	300125	4109981	
Lake Creek	2	600-700	LOMA6	1	300125	4109981	
Lake Creek	2	600-700	MIVI	1	300119	4109973	
Lake Creek	2	600-700	ROMU	3	300119	4109973	
Lake Creek	2	600-700	LOJA	2	300119	4109973	
Lake Creek	2	600-700	ELUM	2	300108	4109963	
Lake Creek	2	600-700	MIVI	1	300108	4109963	
Lake Creek	2	600-700	ROMU	2	300108	4109963	
Lake Creek	2	600-700	LOJA	2	300108	4109963	
Lake Creek	2	600-700	ROMU	2	300105	4109961	
Lake Creek	2	600-700	LOJA	2	300105	4109961	
Lake Creek	2	600-700	MIVI	3	300097	4109952	
Lake Creek	2	600-700	LOJA	3	300097	4109952	
Lake Creek	2	600-700	MIVI	2	300090	4109947	
Lake Creek	2	600-700	LOJA	2	300090	4109947	
Lake Creek	2	600-700	LOJA	2	300089	4109939	
Lake Creek	2	600-700	MIVI	2	300089	4109939	
Lake Creek	2	600-700	ROMU	2	300089	4109939	
Lake Creek	2	600-700	LOJA	2	300073	4109935	
Lake Creek	2	600-700	ROMU	3	300073	4109935	
Lake Creek	2	600-700	LOJA	2	300073	4109924	
Lake Creek	2	700-800	LOJA	3	300048	4109904	
Lake Creek	2	700-800	ROMU	3	300048	4109904	
Lake Creek	2	700-800	ROMU	2	300036	4109895	
Lake Creek	2	700-800	MIVI	2	300036	4109886	
Lake Creek	2	700-800	LOJA	2	300036	4109886	
Lake Creek	2	700-800	LOJA	2	300028	4109877	
Lake Creek	2	700-800	ROMU	2	300028	4109877	
Lake Creek	2	700-800	ROMU	2	300032	4109856	
Lake Creek	2	700-800	LOJA	2	300032	4109856	
Lake Creek	2	700-800	ROMU	3	300019	4109846	
Lake Creek	2	700-800	LOJA	2	300019	4109846	
Lake Creek	2	800-900	LOJA	4	299988	4109825	
Lake Creek	2	800-900	DACA6	2			secondary
Lake Creek	2	800-900	PHAR3	1	299955	4109791	
Lake Creek	2	800-900	LECU	2	299941	4109776	
Lake Creek	2	800-900	MIVI	3	299929	4109765	
Lake Creek	2	900-1000	SOHA	2	299919	4109751	
Lake Creek	2	900-1000	LOJA	3	299902	4109740	
Lake Creek	3	0-100	MIVI	3	299918	4113770	
Lake Creek	3	0-100	MIVI	3	299922	4113793	
Lake Creek	3	0-100	LOJA	2	299922	4113793	
Lake Creek	3	0-100	LOJA	2	299912	4113848	
Lake Creek	3	100-200	LOJA	2	299906	4113858	
Lake Creek	3	100-200	LOJA	2	299906	4113886	

Lake Creek	3	200-300	LOJA	2	299909	4113977
Lake Creek	3	300-400	MIVI	2	299907	4114047
Lake Creek	3	400-500	LOJA	4	299907	4114184
Lake Creek	3	400-500	LECU	2	299908	4114196
Lake Creek	3	400-500	LOJA	3	299908	4114196
Lake Creek	3	400-500	SOHA	2	299907	4114208
Lake Creek	3	400-500	LOJA	2	299907	4114208
Lake Creek	3	500-600	LOJA	2	299909	4114229
Lake Creek	3	500-600	MIVI	4	299909	4114229
Lake Creek	3	500-600	ROMU	5	299909	4114229
Lake Creek	3	500-600	MIVI	4	299909	4114239
Lake Creek	3	500-600	ROMU	3	299909	4114251
Lake Creek	3	500-600	MIVI	4	299909	4114251
Lake Creek	3	500-600	LOJA	2	299909	4114251
Lake Creek	3	500-600	MIVI	2	299916	4114291
Lake Creek	3	500-600	ROMU	3	299916	4114291
Lake Creek	3	500-600	ELUM	1	299916	4114291
Lake Creek	3	600-700	ELUM	3	299916	4114325
Lake Creek	3	600-700	LOJA	3	299916	4114325
Lake Creek	3	600-700	ROMU	2	299916	4114325
Lake Creek	3	600-700	ELUM	4	299923	4114331
Lake Creek	3	600-700	MIVI	3	299923	4114331
Lake Creek	3	600-700	ROMU	2	299917	4114386
Lake Creek	3	600-700	LOJA	3	299917	4114386
Lake Creek	3	600-700	LOJA	4	299922	4114403
Lake Creek	3	700-800	LOJA	3	299928	4114426
Lake Creek	3	700-800	ELUM	3	299928	4114426
Lake Creek	3	700-800	ROMU	2	299928	4114426
Lake Creek	3	700-800	MIVI	2	299928	4114426
Lake Creek	3	700-800	LOJA	2	299928	4114451
Lake Creek	3	700-800	ROMU	3	299928	4114451
Lake Creek	3	700-800	MIVI	2	299928	4114451
Lake Creek	3	700-800	ROMU	3	299931	4114466
Lake Creek	3	700-800	LOJA	2	299931	4114466
Lake Creek	3	700-800	ELUM	2	299936	4114480
Lake Creek	3	700-800	MIVI	2	299936	4114480
Lake Creek	3	700-800	ROMU	3	299936	4114480
Lake Creek	3	700-800	LOJA	4	299936	4114480
Lake Creek	3	700-800	MIVI	3	299929	4114498
Lake Creek	3	700-800	ROMU	4	299933	4114511
Lake Creek	3	700-800	MIVI	4	299933	4114511
Lake Creek	3	700-800	LOJA	3	299933	4114511
Lake Creek	3	800-900	MIVI	5	299941	4114536
Lake Creek	3	800-900	LOJA	4	299941	4114536
Lake Creek	3	800-900	ROMU	5	299941	4114536
Lake Creek	3	800-900	MIVI	2	299947	4114561
Lake Creek	3	800-900	ROMU	5	299947	4114561
Lake Creek	3	800-900	LOJA	3	299947	4114561

Lake Creek	3	800-900	MIVI	3	299943	4114571	
Lake Creek	3	800-900	ROMU	4	299943	4114571	
Lake Creek	3	800-900	LOJA	2	299943	4114571	
Lake Creek	3	800-900	LOJA	4	299930	4114561	
Lake Creek	3	800-900	MIVI	3	299930	4114561	
Lake Creek	3	800-900	LOJA	3	299947	4114601	
Lake Creek	3	800-900	ROMU	3	299947	4114601	
Lake Creek	3	800-900	MIVI	2	299947	4114601	
Lake Creek	3	800-900	ROMU	4	299944	4114600	
Lake Creek	3	800-900	LOJA	3	299944	4114600	
Lake Creek	3	900-End	MIVI	3	299941	4114629	
Lake Creek	3	900-End	LOJA	3	299941	4114629	
Lake Creek	3	900-End	ROMU	2	299941	4114629	
Lake Creek	3	900-End	LOJA	4	299939	4114652	
Lake Creek	3	900-End	ROMU	3	299939	4114652	
Lake Creek	3	900-End	MIVI	2	299939	4114652	
Lake Creek	3	900-End	ROMU	3	299937	4114644	
Lake Creek	3	900-End	LOJA	2	299937	4114644	
Lake Creek	3	900-End	MIVI	4	299937	4114644	
Lake Creek	3	900-End	LOJA	4	299938	4114677	
Lake Creek	3	900-End	LOJA	5	299938	4114710	
Lake Creek	3	900-End	SOHA	2	299938	4114710	
Lake Creek	3	900-End	BRRA2	2			secondary
Lake Creek	3	900-End					End at Road
Lake Creek-E	1	0-100					Nothing
Lake Creek-E	1	100-200					Nothing
Lake Creek-E	1	200-300					Nothing
Lake Creek-E	1	300-end			298996	4109265	end at river
Lake Creek-W	1	0-100	POPR	3			secondary
Lake Creek-W	1	0-100	TRCA5	3			secondary
Lake Creek-W	1	1000-1100	ROMU	3	299325	4109789	
Lake Creek-W	1	1000-1100	ROMU	2	299324	4109786	
Lake Creek-W	1	1000-1100	LOJA	2	299324	4109786	
Lake Creek-W	1	1000-1100	ELUM	2	299323	4109781	
Lake Creek-W	1	1000-1100	ROMU	2	299323	4109781	
Lake Creek-W	1	1000-1100	LOJA	1	299323	4109781	
Lake Creek-W	1	1000-1100	LOJA	2	299328	4109754	
Lake Creek-W	1	1000-1100	ELUM	1	299326	4109743	
Lake Creek-W	1	1000-1100	LOJA	2	299326	4109743	
Lake Creek-W	1	1000-1100	LOJA	2	299338	4109728	
Lake Creek-W	1	1000-1100	ROMU	2	299337	4109718	
Lake Creek-W	1	1000-1100	LOJA	2	299337	4109718	
Lake Creek-W	1	100-200	TRCA5	2			secondary
Lake Creek-W	1	100-200	BRRA2	1			secondary
Lake Creek-W	1	100-200	POPR	3			secondary
Lake Creek-W	1	100-200	LOJA	2	299162	4110633	
Lake Creek-W	1	1100-1200	LOJA	2	299333	4109642	
Lake Creek-W	1	1100-1200	ELUM	1	299333	4109642	

Lake Creek-W	1	1100-1200	ELUM	1	299360	4109667	
Lake Creek-W	1	1100-1200	LOJA	2	299360	4109667	
Lake Creek-W	1	1100-1200	ELUM	1	299359	4109639	
Lake Creek-W	1	1100-1200	LOJA	2	299359	4109639	
Lake Creek-W	1	1100-1200	ELUM	1	299373	4109617	
Lake Creek-W	1	1100-1200	LOJA	1	299373	4109617	
Lake Creek-W	1	1200-1300	LOJA	2	NO	SIGNAL	
Lake Creek-W	1	1200-1300	MIVI	2	NO	SIGNAL	
Lake Creek-W	1	1200-1300	ELUM	1	NO	SIGNAL	
Lake Creek-W	1	1200-1300	ROMU	1	NO	SIGNAL	
Lake Creek-W	1	1200-1300	LOJA	2	NO	SIGNAL	
Lake Creek-W	1	1300-1400	ROMU	2	299389	4109484	
Lake Creek-W	1	1300-1400	LOJA	2	299389	4109484	
Lake Creek-W	1	1300-1400	LOJA	2	299404	4109441	
Lake Creek-W	1	1300-1400	ROMU	2	299400	4109446	
Lake Creek-W	1	1300-1400	LOJA	2	299400	4109446	
Lake Creek-W	1	1400-1500	ROMU	1	NO	SIGNAL	
Lake Creek-W	1	1400-1500	MIVI	2	NO	SIGNAL	
Lake Creek-W	1	1400-1500	MIVI	2	NO	SIGNAL	
Lake Creek-W	1	1400-1500	ROMU	1	NO	SIGNAL	
Lake Creek-W	1	1400-1500	ROMU	2	NO	SIGNAL	
Lake Creek-W	1	1400-1500	MIVI	3	NO	SIGNAL	
Lake Creek-W	1	1500-1600	ROMU	3	NO	SIGNAL	
Lake Creek-W	1	1500-1600	LOJA	2	NO	SIGNAL	
Lake Creek-W	1	1500-1600	MIVI	2	NO	SIGNAL	
Lake Creek-W	1	1500-1600	ROMU	2	NO	SIGNAL	
Lake Creek-W	1	1500-1600	LOJA	2	NO	SIGNAL	
Lake Creek-W	1	200-300	ROMU	3	NO	SIGNAL	
Lake Creek-W	1	200-300	LOJA	2	299184	4110557	
Lake Creek-W	1	200-300	ROMU	2	NO	SIGNAL	
Lake Creek-W	1	300-400	LOJA	2	NO	SIGNAL	
Lake Creek-W	1	400-500	MIVI	2	299220	4110386	
Lake Creek-W	1	400-500	ROMU	2	299220	4110386	
Lake Creek-W	1	400-500	MIVI	5	299227	4110373	
Lake Creek-W	1	400-500	BRRA2	4			secondary
Lake Creek-W	1	400-500	MIVI	3	299229	4110336	
Lake Creek-W	1	400-500	PHAR3	2	299234	4110311	
Lake Creek-W	1	400-500	ROMU	1	299236	4110298	
Lake Creek-W	1	500-600	BRRA2	3			secondary
Lake Creek-W	1	500-600	POPR	2			secondary
Lake Creek-W	1	500-600	LOJA	2	299238	4110262	
Lake Creek-W	1	500-600	PHAR3	2	299243	4110251	
Lake Creek-W	1	500-600	ROMU	2	299243	4110251	
Lake Creek-W	1	500-600	RUCR	1			secondary
Lake Creek-W	1	500-600	PHAR3	2	299243	4110232	
Lake Creek-W	1	500-600	ROMU	2	299243	4110232	
Lake Creek-W	1	500-600	TRCA5	1			secondary
Lake Creek-W	1	600-700	ROMU	1	299250	4110182	

Lake Creek-W	1	600-700	TRCA5	2			secondary
Lake Creek-W	1	600-700	BRRA2	2			secondary
Lake Creek-W	1	600-700	POPR	2			secondary
Lake Creek-W	1	600-700	MIVI	3	299252	4110174	
Lake Creek-W	1	600-700	ROMU	1	299258	4110155	
Lake Creek-W	1	600-700	ROMU	2	299261	4110143	
Lake Creek-W	1	600-700	LOJA	2	299261	4110143	
Lake Creek-W	1	600-700	MIVI	2	299269	4110117	
Lake Creek-W	1	600-700	LOJA	2	299269	4110109	
Lake Creek-W	1	700-800	ELUM	3	299269	4110092	
Lake Creek-W	1	700-800	LOJA	3	299279	4110068	
Lake Creek-W	1	700-800	MIVI	2	299275	4110061	
Lake Creek-W	1	700-800	LOJA	2	299275	4110061	
Lake Creek-W	1	700-800	ROMU	2	299282	4110067	
Lake Creek-W	1	700-800	MIVI	3	299282	4110067	
Lake Creek-W	1	700-800	ROMU	2	299294	4110044	
Lake Creek-W	1	700-800	MIVI	3	299294	4110044	
Lake Creek-W	1	800-900	MIVI	2	299286	4109985	
Lake Creek-W	1	800-900	LOJA	1	299286	4109964	
Lake Creek-W	1	800-900	LOJA	2	299307	4109947	
Lake Creek-W	1	900-1000	LOJA	1	299323	4109888	
Lake Creek-W	1	900-1000	ROMU	1	299326	4109877	
Lake Creek-W	1	900-1000	LOJA	2	299326	4109877	
Lake Creek-W	1	900-1000	ROMU	1	299311	4109865	
Lake Creek-W	1	900-1000	LOJA	2	299311	4109865	
Lake Creek-W	1	900-1000	ROMU	1	299306	4109851	
Lake Creek-W	1	900-1000	LOJA	2	299306	4109851	
Lake Creek-W	1	900-1000	ELUM	2	299310	4109846	
Lake Creek-W	1	900-1000	ROMU	2	299309	4109843	
Lake Creek-W	1	900-1000	ELUM	1	299309	4109843	
Lake Creek-W	1	900-1000	ROMU	2	299319	4109834	
Lake Creek-W	1	900-1000	LOJA	2	299319	4109834	
Lake Creek-W	1	900-1000	ROMU	1	299319	4109830	
Limekiln Slough	1	0-100	POPR	2			secondary
Limekiln Slough	1	0-100	ELUM	1	312603	4128534	
Limekiln Slough	1	0-100	LOJA	2	312603	4128531	
Limekiln Slough	1	0-100	ELUM	3	312602	4128504	
Limekiln Slough	1	0-100	LOJA	2	312602	4128504	
Limekiln Slough	1	0-100	ELUM	1	312596	4128479	
Limekiln Slough	1	0-100	POPR	2			secondary
Limekiln Slough	1	0-100	ROMU	1	312596	4128460	
Limekiln Slough	1	0-100	ELUM	2	312593	4128461	
Limekiln Slough	1	0-100	ELUM	4	312594	4128452	
Limekiln Slough	1	100-200	LOJA	1	312587	4128421	
Limekiln Slough	1	100-200	ELUM	1	312586	4128415	
Limekiln Slough	1	100-200	ROMU	1	312582	4128402	
Limekiln Slough	1	200-300	BRRA2	3			secondary
Limekiln Slough	1	200-300	LOJA	1	312564	4128311	

Limekiln Slough	1	200-300	BRRA2	3	312564	4128311	
Limekiln Slough	1	300-400	ROMU	1	312547	4128216	
Limekiln Slough	1	300-400	BRRA2	2			secondary
Limekiln Slough	1	300-400	LECU	1	312540	4128179	
Limekiln Slough	1	300-400	LECU	2	312538	4128168	
Limekiln Slough	1	400-500	SOHA	3	312523	4128094	
Limekiln Slough	1	400-500	LECU	1	312523	4128094	
Limekiln Slough	1	400-500	PHAR3	2	312523	4128094	
Limekiln Slough	1	400-500	ELUM	1	312511	4128069	
Limekiln Slough	1	400-500	LECU	2	312511	4128069	
Limekiln Slough	1	400-500	POPR	3			secondary
Limekiln Slough	1	400-500			312508	4128044	end at edge of agricultural field.
Old Channel	1	0-100	MIVI	1	300155	4108154	
Old Channel	1	0-100	ROMU	1	300155	4108154	
Old Channel	1	0-100	MIVI	1	300209	4108100	
Old Channel	1	0-100	ROMU	2	300206	4108099	
Old Channel	1	100-200	ROMU	2	300213	4108091	
Old Channel	1	100-200	LOJA	1	300213	4108091	
Old Channel	1	100-200	ROMU	1	300234	4108079	
Old Channel	1	100-200	LOJA	2	300243	4108069	
Old Channel	1	100-200	ROMU	2	300240	4108067	
Old Channel	1	100-200	LOJA	2	300240	4108067	
Old Channel	1	100-200	ELUM	1	300256	4108064	
Old Channel	1	100-200	ROMU	2	300256	4108064	
Old Channel	1	100-200	ROMU	2	300259	4108059	
Old Channel	1	100-200	LOJA	2	300259	4108059	
Old Channel	1	100-200	LOJA	2	300268	4108043	
Old Channel	1	100-200	MIVI	1	300268	4108043	
Old Channel	1	100-200	ROMU	2	300275	4108051	
Old Channel	1	200-300	ROMU	1	300290	4108030	
Old Channel	1	200-300	LOJA	2	300290	4108030	
Old Channel	1	200-300	LOJA	3	300298	4108030	
Old Channel	1	200-300	ROMU	1	300298	4108030	
Old Channel	1	200-300	POPR	1			secondary
Old Channel	1	200-300	LOJA	3	300312	4108021	
Old Channel	1	200-300	ELUM	2	300312	4108021	
Old Channel	1	200-300	ROMU	1	300312	4108021	
Old Channel	1	200-300	ROMU	2	300319	4108012	
Old Channel	1	200-300	LOJA	3	300319	4108012	
Old Channel	1	200-300	ELUM	1	300325	4108006	
Old Channel	1	200-300	LOJA	3	300325	4108006	
Old Channel	1	200-300	ROMU	2	300330	4107998	
Old Channel	1	200-300	LOJA	2	300330	4107998	
Old Channel	1	200-300	ROMU	2	300339	4107993	
Old Channel	1	200-300	LOJA	2	300339	4107993	
Old Channel	1	200-300	ROMU	1	300345	4107986	
Old Channel	1	200-300	LOJA	2	300345	4107986	

Old Channel	1	300-400	LOJA	1	300365	4107968	
Old Channel	1	300-400	MIVI	1	300365	4107968	
Old Channel	1	300-400	MIVI	1	300420	4107922	
Old Channel	2	0-100	LOJA	2	300405	4108559	
Old Channel	2	1000-end	MIVI	1	300407	4107586	
Old Channel	2	1000-end	LOJA	3	300412	4107542	
Old Channel	2	1000-end	MIVI	1	300412	4107542	
Old Channel	2	1000-end	ROMU	1	NO	SIGNAL	
Old Channel	2	1000-end	LOJA	2	NO	SIGNAL	
Old Channel	2	1000-end	MIVI	2	NO	SIGNAL	
Old Channel	2	1000-end	LOJA	2	NO	SIGNAL	
Old Channel	2	1000-end			300387	4107482	End at boundary
Old Channel	2	100-200					Nothing
Old Channel	2	200-300	MIVI	2	300419	4108294	
Old Channel	2	200-300	MIVI	2	300430	4108266	
Old Channel	2	300-400	LOJA	2	300408	4108225	
Old Channel	2	400-500	MIVI	1	300409	4108096	
Old Channel	2	400-500	LOJA	2	300414	4108085	
Old Channel	2	400-500	MIVI	1	300414	4108085	
Old Channel	2	400-500	LOJA	2	300412	4108079	
Old Channel	2	500-600					Nothing
Old Channel	2	600-700	MIVI	1	300403	4107946	
Old Channel	2	700-800					Nothing
Old Channel	2	800-900					Nothing
Old Channel	2	900-1000	MIVI	1	NO	SIGNAL	
Old Channel	2	900-1000	LOJA	2	NO	SIGNAL	
Old Channel	2	900-1000	LOJA	2	300404	4107590	
Sandy Creek	1	0-100	ROMU	1	298403	4117910	
Sandy Creek	1	0-100	LECU	2	298406	4117911	
Sandy Creek	1	0-100	ROMU	1	298420	4117911	
Sandy Creek	1	0-100	RUCR	1	298448	4117911	secondary
Sandy Creek	1	0-100	BRRA2	4	298448	4117911	secondary
Sandy Creek	1	100-200	RUCR	2			secondary
Sandy Creek	1	100-200	LOJA	1	298538	4117916	
Sandy Creek	1	100-200	RUCR	2			secondary
Sandy Creek	1	100-200	POPR	1			secondary
Sandy Creek	1	100-200	RUCR	3	298575	4117913	secondary
Sandy Creek	1	200-300	RUCR	3	298535	4117909	secondary
Sandy Creek	1	300-400	RUCR	1			secondary
Sandy Creek	1	400-500	RUCR	3	298812	4117914	secondary
Sandy Creek	1	400-500	LECU	2	298814	4117915	
Sandy Creek	1	400-500	RUCR	2			secondary
Sandy Creek	1	400-500	BRRA2	2			secondary
Sandy Creek	1	500-600	ROMU	3	298896	4117913	
Sandy Creek	1	500-600	LOJA	3	298937	4117909	
Sandy Creek	1	500-600	RUCR	2			secondary
Sandy Creek	1	600-700	LECU	4	298998	4117903	
Sandy Creek	1	600-700	ROMU	2	298998	4117904	

Sandy Creek	1	600-700	LECU	2	299014	4117902	
Sandy Creek	1	600-700	RUCR	2			secondary
Sandy Creek	1	600-700	LECU	1	299028	4117901	
Sandy Creek	1	600-700	RUCR	2			secondary
Sandy Creek	1	600-700	LYNU	3			secondary
Sandy Creek	1	600-700	ROMU	2	299060	4117902	
Sandy Creek	1	600-700	RUCR	1			secondary
Sandy Creek	1	700-end	RUCR	1			secondary
Sandy Creek	1	700-end	LECU	2	299155	4117897	
Sandy Creek	1	700-end			299180	4117896	end at swamp, catalpa and myriophyllum
Sandy Creek	2	0-100	SEHE8	2	298901	4114994	
Sandy Creek	2	1000-1100	ROMU	2	299415	4115816	
Sandy Creek	2	1000-1100	LOJA	3	299415	4115816	
Sandy Creek	2	1000-1100	LOJA	4	299426	4115821	
Sandy Creek	2	1000-1100	TRPR2	1			secondary
Sandy Creek	2	1000-1100	DACA6	2			secondary
Sandy Creek	2	100-200	LECU	1	298940	4115060	
Sandy Creek	2	100-200	LECU	2	298948	4115076	
Sandy Creek	2	100-200	RUCR	1			secondary
Sandy Creek	2	100-200	LECU	2	298978	4115123	
Sandy Creek	2	200-300	LECU	2	298987	4115148	
Sandy Creek	2	200-300	LECU	2	298994	4115156	
Sandy Creek	2	200-300	LECU	1	299001	4115164	
Sandy Creek	2	200-300	LECU	1	299005	4115173	
Sandy Creek	2	200-300	LECU	2	299010	4115180	
Sandy Creek	2	200-300	RUCR	1	299010	4115180	secondary
Sandy Creek	2	200-300	LECU	2	299017	4115189	
Sandy Creek	2	200-300	LECU	2	299021	4115196	
Sandy Creek	2	200-300	LECU	2	299027	4115205	
Sandy Creek	2	200-300	LECU	2	299032	4115212	
Sandy Creek	2	300-400	LECU	2	299051	4115238	
Sandy Creek	2	300-400	LECU	3	299058	4115248	
Sandy Creek	2	300-400	LECU	2	299066	4115261	
Sandy Creek	2	300-400	SOHA	2	299078	4112574	
Sandy Creek	2	300-400	TRCA5	2	299078	4112574	secondary
Sandy Creek	2	300-400	BRRA2	2			secondary
Sandy Creek	2	300-400	RUCR	1			secondary
Sandy Creek	2	300-400	LECU	3	299082	4115283	
Sandy Creek	2	400-500	LECU	2	299101	4115307	
Sandy Creek	2	400-500	LECU	3	299126	4115346	
Sandy Creek	2	400-500	LECU	2	299142	4115369	
Sandy Creek	2	500-600	TRCA5	2			secondary
Sandy Creek	2	500-600	LECU	1	299159	4115394	
Sandy Creek	2	500-600	LECU	2	299165	4115407	
Sandy Creek	2	500-600	LECU	2	299173	4115419	
Sandy Creek	2	500-600	LECU	2	299178	4115427	

Sandy Creek	2	500-600	LECU	2	299182	4115434	
Sandy Creek	2	500-600	TRPR2	2	299182	4115434	
Sandy Creek	2	500-600	LECU	2	299189	4115446	
Sandy Creek	2	600-700	LECU	2	299204	4115468	
Sandy Creek	2	600-700	TRCA5	2	299204	4115468	secondary
Sandy Creek	2	600-700	DACA6	1			secondary
Sandy Creek	2	600-700	LECU	2	299209	4115478	
Sandy Creek	2	600-700	LECU	2	299216	4115489	
Sandy Creek	2	600-700	TRPR2	2			secondary
Sandy Creek	2	600-700	SOHA	2	299223	4115503	
Sandy Creek	2	600-700	LECU	2	299223	4115503	
Sandy Creek	2	700-800	ROMU	1	299266	4115568	
Sandy Creek	2	700-800	ROMU	2	299272	4115577	
Sandy Creek	2	700-800	ROMU	3	299283	4115594	
Sandy Creek	2	700-800	SOHA	2	299289	4115605	
Sandy Creek	2	700-800	ROMU	2	299293	4115612	
Sandy Creek	2	700-800	LOJA	3	299293	4115612	
Sandy Creek	2	800-900	LOJA	3	299317	4115645	
Sandy Creek	2	800-900	LOJA	2	299324	4115663	
Sandy Creek	2	800-900	DAGL	2	299324	4115663	secondary
Sandy Creek	2	800-900	LOJA	4	299316	4115646	
Sandy Creek	2	800-900	LOJA	2	299342	4115679	
Sandy Creek	2	800-900	LOJA	2	NO	SIGNAL	
Sandy Creek	2	800-900	ROMU	2	NO	SIGNAL	
Sandy Creek	2	800-900	LOJA	2	299353	4115698	
Sandy Creek	2	800-900	ROMU	2	299353	4115698	
Sandy Creek	2	800-900	ROMU	3	299353	4115664	
Sandy Creek	2	800-900	LOJA	2	299353	4115664	
Sandy Creek	2	900-1000	LOJA	2	NO	SIGNAL	
Sandy Creek	2	900-1000	ROMU	2	NO	SIGNAL	
Sandy Creek	2	900-1000	ROMU	2	NO	SIGNAL	
Sandy Creek	2	900-1000	LOJA	2	NO	SIGNAL	
Sandy Creek	2	900-1000	ROMU	2	299388	4115786	
Sandy Creek	2	900-1000	LOJA	2	299388	4115786	
Sandy Creek	2	900-1000	ROMU	3	299390	4115768	
Sandy Creek	2	900-1000	LOJA	2	299390	4115768	
Sandy Creek	2	900-1000	ROMU	2	299393	4115751	
Sandy Creek	2	900-1000	LOJA	2	299393	4115751	
Sandy Creek	2	900-1000	LOJA	2	299407	4115756	
Sandy Creek	2	900-1000	ROMU	3	299403	4115780	
Sandy Creek	2	900-1000	LOJA	3	299403	4115780	
Sandy Creek	2				299459	4115865	End
Sandy Creek	3	0-100	LOJA	1	300047	4121066	
Sandy Creek	3	1000-1100					Nothing
Sandy Creek	3	100-200					Nothing
Sandy Creek	3	1100-1200					Nothing
Sandy Creek	3	1200-1300					Nothing
Sandy Creek	3	1300-1400					Nothing

Sandy Creek	3	1400-1500					Nothing
Sandy Creek	3	1500-End	HUJA	2	300018	4122567	
Sandy Creek	3	1500-End	HUJA	3	300010	4122580	
Sandy Creek	3	1500-End	HUJA	5	300011	4122597	
Sandy Creek	3	1500-End			300011	4122597	End at River
Sandy Creek	3	200-300	LOJA	3	NO	SIGNAL	
Sandy Creek	3	300-400	LOJA	2	300048	4121351	
Sandy Creek	3	300-400	ECCR	3			secondary
Sandy Creek	3	400-500					Nothing
Sandy Creek	3	500-600					Nothing
Sandy Creek	3	600-700	ECCR	2			secondary
Sandy Creek	3	700-800					Nothing
Sandy Creek	3	800-900					Nothing
Sandy Creek	3	900-1000					Nothing
Sandy Creek	4	0-100	LECU	3	299088	4119680	
Sandy Creek	4	0-100	SOHA	1	299075	4119646	
Sandy Creek	4	1000-1100	LOJA	3	299003	4118619	
Sandy Creek	4	100-200	LOJA	2	299068	4119538	
Sandy Creek	4	100-200	LOMA6	2	299071	4119524	
Sandy Creek	4	100-200	LECU	1	299071	4119524	
Sandy Creek	4	1100-1200	LOJA	2	299005	4118540	
Sandy Creek	4	1100-1200	LOJA	3	298986	4118461	
Sandy Creek	4	1200-1300	LOJA	2	299006	4118406	
Sandy Creek	4	1200-1300	SOHA	2	298983	4118358	
Sandy Creek	4	1300-1400					Nothing
Sandy Creek	4	1400-1500	RUCR	1			secondary
Sandy Creek	4	1500-1600	CANU4	2	298949	4118032	
Sandy Creek	4	1500-1600	ROMU	3	298941	4118008	
Sandy Creek	4	1600-1700	RUCR	1			secondary
Sandy Creek	4	1600-1700	LOJA	3	298940	4117921	
Sandy Creek	4	1700-1800					Nothing
Sandy Creek	4	1800-End	HUJA	5	298929	4117738	
Sandy Creek	4	1800-End					End at River
Sandy Creek	4	200-300	SOHA	2	299062	4119447	
Sandy Creek	4	300-400					Nothing
Sandy Creek	4	400-500					Nothing
Sandy Creek	4	500-600					Nothing
Sandy Creek	4	600-700					Nothing
Sandy Creek	4	700-800	LOJA	2	299028	4118975	
Sandy Creek	4	800-900					Nothing
Sandy Creek	4	900-1000	LOJA	3	299019	4118772	
Sandy Creek	4	900-1000	LOJA	3	299013	4118740	
Sandy Creek-E	1	0-100	POPR	3			secondary
Sandy Creek-E	1	100-200	POPR	3			secondary
Sandy Creek-E	1	100-200	RUCR	2			secondary
Sandy Creek-E	1	100-200	POPR	3			secondary
Sandy Creek-E	1	100-200	BRRA2	5	300125	4117940	secondary
Sandy Creek-E	1	200-300	RUCR	2			secondary

Sandy Creek-E	1	200-300	BRA2	3			secondary
Sandy Creek-E	1	200-300	BRTE	3			secondary
Sandy Creek-E	1	200-300	TRCA5	4			secondary
Sandy Creek-E	1	200-300	LECU	1	300056	4117950	
Sandy Creek-E	1	200-300	RUCR	2			secondary
Sandy Creek-E	1	200-300	PHAR3	2	300049	4117949	
Sandy Creek-E	1	200-300	TRCA5	4			secondary
Sandy Creek-E	1	200-300	PHAR3	2	300042	4117948	
Sandy Creek-E	1	200-300	TRPR2	1			secondary
Sandy Creek-E	1	200-300	RUCR	1			secondary
Sandy Creek-E	1	200-300	PHAR3	2	300030	4117946	
Sandy Creek-E	1	200-300	TRCA5	4			secondary
Sandy Creek-E	1	200-300	RUCR	2			secondary
Sandy Creek-E	1	200-300	PHAR3	2	300012	4117948	
Sandy Creek-E	1	200-300	TRCA5	5			secondary
Sandy Creek-E	1	200-300	LECU	1	299985	4117949	
Sandy Creek-E	1	300-400	RUCR	2			secondary
Sandy Creek-E	1	300-400	TRCA5	5			secondary
Sandy Creek-E	1	300-400	LECU	2	299963	4117951	
Sandy Creek-E	1	300-400	BRA2	3			secondary
Sandy Creek-E	1	300-400	BRTE	2			secondary
Sandy Creek-E	1	300-400	LECU	1	299944	4117954	
Sandy Creek-E	1	300-400	RUCR	1			secondary
Sandy Creek-E	1	300-400	TRCA5	4			secondary
Sandy Creek-E	1	300-400	BRTE	2			secondary
Sandy Creek-E	1	300-400	LECU	2	299933	4117954	
Sandy Creek-E	1	300-400	LECU	2			
Sandy Creek-E	1	300-400	PHAR3	3	299927	4117953	
Sandy Creek-E	1	300-400	LECU	2	299913	4117957	
Sandy Creek-E	1	300-400	LOJA	4	299910	4117955	
Sandy Creek-E	1	400-500	LOJA	3	299839	4117950	
Sandy Creek-E	1	500-600	LYNU	1			secondary
Sandy Creek-E	1	600-end			299670	4117969	Nothing

Appendix 2. Plot data for non-native species at CCNWR.

Management Unit	Transect	Plot	Code	Severity	Easting UTM	Northing UTM	Vegetation Type
Butter Ridge	1	BR1-0	HUJA	2	308591	4127976	bottomland
Butter Ridge	1	BR1-1	MIVI	1	308502	4128059	bottomland
Butter Ridge	1	BR1-2	Nothing		308434	4128106	bottomland
Butter Ridge	1	BR1-3	Nothing		308327	4128117	bottomland
Butter Ridge	1	BR1-4	Nothing		308242	4128199	bottomland
Butter Ridge	1	BR1-5	Nothing		308150	4128263	bottomland
Butter Ridge	1	BR1-6	Nothing		308080	4128330	Bottomland
Butter Ridge	1	BR1-7	Nothing		307996	4128408	swamp
Butter Ridge	1	BR1-8	Nothing		307928	4128475	swamp
Butter Ridge	2	BR2-0	SOHA	4	311710	4131992	road edge
Butter Ridge	2	BR2-0	SEVA4	2	311710	4131992	road edge
Butter Ridge	2	BR2-1	LECU	1	311739	4131902	Regen
Butter Ridge	2	BR2-2	LOJA	2	311762	4131835	Upland
Butter Ridge	2	BR2-2	ROMU	2	311762	4131835	Upland
Butter Ridge	2	BR2-3	Nothing		311791	4131713	upland
Butter Ridge	2	BR2-4	ELUM	1	311833	4131617	upland
Butter Ridge	2	BR2-4	LOJA	1	311833	4131617	upland
Butter Ridge	2	BR2-5	Nothing		311862	4131528	upland
Butter Ridge	2	BR2-6	Nothing		311895	4131424	regen
Butter Ridge	2	BR2-7	LOJA	1	311914	4131331	upland
Butter Ridge	2	BR2-8	LECU	1	311944	4131222	regen
Butter Ridge	2	BR2-8	BRAA2	1	311944	4131222	regen
Cache River	1	CR1-0	BRAA2	4	318033	4130393	young regen
Cache River	1	CR1-0	DACA6	2	318033	4130393	young regen
Cache River	1	CR1-0	POPR	2	318033	4130393	young regen
Cache River	1	CR1-1	LOJA	2	317976	4130309	young regen
Cache River	1	CR1-1	SOHA	2	317976	4130309	young regen
Cache River	1	CR1-1	DACA6	2	317976	4130309	young regen
Cache River	1	CR1-10	RUCR	1	317336	4129743	young regen
Cache River	1	CR1-11	Nothing		317256	4129672	bottomland
Cache River	1	CR1-2	DACA6	2	317921	4130231	young regen
Cache River	1	CR1-3	ROMU	1	317846	4130172	young regen
Cache River	1	CR1-3	SOHA	2	317846	4130172	young regen
Cache River	1	CR1-3	DACA6	3	317846	4130172	young regen
Cache River	1	CR1-4	LECU	1	317767	4130107	young regen
Cache River	1	CR1-4	POPR	1	317767	4130107	young regen
Cache River	1	CR1-5	Nothing		317694	4130049	Marsh
Cache River	1	CR1-7	SOHA	2	317547	4129931	young regen
Cache River	1	CR1-7	BRAA2	2	317547	4129931	young regen
Cache River	1	CR1-7	RUCR	2	317547	4129931	young regen
Cache River	1	CR1-7	SCPH	4	317547	4129931	young regen
Cache River	1	CR1-7	TRCA5	3	317547	4129931	young regen
Cache River	1	CR1-8	LECU	4	317465	4129870	open field

Cache River	1	CR1-9	DACA6	1	317407	4129795	young regen
Cache River	1	CR1-9	RUCR	1	317407	4129795	young regen
Cache River	2	CR2-0	LOJA	3	316322	4130043	young regen
Cache River	2	CR2-0	BRAA2	1	316322	4130043	young regen
Cache River	2	CR2-1	LECU	1	316230	4130016	open field
Cache River	2	CR2-1	LOJA	4	316230	4130016	open field
Cache River	2	CR2-1	SOHA	3	316230	4130016	open field
Cache River	2	CR2-1	BRAA2	4	316230	4130016	open field
Cache River	2	CR2-10	SOHA	1	315339	4129802	replanted
Cache River	2	CR2-10	BRAA2	1	315339	4129802	replanted
Cache River	2	CR2-11	ROMU	2	315245	4129786	young regen
Cache River	2	CR2-11	BRAA2	1	315245	4129786	young regen
Cache River	2	CR2-12	Nothing		315147	4129749	bottomland
Cache River	2	CR2-13	Nothing		315058	4129719	bottomland
Cache River	2	CR2-14	Nothing		314964	4129678	bottomland
Cache River	2	CR2-15	Nothing		314863	4129657	bottomland
Cache River	2	CR2-16	MIVI	1	314772	4129631	bottomland
Cache River	2	CR2-17	Nothing		314672	4129593	bottomland
Cache River	2	CR2-18	MIVI	1	314578	4129560	bottomland
Cache River	2	CR2-19	Nothing		314500	4129543	bottomland
Cache River	2	CR2-2	BRAA2	4	316130	4129991	young regen
Cache River	2	CR2-20	Nothing		314391	4129496	bottomland
Cache River	2	CR2-22	Nothing		314259	4129481	bottomland
Cache River	2	CR2-23	Nothing		314098	4129391	bottomland
Cache River	2	CR2-24	Nothing		314004	4129368	bottomland
Cache River	2	CR2-3	LECU	3	316038	4129970	young regen
Cache River	2	CR2-3	BRAA2	4	316038	4129970	young regen
Cache River	2	CR2-4	LECU	2	315941	4129952	open field
Cache River	2	CR2-4	RUCR	1	315941	4129952	open field
Cache River	2	CR2-5	LECU	4	315846	4129932	young regen
Cache River	2	CR2-5	SOHA	1	315846	4129932	young regen
Cache River	2	CR2-5	BRAA2	3	315846	4129932	young regen
Cache River	2	CR2-5	TRCA5	1	315846	4129932	young regen
Cache River	2	CR2-6	ROMU	3	315731	4129904	open field
Cache River	2	CR2-6	SCPH	4	315731	4129904	open field
Cache River	2	CR2-7	BRAA2	2	315629	4129870	young regen
Cache River	2	CR2-7	POPR	2	315629	4129870	young regen
Cache River	2	CR2-7	RUCR	1	315629	4129870	young regen
Cache River	2	CR2-7	SCPH	2	315629	4129870	young regen
Cache River	2	CR2-8	BRAA2	1	315532	4129841	young replant
Cache River	2	CR2-8	RUCR	1	315532	4129841	young replant
Cache River	2	CR2-9	BRAA2	2	315434	4129822	young replant
Cypress Creek	1	CC1-0	DIAR	2	315290	4135941	open field
Cypress Creek	1	CC1-0	POPR	4	315290	4135941	open field
Cypress Creek	1	CC1-1	PHAR3	1	315399	4135936	open field
Cypress Creek	1	CC1-1	ACMI2	3	315399	4135936	open field
Cypress Creek	1	CC1-1	POPR	4	315399	4135936	open field
Cypress Creek	1	CC1-10	LYNU	3	316359	4135885	bottomland

Cypress Creek	1	CC1-10	POPR	1	316359	4135885	bottomland
Cypress Creek	1	CC1-11	LYNU	4	316464	4135880	bottomland
Cypress Creek	1	CC1-12	Nothing		316585	4135871	bottomland
Cypress Creek	1	CC1-13	Nothing		316700	4135878	bottomland
Cypress Creek	1	CC1-14	Nothing		316797	4135892	bottomland
Cypress Creek	1	CC1-15	Nothing		316907	4135875	bottomland
Cypress Creek	1	CC1-16	Nothing		317022	4135888	bottomland
Cypress Creek	1	CC1-17	Nothing		317137	4135901	bottomland
Cypress Creek	1	CC1-18	Nothing		317223	4135895	bottomland
Cypress Creek	1	CC1-2	ELUM	2	315505	4135926	open field
Cypress Creek	1	CC1-2	LECU	1	315505	4135926	open field
Cypress Creek	1	CC1-2	DIAR	2	315505	4135926	open field
Cypress Creek	1	CC1-2	POPR	3	315505	4135926	open field
Cypress Creek	1	CC1-2	TRCA5	2	315505	4135926	open field
Cypress Creek	1	CC1-3	ROMU	2	315617	4135923	young bottomland
Cypress Creek	1	CC1-4	Nothing		315720	4135912	Old Bottomland
Cypress Creek	1	CC1-5	Nothing		315821	4135906	Bottomland
Cypress Creek	1	CC1-6	ROMU	2	315934	4135893	dense cane
Cypress Creek	1	CC1-7	Nothing		316028	4135886	Bottomland
Cypress Creek	1	CC1-8	LYNU	2	316139	4135892	bottomland regen
Cypress Creek	1	CC1-9	LYNU	4	316240	4135885	young bottomland
Cypress Creek	2	CC2-0	ACMI2	3	316219	4134104	Regen
Cypress Creek	2	CC2-0	BRAA2	2	316219	4134104	Regen
Cypress Creek	2	CC2-0	DACA6	1	316219	4134104	Regen
Cypress Creek	2	CC2-0	POPR	1	316219	4134104	Regen
Cypress Creek	2	CC2-1	LOJA	2	316486	4134301	bottomland
Cypress Creek	2	CC2-10	Nothing		317237	4134829	regen
Cypress Creek	2	CC2-11	TRCA5	3	317322	4134895	replanted
Cypress Creek	2	CC2-12	TRCA5	3	317412	4134961	replanted
Cypress Creek	2	CC2-13	Nothing		317497	4135023	replanted
Cypress Creek	2	CC2-14	LECU	1	317579	4135081	open field
Cypress Creek	2	CC2-2	LOJA	3	316570	4134360	bottomland
Cypress Creek	2	CC2-3	MIVI	1	316651	4134438	bottomland
Cypress Creek	2	CC2-4	Nothing		316730	4134503	Regen
Cypress Creek	2	CC2-5	Nothing		316827	4134535	Regen
Cypress Creek	2	CC2-6	Nothing		316912	4134598	open field
Cypress Creek	2	CC2-7	RUCR	1	316990	4134661	Regen
Cypress Creek	2	CC2-8	Nothing		317066	4134706	regen
Cypress Creek	2	CC2-9	Nothing		317159	4134768	regen
Cypress Creek	3	CC3-0	LOJA	2	314533	4136871	regen
Cypress Creek	3	CC3-0	ROMU	2	314533	4136871	regen
Cypress Creek	3	CC3-0	SOHA	3	314533	4136871	regen
Cypress Creek	3	CC3-0	DAGL	3	314533	4136871	regen
Cypress Creek	3	CC3-0	POPR	2	314533	4136871	regen
Cypress Creek	3	CC3-0	RUCR	1	314533	4136871	regen
Cypress Creek	3	CC3-1	LOJA	1	314584	4136913	regen
Cypress Creek	3	CC3-1	LOMA6	1	314584	4136913	regen
Cypress Creek	3	CC3-1	DAGL	2	314584	4136913	regen

Cypress Creek	3	CC3-10	Nothing		315093	4137393	bottomland
Cypress Creek	3	CC3-11	Nothing		315122	4137450	bottomland
Cypress Creek	3	CC3-12	ROMU	3	315184	4137497	bottomland
Cypress Creek	3	CC3-13	Nothing		315241	4137567	bottomland
Cypress Creek	3	CC3-2	DAGL	2	314637	4136954	regen
Cypress Creek	3	CC3-3	DACA6	2	314702	4136998	regen
Cypress Creek	3	CC3-4	RUCR	2	314752	4137042	upland
Cypress Creek	3	CC3-5	Nothing		314844	4137102	bottomland
Cypress Creek	3	CC3-6	Nothing		314875	4137166	bottomland
Cypress Creek	3	CC3-7	Nothing		314936	4137227	bottomland
Cypress Creek	3	CC3-8	Nothing		314991	4137285	bottomland
Cypress Creek	3	CC3-9	Nothing		315033	4137337	bottomland
Cypress Creek	4	CC4-0	Nothing		318835	4132600	regen
Cypress Creek	4	CC4-1	RUCR	1	318911	4132553	regen
Cypress Creek	4	CC4-10	LECU	2	319475	4132038	open field
Cypress Creek	4	CC4-10	RUCR	2	319475	4132038	open field
Cypress Creek	4	CC4-11	LECU	2	319554	4131978	open field
Cypress Creek	4	CC4-11	BRTE	2	319554	4131978	open field
Cypress Creek	4	CC4-12	LECU	1	319632	4131905	open field
Cypress Creek	4	CC4-12	BRTE	2	319632	4131905	open field
Cypress Creek	4	CC4-13	Nothing		319711	4131829	regen
Cypress Creek	4	CC4-14	LECU	2	319770	4131742	open field
Cypress Creek	4	CC4-15	Nothing		319829	4131649	open field
Cypress Creek	4	CC4-16	Nothing		319908	4131565	regen
Cypress Creek	4	CC4-17	BRTE	3	319997	4131484	replanted
Cypress Creek	4	CC4-2	Nothing		318940	4132485	bottomland
Cypress Creek	4	CC4-3	POPR	3	319001	4132432	regen
Cypress Creek	4	CC4-4	LECU	1	319058	4132380	regen
Cypress Creek	4	CC4-4	POPR	3	319058	4132380	regen
Cypress Creek	4	CC4-5	LECU	2	319125	4132313	regen
Cypress Creek	4	CC4-6	SOHA	4	319202	4132253	open field
Cypress Creek	4	CC4-7	LECU	2	319270	4132190	regen
Cypress Creek	4	CC4-8	RUCR	1	319348	4132131	open field
Cypress Creek	4	CC4-9	Nothing		319414	4132074	regen
Indian Camp Creek	1	IC1-0	HUJA	5	301631	4123644	open area
Indian Camp Creek	1	IC1-0	MIVI	2	301631	4123644	open area
Indian Camp Creek	1	IC1-0	RUCR	3	301631	4123644	open area
Indian Camp Creek	1	IC1-1	Nothing		301896	4123643	Cane
Indian Camp Creek	1	IC1-2	Nothing		301991	4123645	Cane
Indian Camp Creek	1	IC1-3	MIVI	2	302081	4123644	Cane
Indian Camp Creek	1	IC1-4	MIVI	1	302404	4123649	bottomland/upland
Indian Camp Creek	1	IC1-4	LYNU	2	302404	4123649	bottomland/upland

Indian Camp Creek	1	IC1-5	LOJA	2	302507	4123674	upland
Indian Camp Creek	1	IC1-5	POPR	2	302507	4123674	upland
Indian Camp Creek	2	IC2-0	LOJA	2	303735	4124633	upland
Indian Camp Creek	2	IC2-1	Nothing		303675	4124738	bottomland
Indian Camp Creek	2	IC2-2	Nothing		303629	4124830	bottomland
Indian Camp Creek	2	IC2-3	Nothing		303587	4124915	swamp
Indian Camp Creek	2	IC2-4	Nothing		303550	4124997	swamp
Indian Camp Creek	2	IC2-5	Nothing		303498	4125084	bottomland
Indian Camp Creek	2	IC2-6	Nothing		303464	4125180	bottomland
Indian Camp Creek	2	IC2-7	Nothing		303406	4125267	bottomland
Indian Camp Creek	2	IC2-8	LYNU	3	303356	4125356	regen
Lake Creek	1	LC1-0	Nothing		299058	4108754	floodplain field
Lake Creek	1	LC1-1	Nothing		299046	4108846	viney bottomland
Lake Creek	1	LC1-10	MIVI	2	299249	4110194	open upland
Lake Creek	1	LC1-10	PHAR3	1	299249	4110194	open upland
Lake Creek	1	LC1-10	POPR	3	299249	4110194	open upland
Lake Creek	1	LC1-10	RUCR	1	299249	4110194	open upland
Lake Creek	1	LC1-10	TRCA5	2	299249	4110194	open upland
Lake Creek	1	LC1-11	ELUM	2	299271	4110105	upland
Lake Creek	1	LC1-11	LOJA	2	299271	4110105	upland
Lake Creek	1	LC1-11	POPR	1	299271	4110105	upland
Lake Creek	1	LC1-11	TRCA5	1	299271	4110105	upland
Lake Creek	1	LC1-12	MIVI	4	299288	4110004	upland
Lake Creek	1	LC1-13	LOJA	3	299305	4109906	upland
Lake Creek	1	LC1-13	MIVI	2	299305	4109906	upland
Lake Creek	1	LC1-14	LOJA	3	299326	4109819	upland
Lake Creek	1	LC1-14	MIVI	2	299326	4109819	upland
Lake Creek	1	LC1-14	ROMU	3	299326	4109819	upland
Lake Creek	1	LC1-15	LOJA	3	299346	4109706	upland
Lake Creek	1	LC1-16	ELUM	1	299384	4109610	upland
Lake Creek	1	LC1-16	LOJA	3	299384	4109610	upland
Lake Creek	1	LC1-17	LOJA	2	299383	4109491	upland
Lake Creek	1	LC1-17	LOMA6	1	299383	4109491	upland
Lake Creek	1	LC1-17	ROMU	2	299383	4109491	upland
Lake Creek	1	LC1-18	LOJA	3	NO	SIGNAL	upland
Lake Creek	1	LC1-18	ROMU	2	NO	SIGNAL	upland
Lake Creek	1	LC1-19	MIVI	2	NO	SIGNAL	upland
Lake Creek	1	LC1-19	ROMU	3	NO	SIGNAL	upland
Lake Creek	1	LC1-2	Nothing		299007	4109123	open area
Lake Creek	1	LC1-20	LOJA	2	299439	4109108	upland

Lake Creek	1	LC1-3	Nothing		299000	4109222	bottomland
Lake Creek	1	LC1-4	POPR	1	299134	4110745	upland
Lake Creek	1	LC1-5	LOJA	2	299157	4110667	upland
Lake Creek	1	LC1-5	ROMU	1	299157	4110667	upland
Lake Creek	1	LC1-6	POPR	2	299193	4110591	upland
Lake Creek	1	LC1-7			NO	SIGNAL	upland
Lake Creek	1	LC1-8	LOJA	2	NO	SIGNAL	upland
Lake Creek	1	LC1-8	POPR	2	NO	SIGNAL	upland
Lake Creek	1	LC1-9	MIVI	1	299234	4110287	open upland
Lake Creek	1	LC1-9	PHAR3	1	299234	4110287	open upland
Lake Creek	1	LC1-9	ROMU	2	299234	4110287	open upland
Lake Creek	1	LC1-9	POPR	3	299234	4110287	open upland
Lake Creek	1	LC1-9	TRPR2	1	299234	4110287	open upland
Lake Creek	2	LC2-0	ELUM	3	300509	4110368	upland clearing
Lake Creek	2	LC2-0	ROMU	3	300509	4110368	upland clearing
Lake Creek	2	LC2-1	Nothing		300463	4110311	upland
Lake Creek	2	LC2-10	Nothing		299858	4109694	upland
Lake Creek	2	LC2-11	LOJA	3	NO	SIGNAL	upland
Lake Creek	2	LC2-11	MIVI	4	NO	SIGNAL	upland
Lake Creek	2	LC2-12	LOJA	2	299721	4109553	upland
Lake Creek	2	LC2-12	MIVI	4	299721	4109553	upland
Lake Creek	2	LC2-12	ROMU	2	299721	4109553	upland
Lake Creek	2	LC2-13	Nothing		299644	4109484	bottomland
Lake Creek	2	LC2-14	LOJA	2	299569	4109418	upland
Lake Creek	2	LC2-15	MIVI	2	299496	4109327	upland
Lake Creek	2	LC2-16	LOJA	2	299425	4109232	upland
Lake Creek	2	LC2-16	MIVI	4	299425	4109232	upland
Lake Creek	2	LC2-16	ROMU	3	299425	4109232	upland
Lake Creek	2	LC2-17	LOJA	2	299349	4109143	upland
Lake Creek	2	LC2-2	SOHA	3	300390	4110246	old field
Lake Creek	2	LC2-2	BRAA2	3	300390	4110246	old field
Lake Creek	2	LC2-2	DACA6	3	300390	4110246	old field
Lake Creek	2	LC2-3	SOHA	2	300327	4110178	old field
Lake Creek	2	LC2-3	BRAA2	1	300327	4110178	old field
Lake Creek	2	LC2-3	DACA6	2	300327	4110178	old field
Lake Creek	2	LC2-3	POPR	2	300327	4110178	old field
Lake Creek	2	LC2-3	TRPR2	1	300327	4110178	old field
Lake Creek	2	LC2-4	Nothing		300279	4110124	upland
Lake Creek	2	LC2-5	Nothing		300208	4110046	upland
Lake Creek	2	LC2-6	LOJA	2	300130	4109979	upland
Lake Creek	2	LC2-6	ROMU	4	300130	4109979	upland
Lake Creek	2	LC2-7	LOJA	3	300064	4109927	upland
Lake Creek	2	LC2-7	ROMU	3	300064	4109927	upland
Lake Creek	2	LC2-8	LOJA	2	299995	4109836	upland
Lake Creek	2	LC2-8	ROMU	3	299995	4109836	upland
Lake Creek	2	LC2-9	SOHA	1	299929	4109764	upland field
Lake Creek	2	LC2-9	PHPR3	2	299929	4109764	upland field
Lake Creek	2	LC2-9	POPR	2	299929	4109764	upland field

Lake Creek	3	LC3-0	Nothing		299911	4113742	bottomland
Lake Creek	3	LC3-1	LOJA	3	299908	4113863	Regen
Lake Creek	3	LC3-1	DACA6	1	299908	4113863	Regen
Lake Creek	3	LC3-2	Nothing		299908	4113936	upland
Lake Creek	3	LC3-3	MIVI	2	299907	4114021	upland
Lake Creek	3	LC3-4	MIVI	2	299905	4114124	upland
Lake Creek	3	LC3-5	LOJA	2	299906	4114213	upland
Lake Creek	3	LC3-5	MIVI	2	299906	4114213	upland
Lake Creek	3	LC3-6	ELUM	4	299920	4114302	upland
Lake Creek	3	LC3-6	LOJA	3	299920	4114302	upland
Lake Creek	3	LC3-6	MIVI	3	299920	4114302	upland
Lake Creek	3	LC3-6	ROMU	3	299920	4114302	upland
Lake Creek	3	LC3-7	ELUM	1	299923	4114412	upland
Lake Creek	3	LC3-7	LOJA	4	299923	4114412	upland
Lake Creek	3	LC3-8	ELUM	3	299932	4114506	upland
Lake Creek	3	LC3-8	LOJA	2	299932	4114506	upland
Lake Creek	3	LC3-8	MIVI	4	299932	4114506	upland
Lake Creek	3	LC3-8	ROMU	3	299932	4114506	upland
Lake Creek	3	LC3-9	LOJA	3	299955	4114634	upland
Lake Creek	3	LC3-9	MIVI	2	299955	4114634	upland
Lake Creek	3	LC3-9	ROMU	2	299955	4114634	upland
Linekiln Slough	1	LS1-0	MIVI	2	312602	4128518	bottomland
Linekiln Slough	1	LS1-1	LOJA	1	312592	4128442	open field
Linekiln Slough	1	LS1-1	BRAA2	1	312592	4128442	open field
Linekiln Slough	1	LS1-1	POPR	3	312592	4128442	open field
Linekiln Slough	1	LS1-2	LOJA	2	312570	4128339	open field
Linekiln Slough	1	LS1-2	BRAA2	4	312570	4128339	open field
Linekiln Slough	1	LS1-3	LOJA	1	312552	4128232	young regen area
Linekiln Slough	1	LS1-3	BRAA2	2	312552	4128232	young regen area
Linekiln Slough	1	LS1-3	POPR	2	312552	4128232	young regen area
Linekiln Slough	1	LS1-3	TRCA5	1	312552	4128232	young regen area
Linekiln Slough	1	LS1-4	POPR	4	312529	4128141	open field
Linekiln Slough	1	LS1-4	TRCA5	2	312529	4128141	open field
Old Channel	1	OC1-0	MIVI	2	300127	4108167	bottomland
Old Channel	1	OC1-1	LOJA	3	300209	4108098	bottomland
Old Channel	1	OC1-1	ROMU	2	300209	4108098	bottomland
Old Channel	1	OC1-2	ELUM	2	300280	4108045	bottomland
Old Channel	1	OC1-2	LOJA	4	300280	4108045	bottomland
Old Channel	1	OC1-2	MIVI	1	300280	4108045	bottomland
Old Channel	1	OC1-2	ROMU	3	300280	4108045	bottomland
Old Channel	1	OC1-3	LOJA	3	300347	4107976	bottomland regen
Old Channel	1	OC1-4	LOJA	2	300418	4107920	bottomland
Old Channel	1	OC1-4	MIVI	2	300418	4107920	bottomland
Old Channel	2	OC2-0	Nothing		300406	4108590	bottomland regen
Old Channel	2	OC2-1	Nothing		300402	4108447	bottomland
Old Channel	2	OC2-10	LOJA	3	300405	4107599	bottomland
Old Channel	2	OC2-2	MIVI	1	300399	4108337	bottomland
Old Channel	2	OC2-3	Nothing		300415	4108240	bottomland

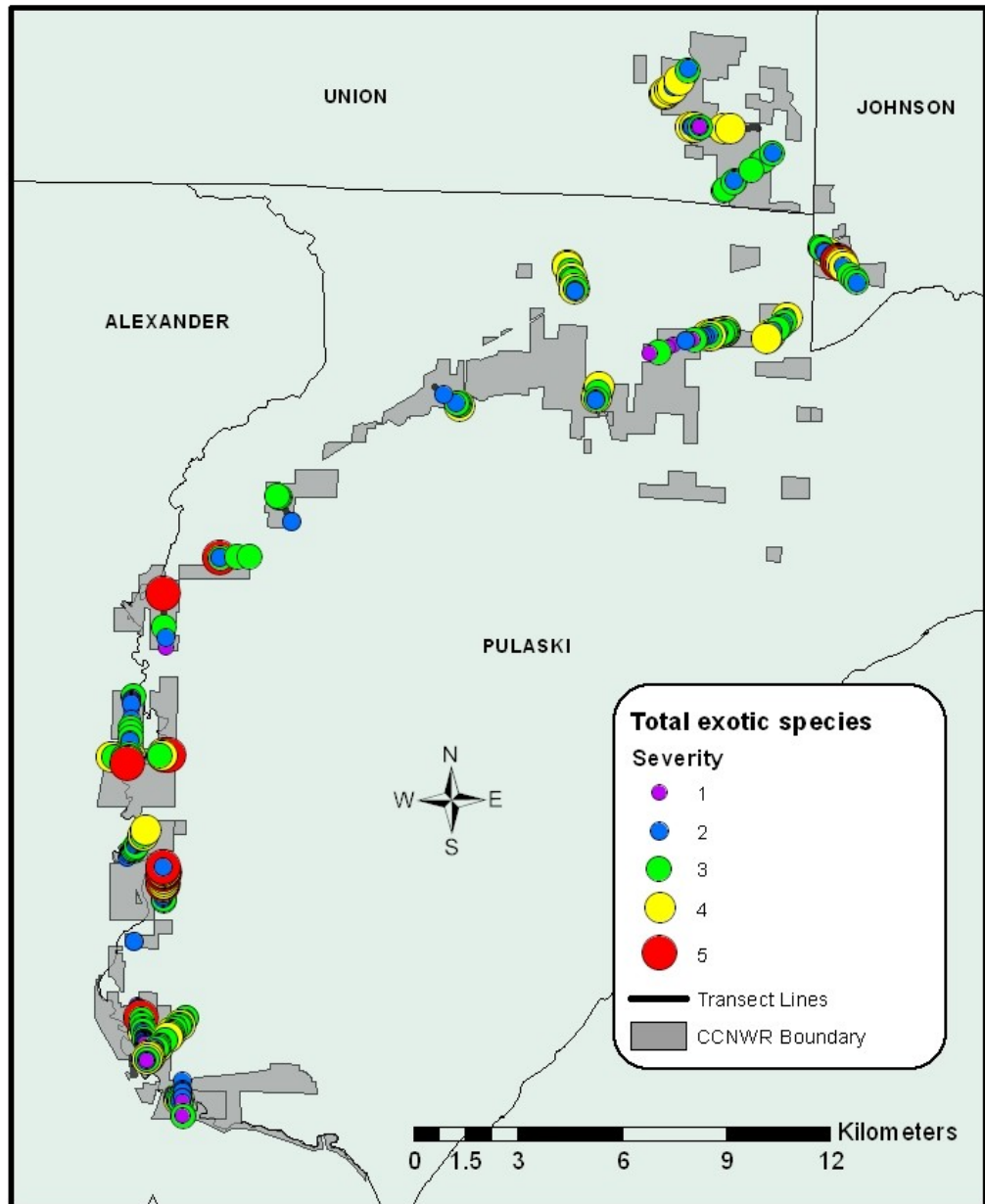
Old Channel	2	OC2-4	Nothing		300411	4108143	bottomland
Old Channel	2	OC2-5	Nothing		300399	4108052	bottomland
Old Channel	2	OC2-6	Nothing		300418	4107945	bottomland
Old Channel	2	OC2-7	Nothing		300417	4107853	bottomland
Old Channel	2	OC2-8	Nothing		300428	4107759	bottomland
Old Channel	2	OC2-9	LOJA	1	300398	4107661	bottomland
Sandy Creek	1	SC1-1	BRAA2	2	298480	4117909	young regen/old field
Sandy Creek	1	SC1-10	BRAA2	4	300092	4117947	open field
Sandy Creek	1	SC1-10	BRTE	3	300092	4117947	open field
Sandy Creek	1	SC1-10	POPR	2	300092	4117947	open field
Sandy Creek	1	SC1-10	RUCR	2	300092	4117947	open field
Sandy Creek	1	SC1-11	LECU	1	299985	4117951	open field
Sandy Creek	1	SC1-11	BRAA2	3	299985	4117951	open field
Sandy Creek	1	SC1-11	BRTE	2	299985	4117951	open field
Sandy Creek	1	SC1-11	RUCR	2	299985	4117951	open field
Sandy Creek	1	SC1-11	TRCA5	5	299985	4117951	open field
Sandy Creek	1	SC1-12	Nothing		299888	4117950	Bottomland
Sandy Creek	1	SC1-13	Nothing		299757	4117952	flooded bottomland
Sandy Creek	1	SC1-14	RUCR	1	299673	4117966	bottomland
Sandy Creek	1	SC1-2	RUCR	3	298578	4117913	young regen/old field
Sandy Creek	1	SC1-3	RUCR	1	298684	4117910	young regen/old field
Sandy Creek	1	SC1-4	Nothing		298779	4117917	Moist new growth
Sandy Creek	1	SC1-5	RUCR	1	298877	4117912	Forest Regen
Sandy Creek	1	SC1-6	RUCR	2	298981	4117900	Moist new growth
Sandy Creek	1	SC1-7	RUCR	2	299092	4117899	young regen
Sandy Creek	1	SC1-8	Nothing		300303	4117922	flooded bottomland
Sandy Creek	1	SC1-9	PHPR3	3	300202	4117935	planted forest bottomland
Sandy Creek	2	SC2-0	RUCR	1	298874	4114962	river edge
Sandy Creek	2	SC2-1	LECU	2	298930	4115046	open field
Sandy Creek	2	SC2-1	RUCR	1	298930	4115046	open field
Sandy Creek	2	SC2-10	LOJA	3	299415	4115787	upland
Sandy Creek	2	SC2-10	ROMU	2	299415	4115787	upland
Sandy Creek	2	SC2-2	LECU	2	298980	4115132	open field
Sandy Creek	2	SC2-2	RUCR	1	298980	4115132	open field
Sandy Creek	2	SC2-3	LECU	3	299035	4115215	open field
Sandy Creek	2	SC2-3	RUCR	1	299035	4115215	open field
Sandy Creek	2	SC2-4	LECU	2	299090	4115291	replanted
Sandy Creek	2	SC2-5	LECU	2	299144	4115369	open field
Sandy Creek	2	SC2-5	TRCA5	3	299144	4115369	open field
Sandy Creek	2	SC2-6	LECU	1	299194	4115455	open field
Sandy Creek	2	SC2-6	TRCA5	2	299194	4115455	open field
Sandy Creek	2	SC2-7	Nothing		299245	4115536	regen
Sandy Creek	2	SC2-8	MIVI	2	299303	4115616	open field
Sandy Creek	2	SC2-9	LOJA	3	299364	4115712	upland

Sandy Creek	2	SC2-9	ROMU	2	299364	4115712	upland
Sandy Creek	3	SC3-0	Nothing		300050	4121034	bottomland
Sandy Creek	3	SC3-1	Nothing		300043	4121129	bottomland
Sandy Creek	3	SC3-10	Nothing		300025	4121999	bottomland
Sandy Creek	3	SC3-11	Nothing		300032	4122133	bottomland
Sandy Creek	3	SC3-12	Nothing		300017	4122201	bottomland
Sandy Creek	3	SC3-13	Nothing		300017	4122254	bottomland
Sandy Creek	3	SC3-14	Nothing		300015	4122424	bottomland
Sandy Creek	3	SC3-15	Nothing		300018	4122533	bottomland
Sandy Creek	3	SC3-2	Nothing		300037	4121233	bottomland
Sandy Creek	3	SC3-3	Nothing		300042	4121327	bottomland
Sandy Creek	3	SC3-4	Nothing		300038	4121442	old road
Sandy Creek	3	SC3-5	Nothing		300032	4121527	bottomland
Sandy Creek	3	SC3-6	ECCR	3	299994	4121643	bottomland
Sandy Creek	3	SC3-7	Nothing		300042	4121720	bottomland
Sandy Creek	3	SC3-8	Nothing		300039	4121800	bottomland
Sandy Creek	3	SC3-9	Nothing		300034	4121916	bottomland
Sandy Creek	4	SC4-0	Nothing		299092	4119720	Regen
Sandy Creek	4	SC4-1	SOHA	2	299083	4119623	Regen
Sandy Creek	4	SC4-10	Nothing		299008	4118668	regen
Sandy Creek	4	SC4-11	Nothing		299003	4118570	regen
Sandy Creek	4	SC4-12	Nothing		298993	4118456	upland
Sandy Creek	4	SC4-13	Nothing		298973	4118340	regen
Sandy Creek	4	SC4-14	Nothing		298967	4118230	regen
Sandy Creek	4	SC4-15	Nothing		298958	4118120	regen
Sandy Creek	4	SC4-16	Nothing		298941	4118008	regen
Sandy Creek	4	SC4-17	Nothing		298934	4117901	regen
Sandy Creek	4	SC4-18	LECU	2	298897	4117774	regen
Sandy Creek	4	SC4-2	Nothing		299067	4119520	regen
Sandy Creek	4	SC4-3	Nothing		299054	4119399	regen
Sandy Creek	4	SC4-4	SOHA	1	299045	4119288	regen
Sandy Creek	4	SC4-5	Nothing		299033	4119176	regen
Sandy Creek	4	SC4-6	Nothing		299025	4119092	regen
Sandy Creek	4	SC4-7	Nothing		299017	4119000	regen
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Sandy Creek	4	SC4-9	LOJA	2	299065	4118778	upland

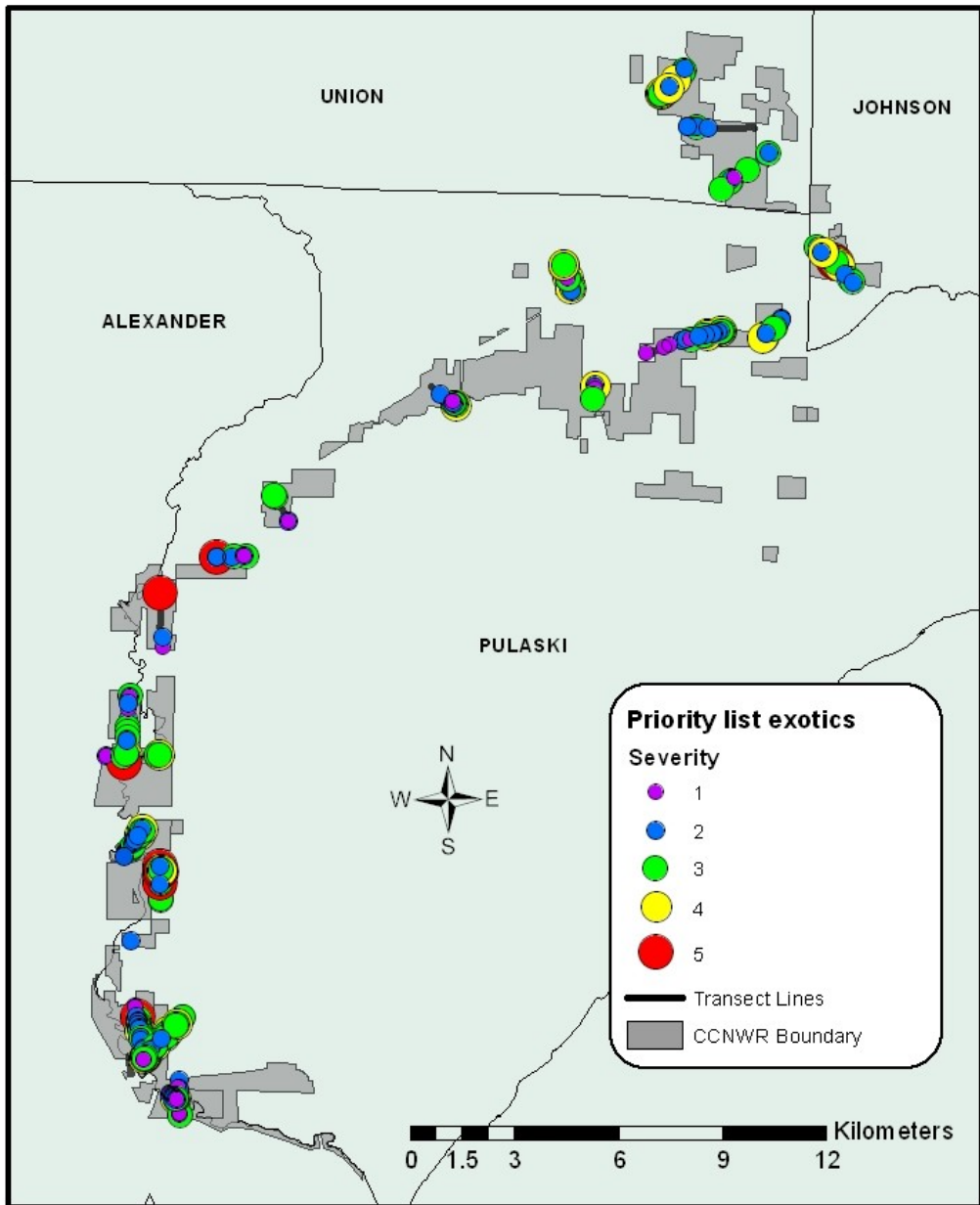
Appendix 3

All exotic species found were mapped using ArcGIS. This Appendix includes each of the maps created. Each map shows one or more species, and the locations of their sightings, overlaying a map of the CCNWR and the lines of the transects that were walked. They are classified on the map based on the severity class of the sightings. Map a. is a composite of all the other maps, while Map b. is a composite of only the maps of the priority species. Each species found is also represented in a solitary map of the species. Species on the priority list are listed alphabetically for Maps c – m, while species on the secondary list are listed alphabetically for maps n – bb.

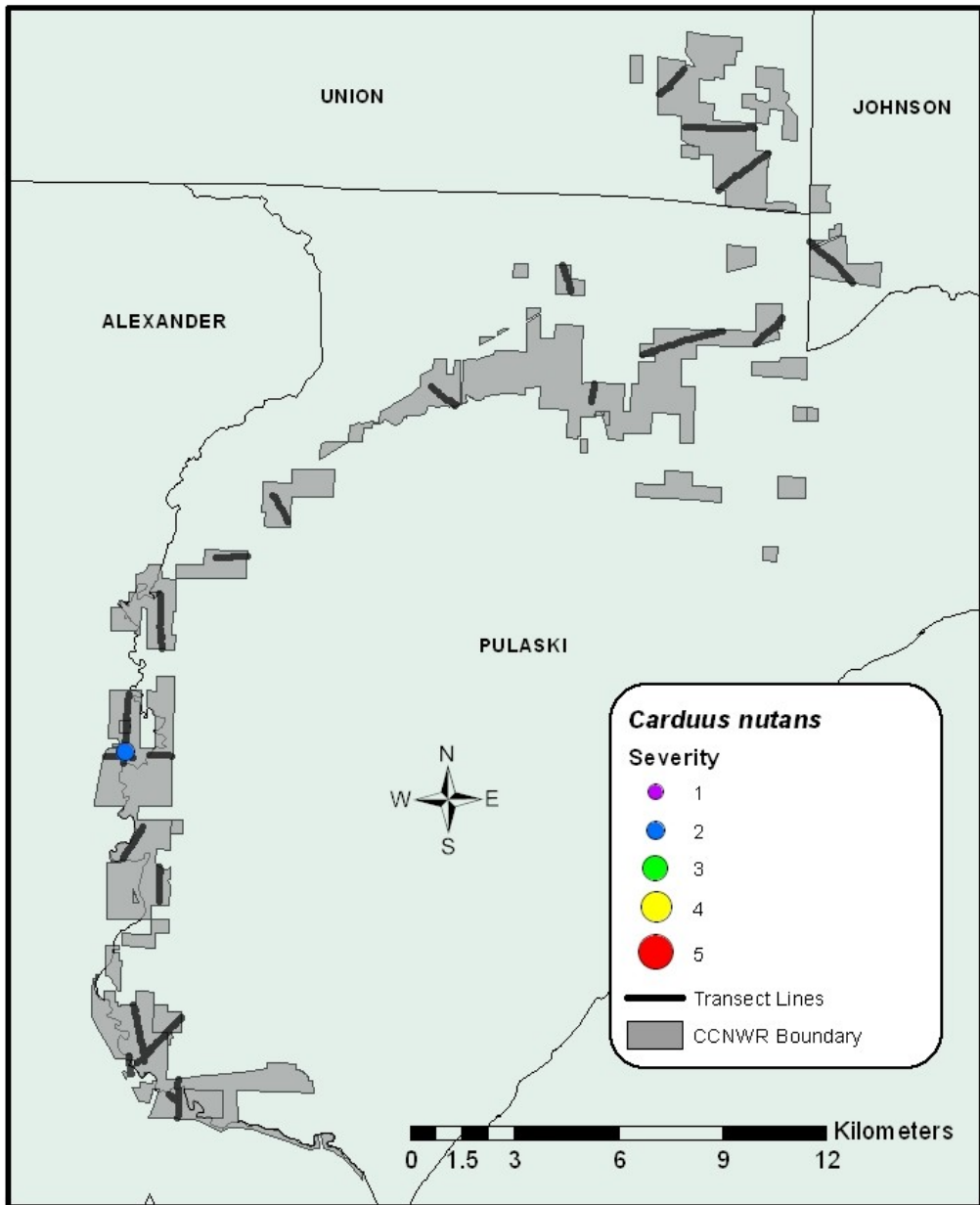
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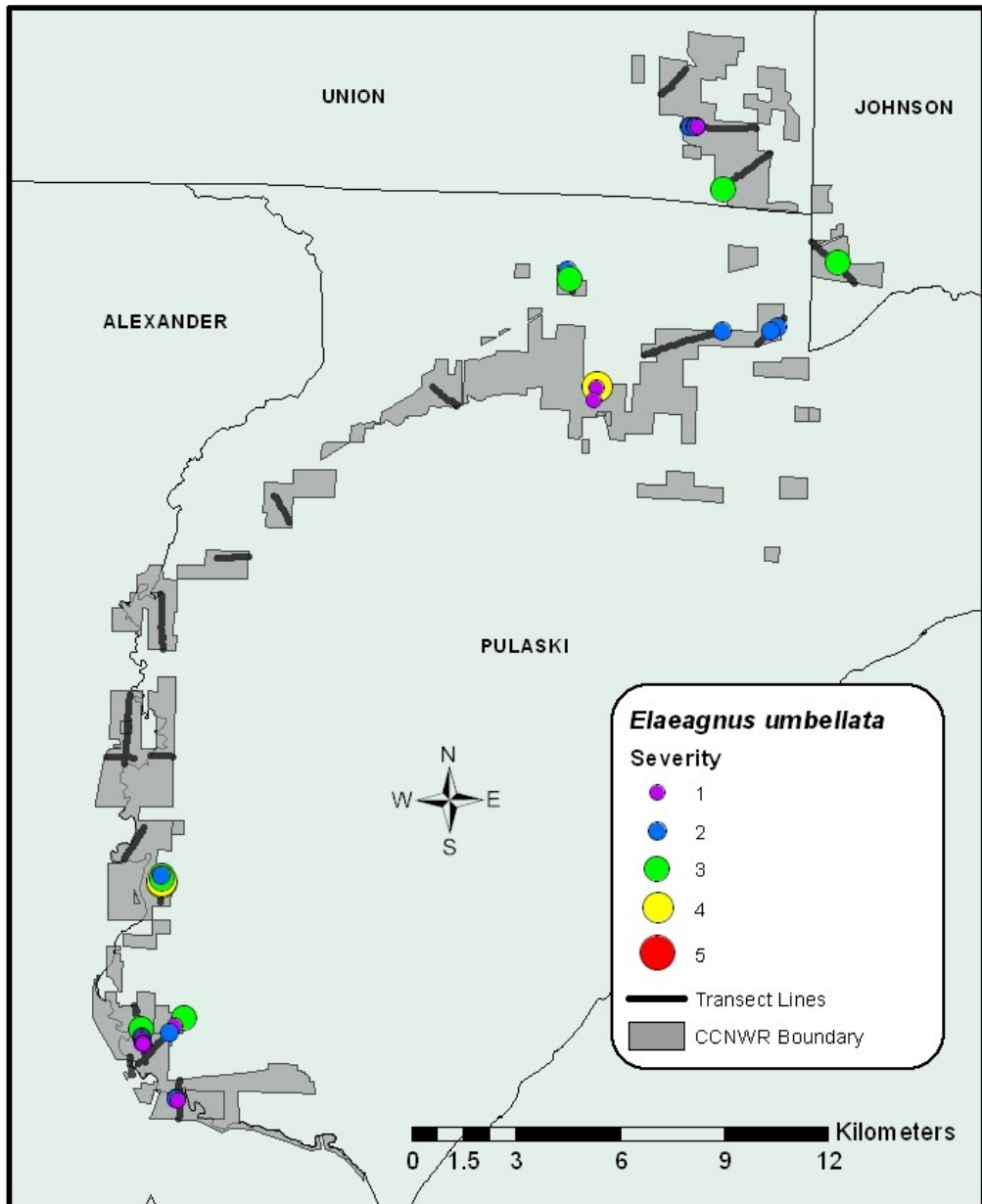
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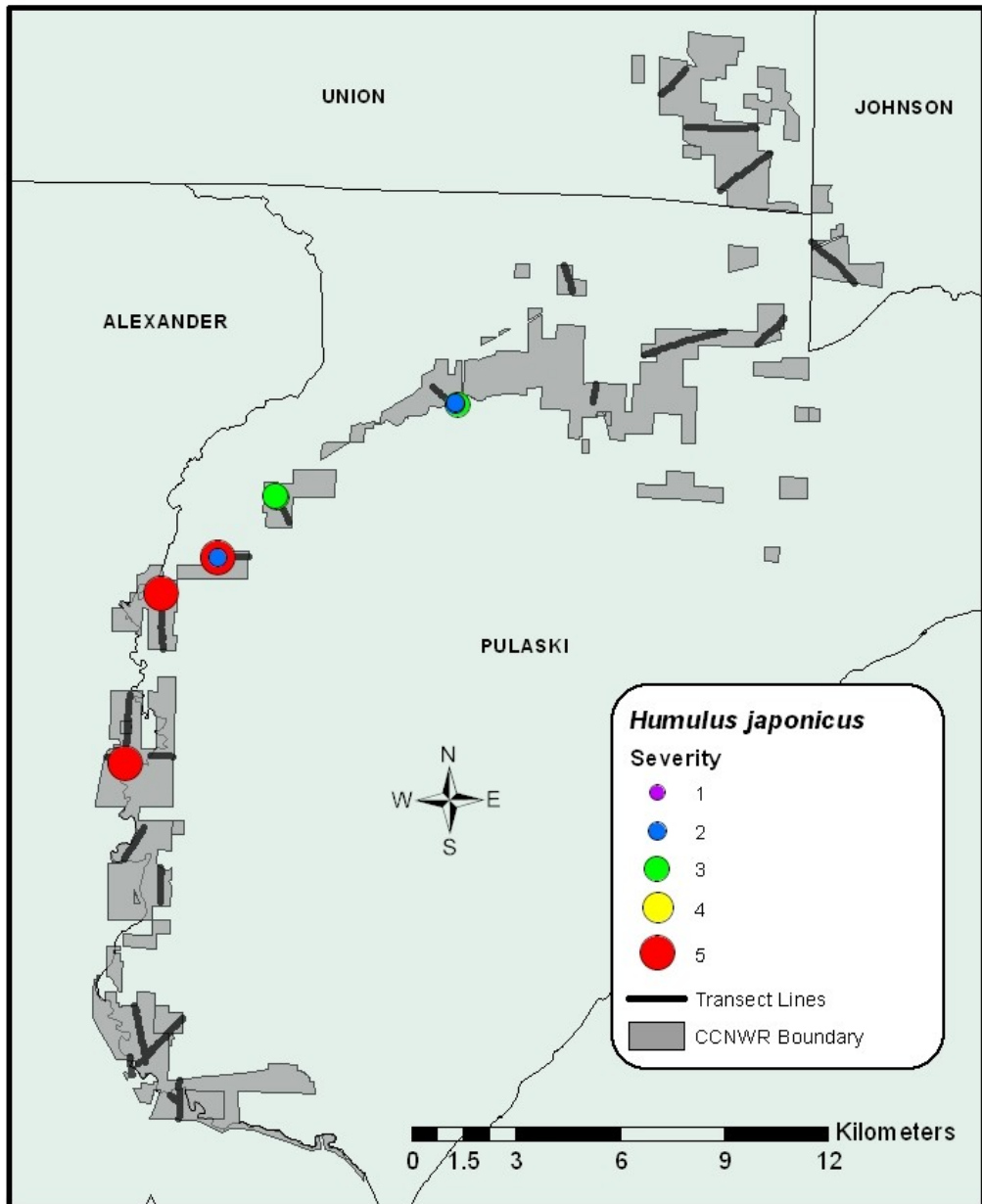
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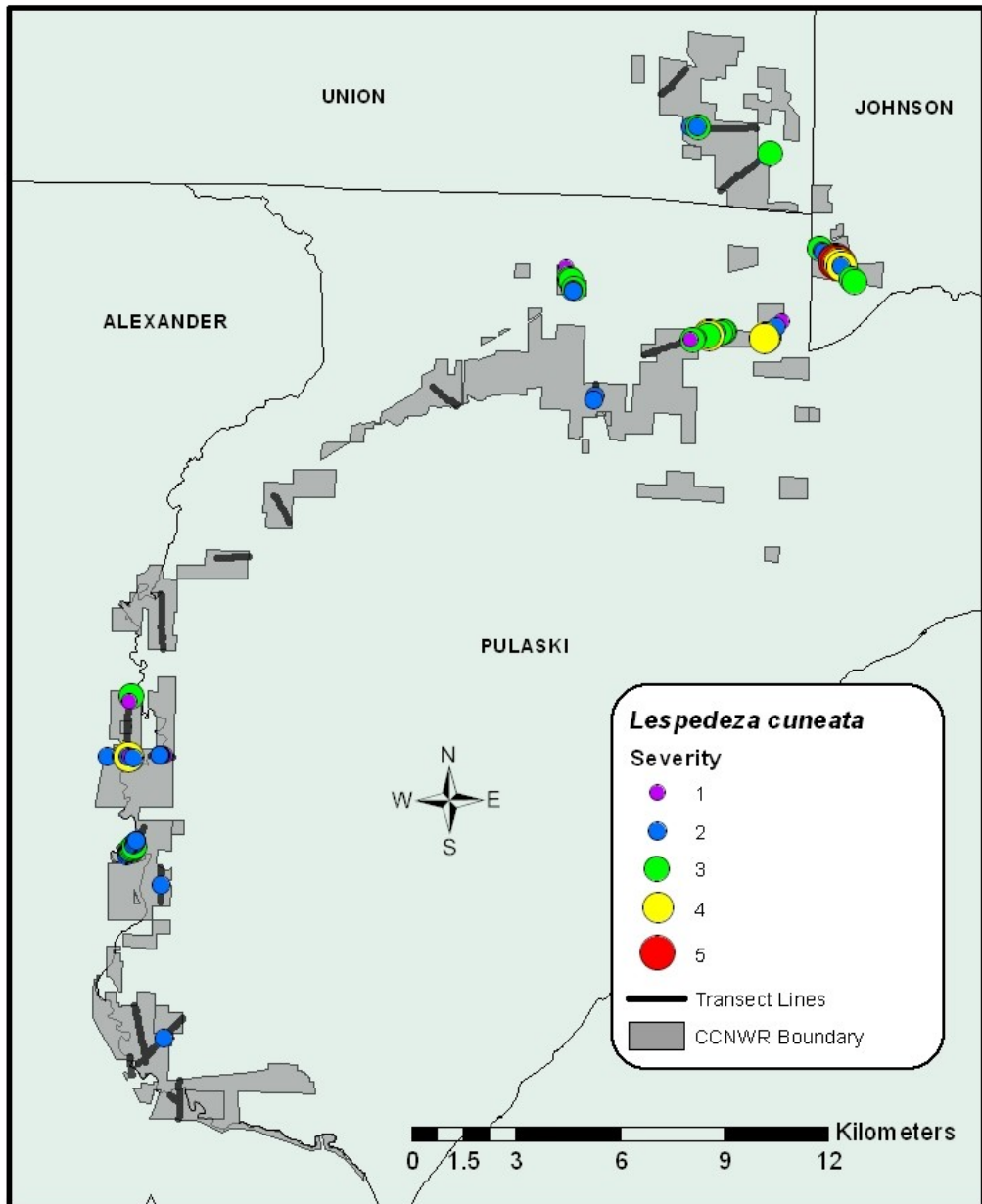
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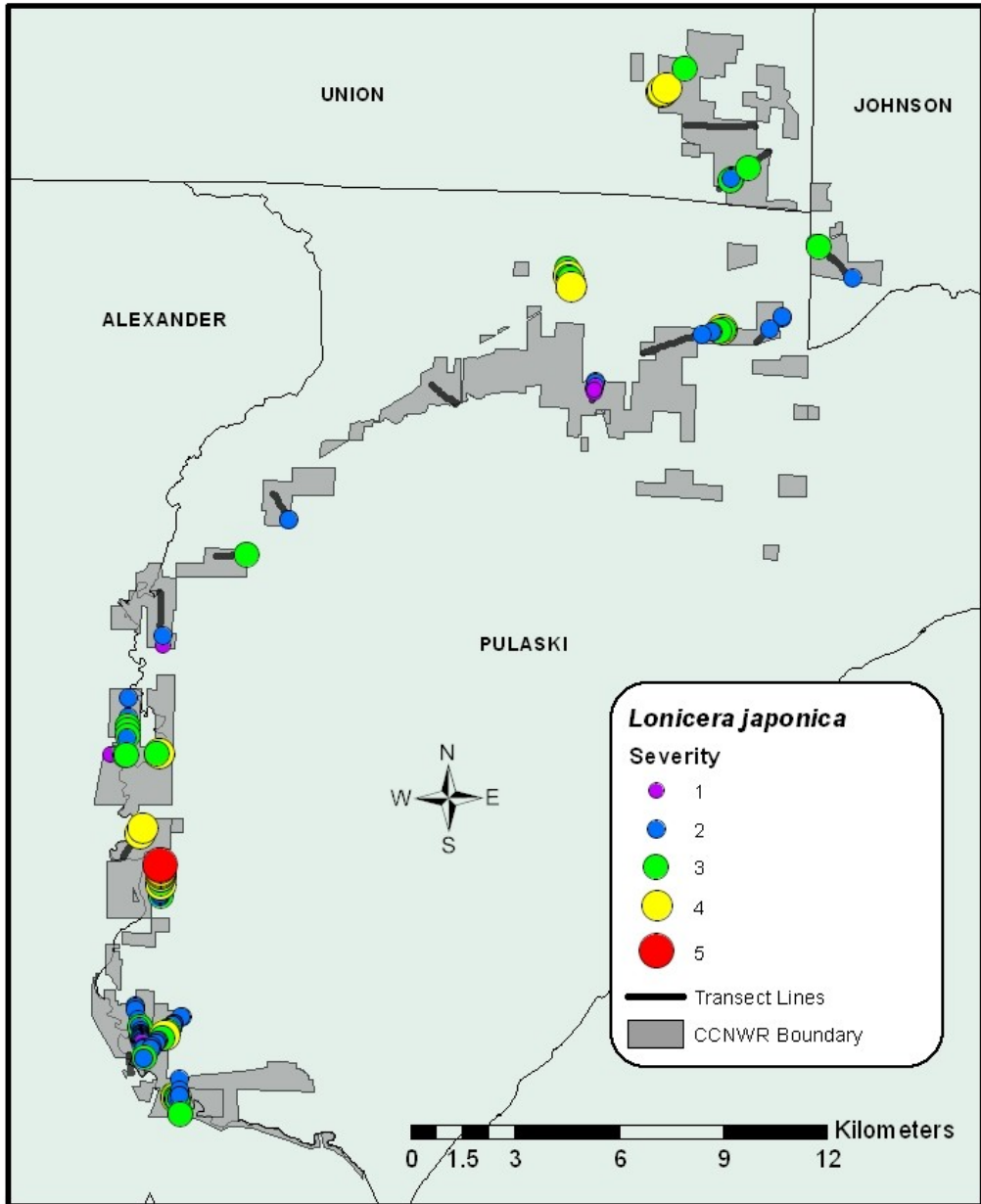


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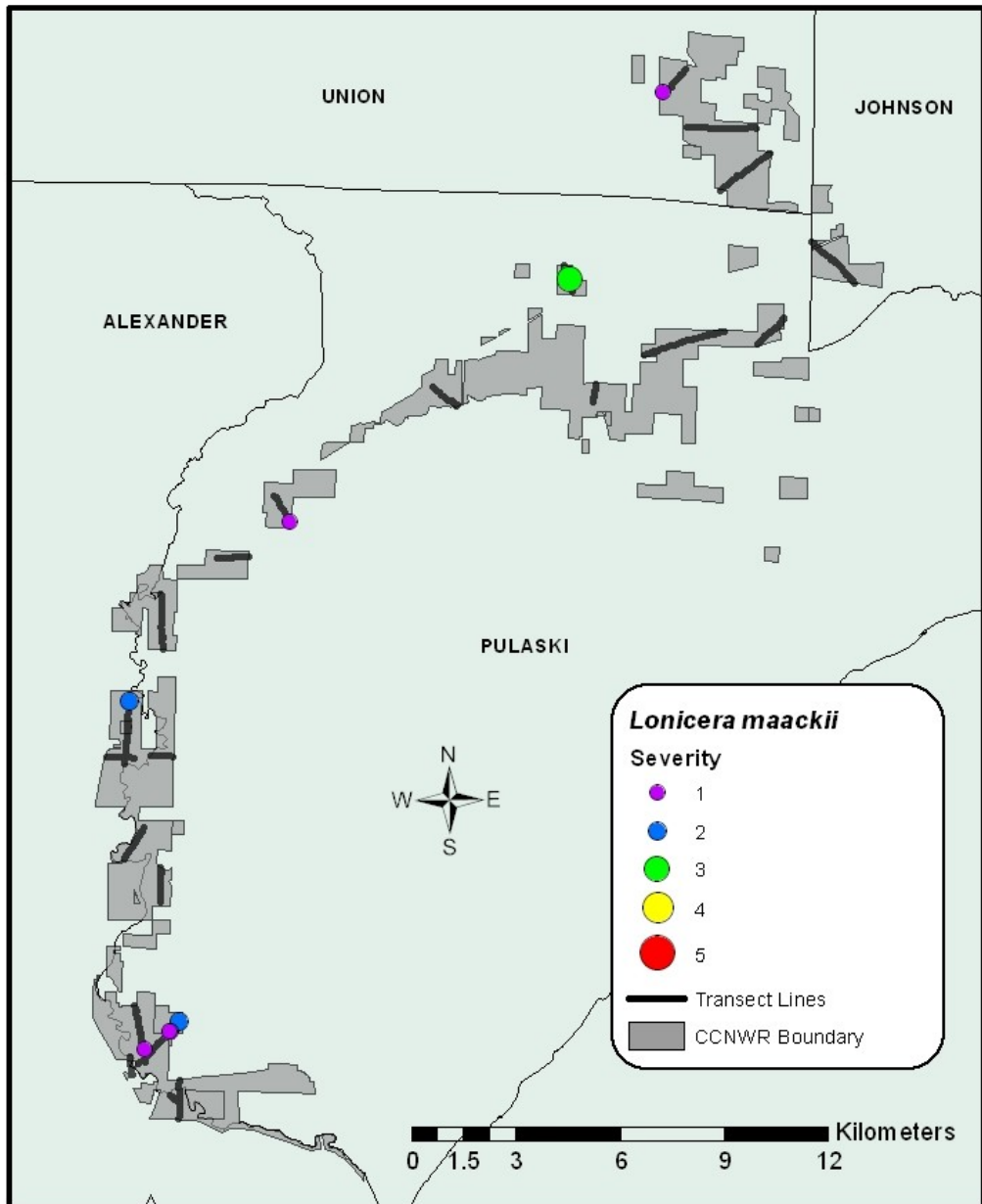


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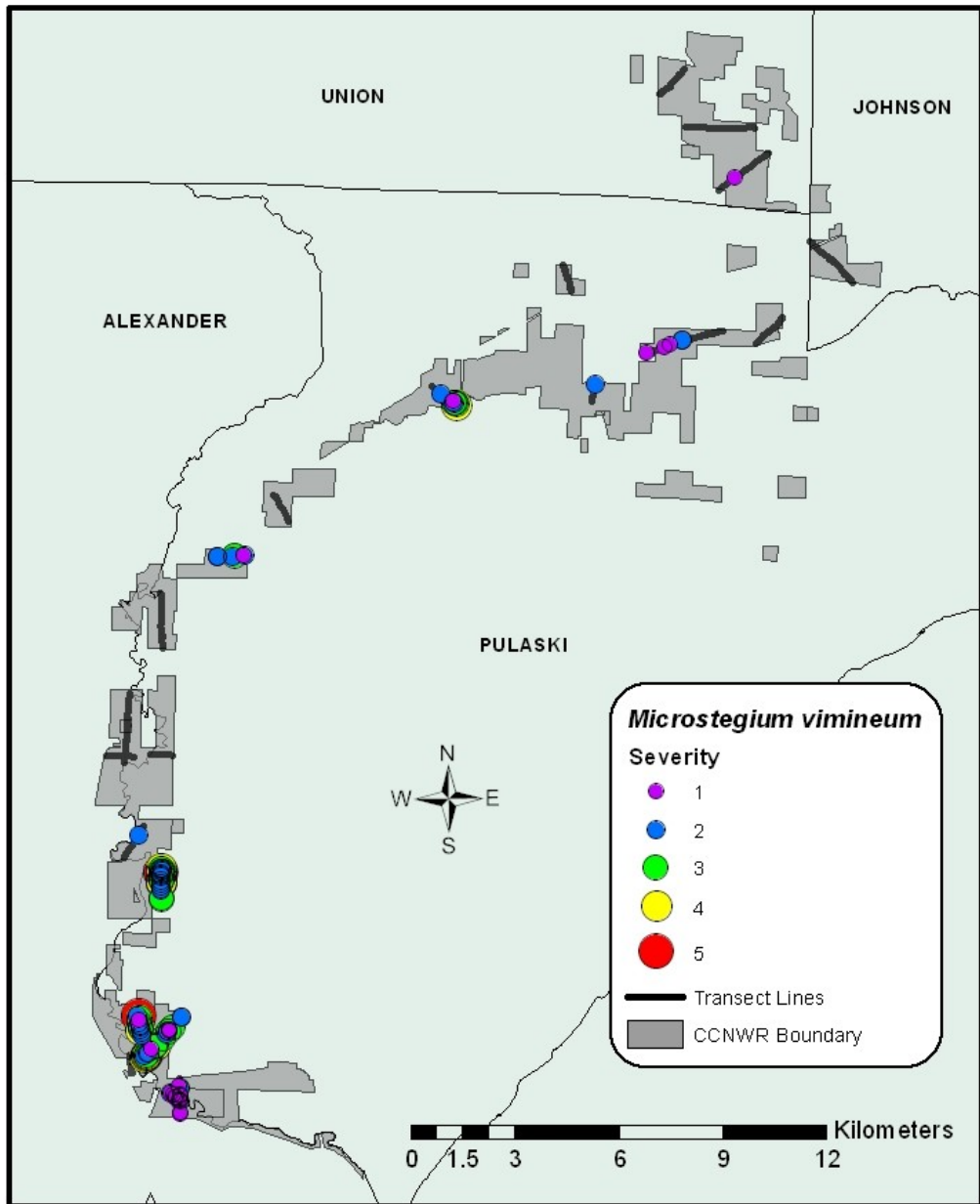




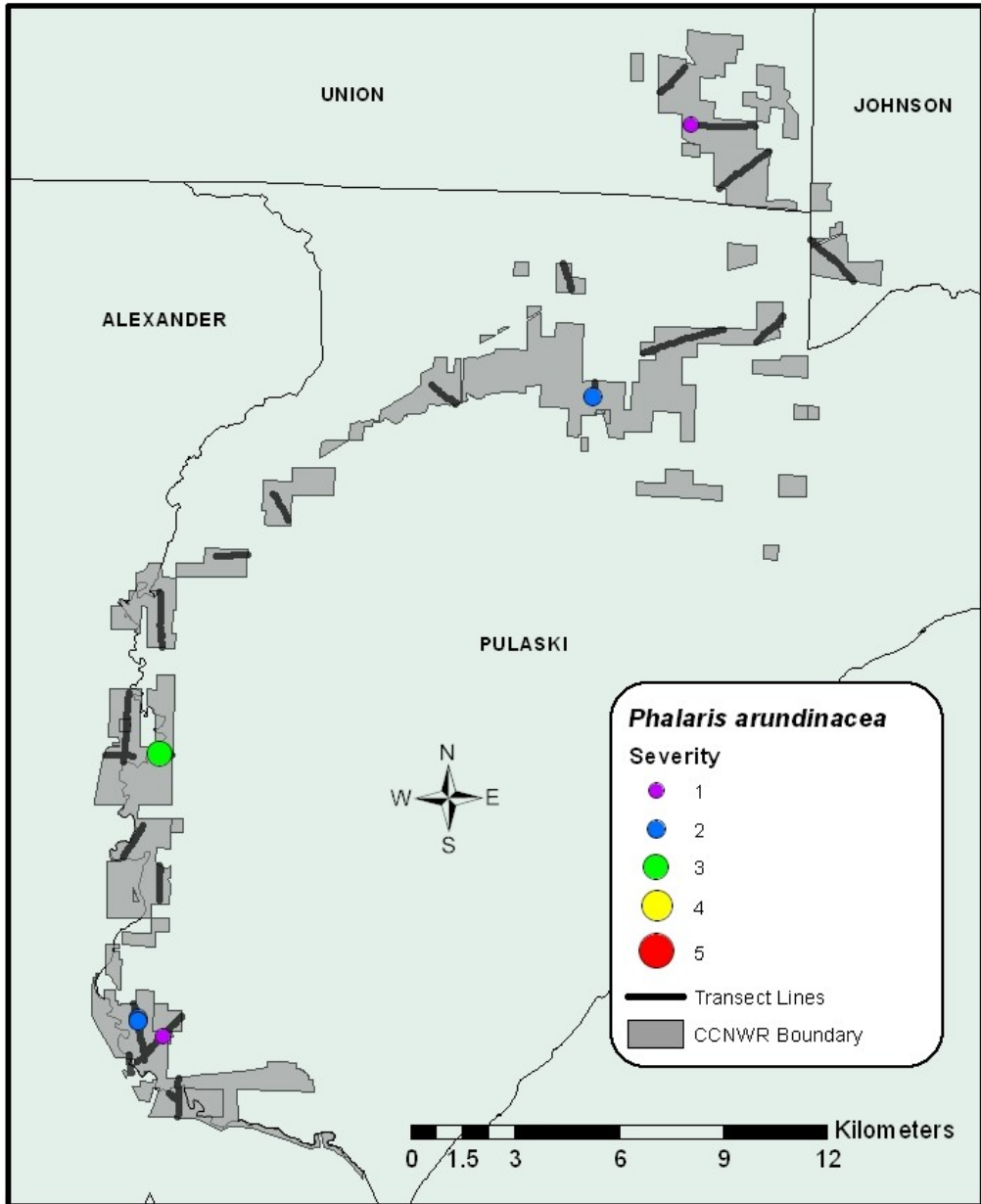
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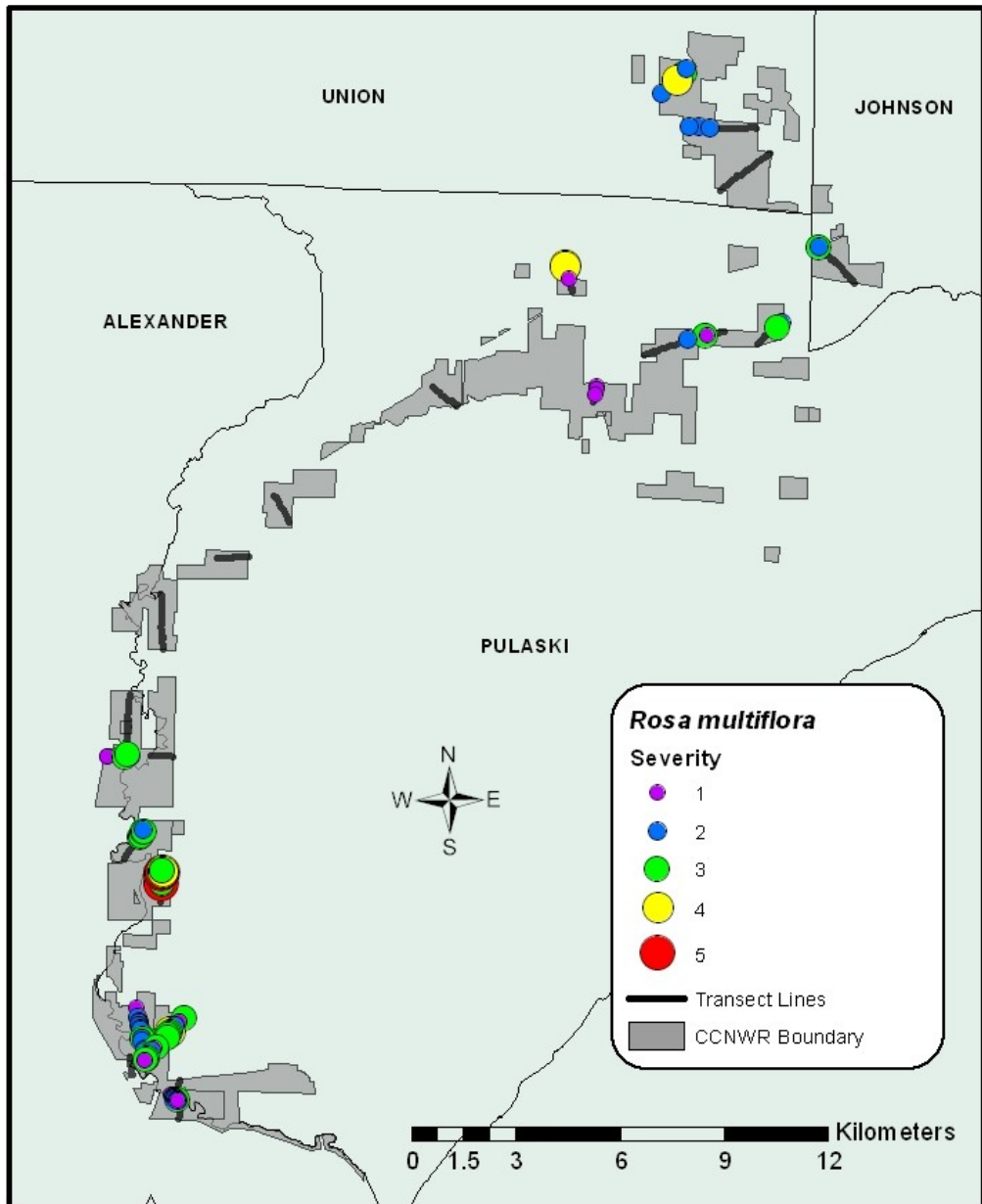
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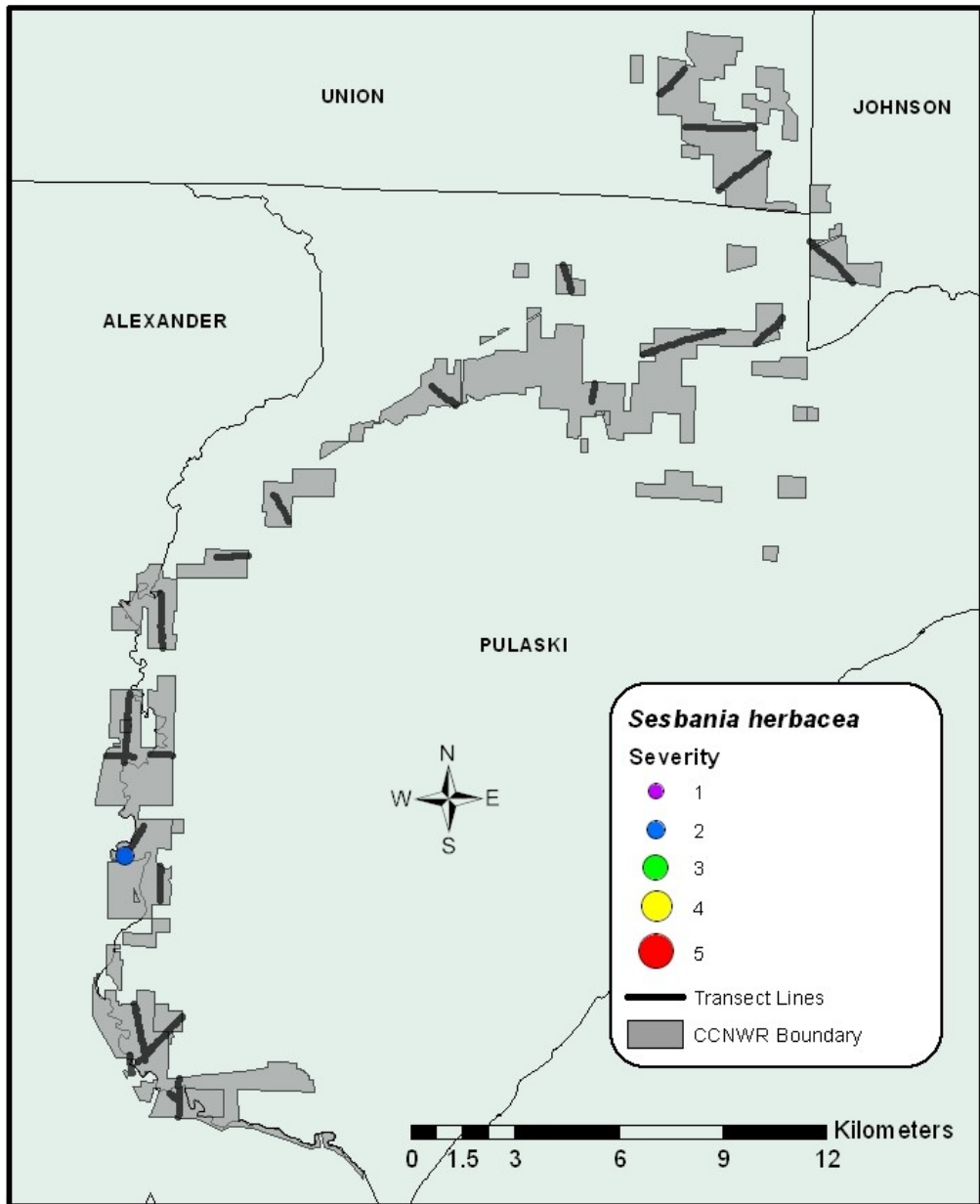
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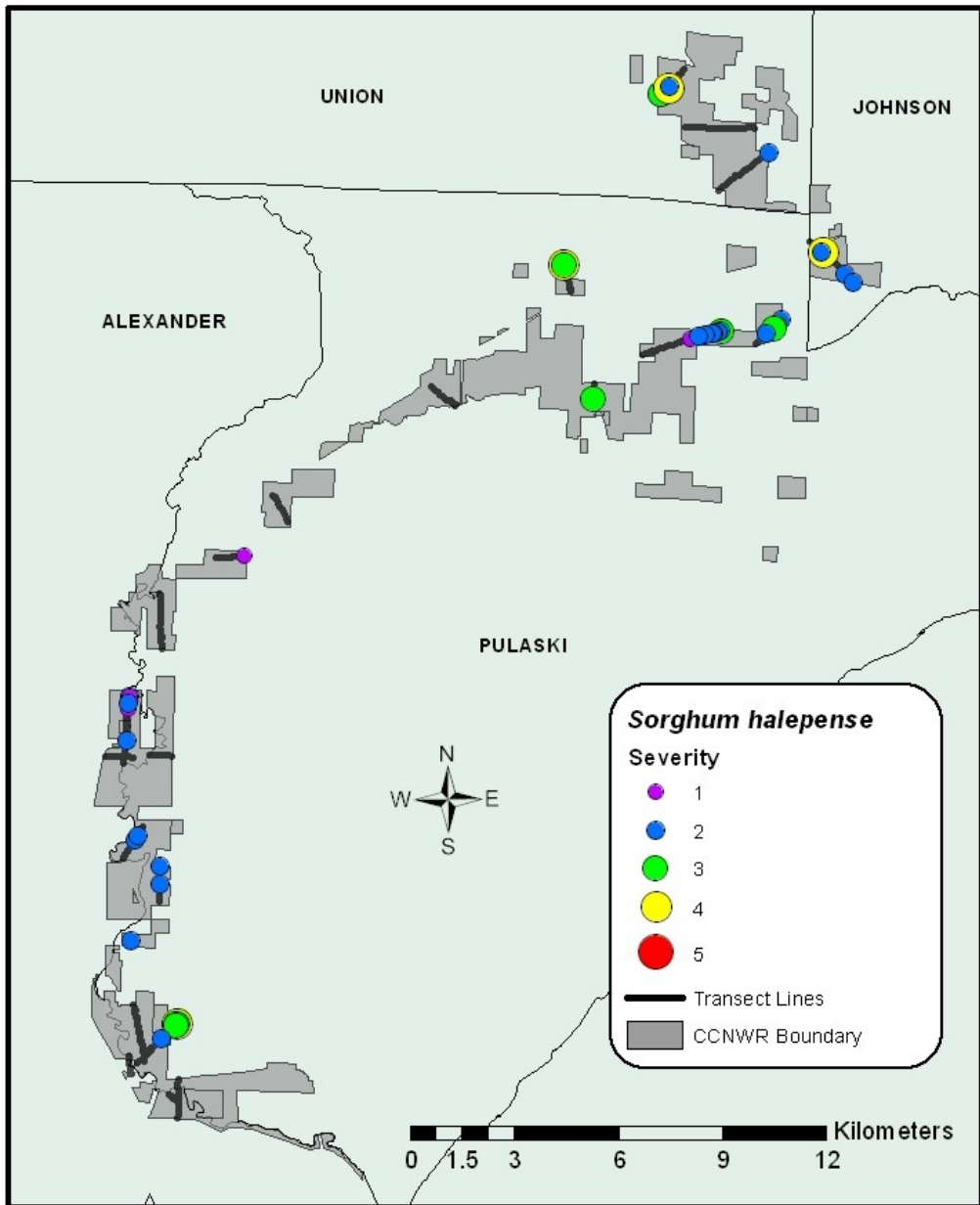
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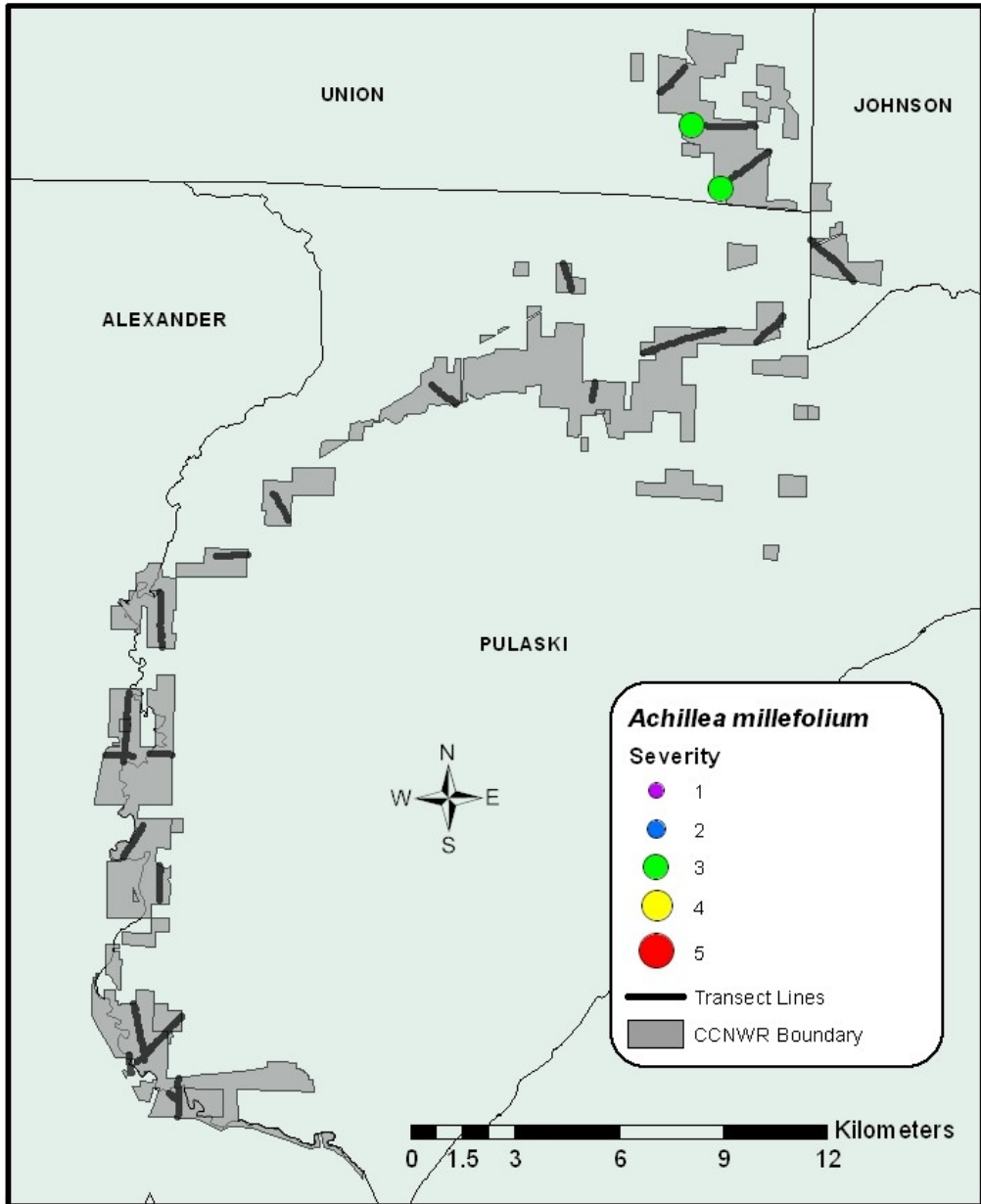
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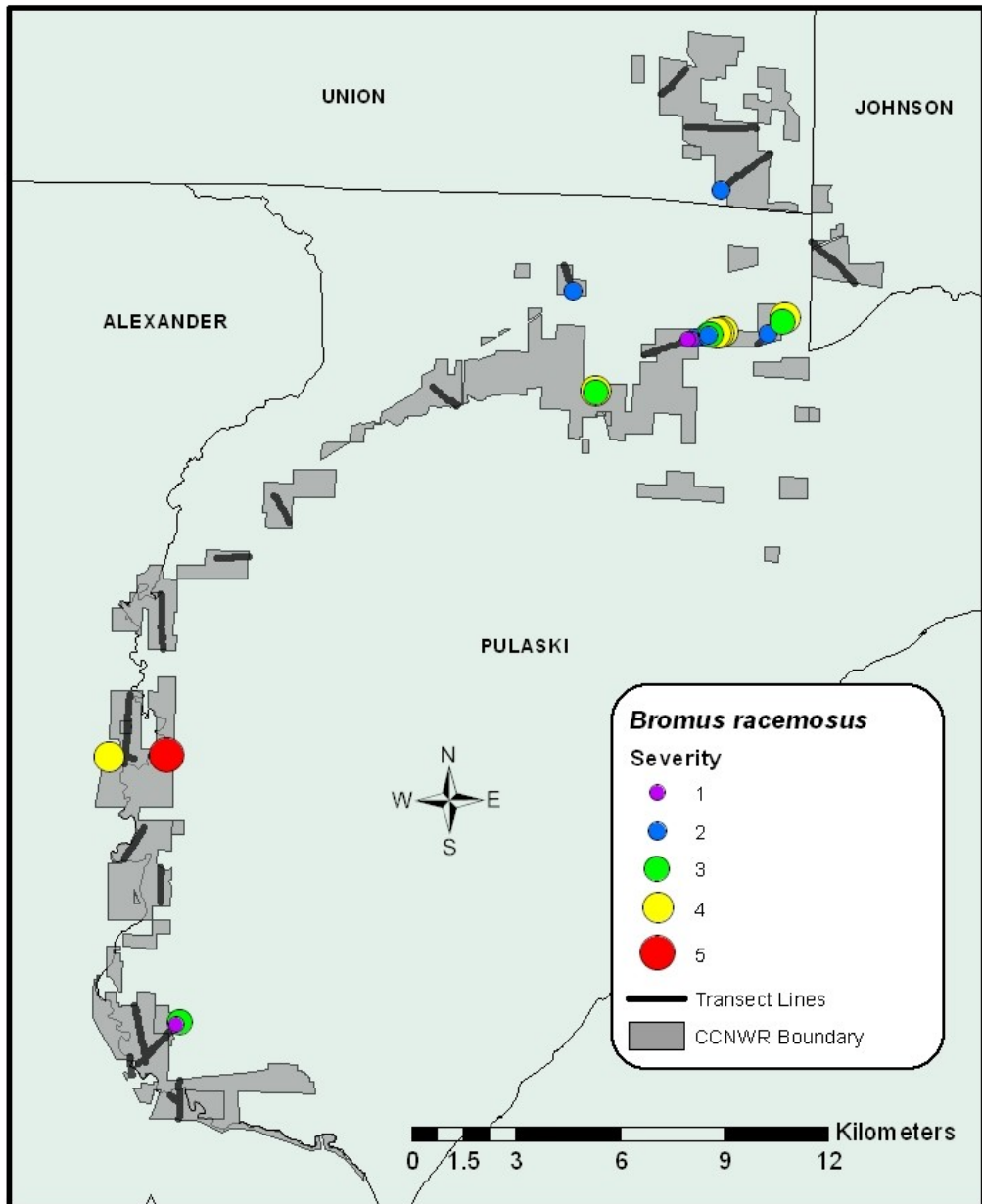
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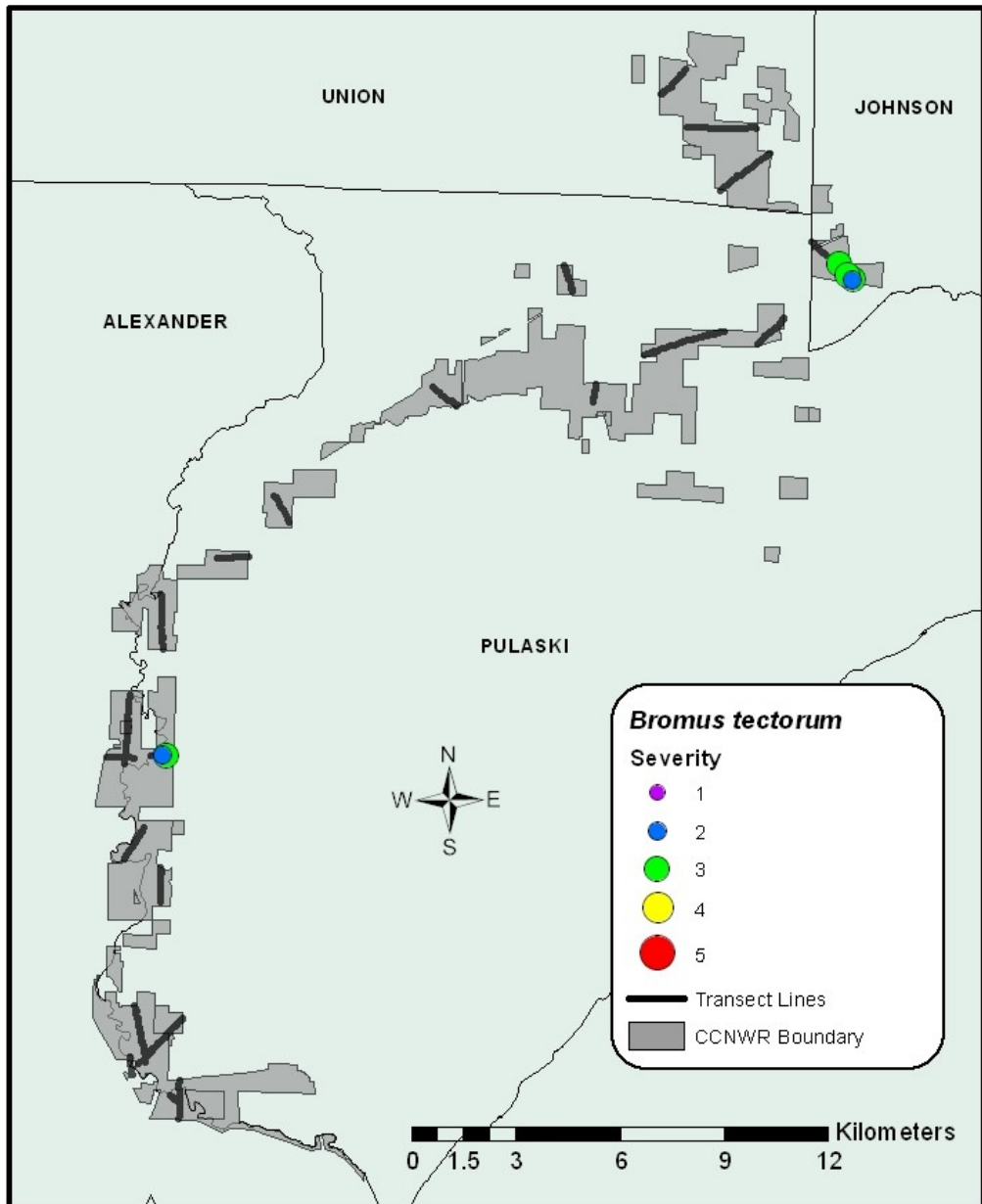
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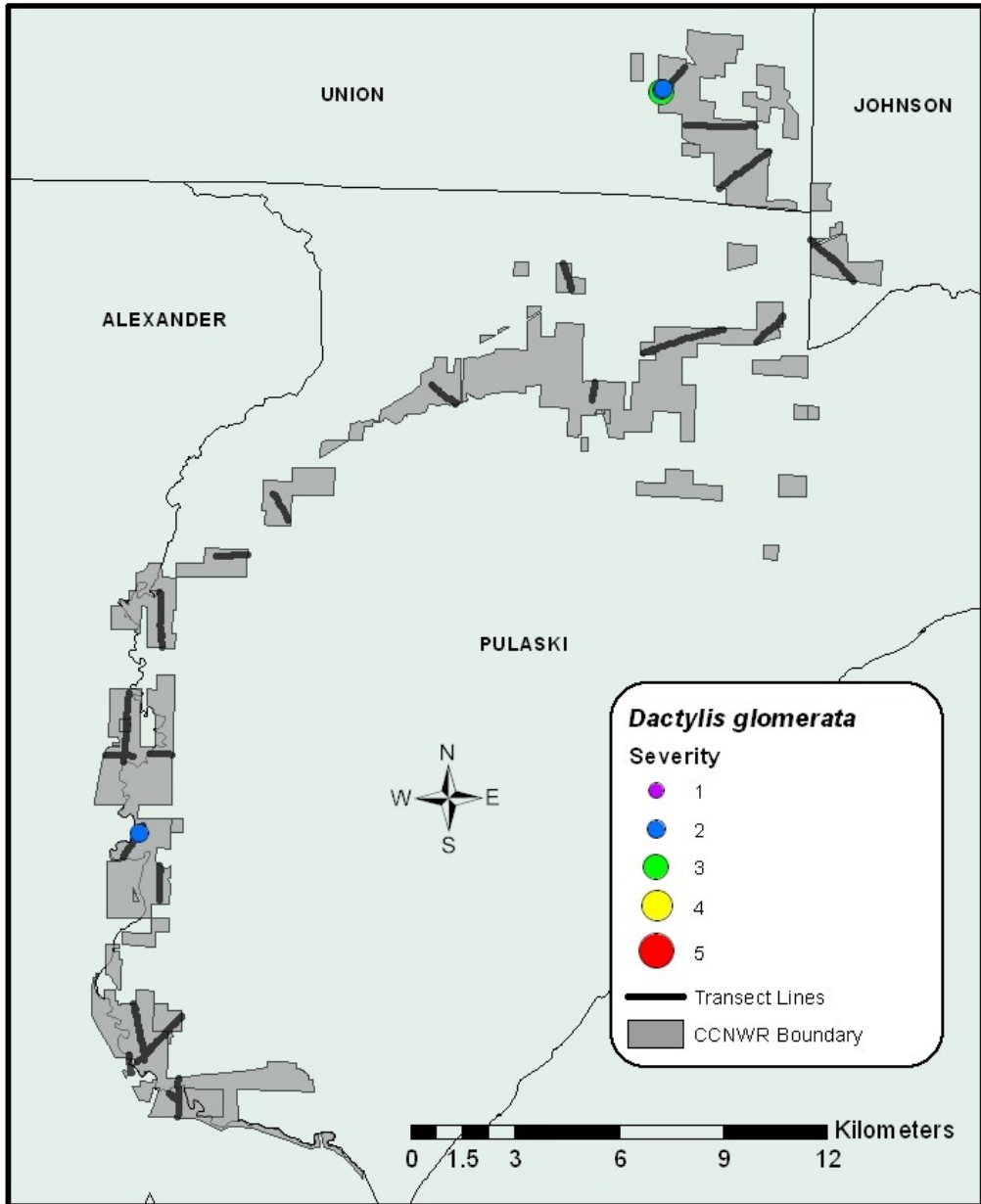
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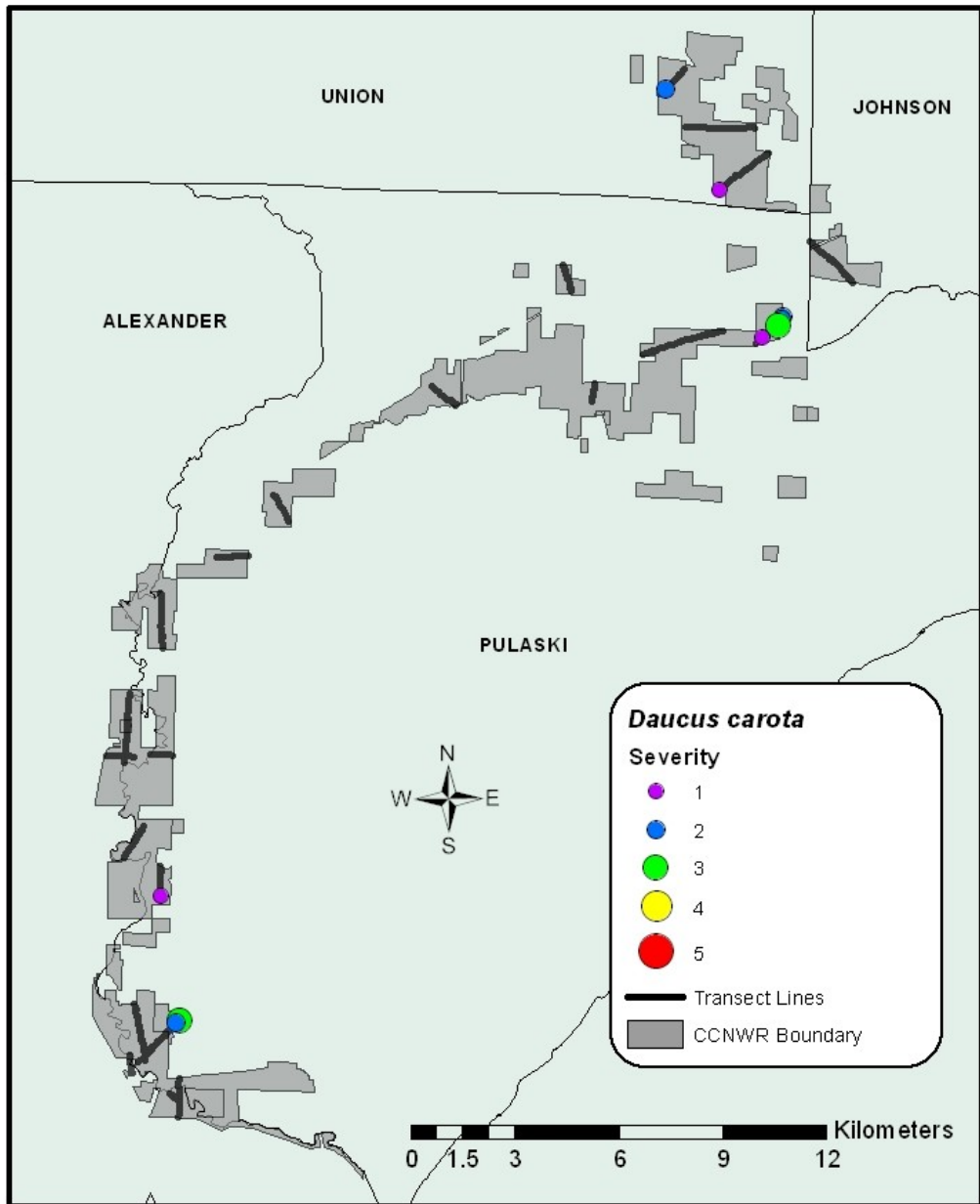
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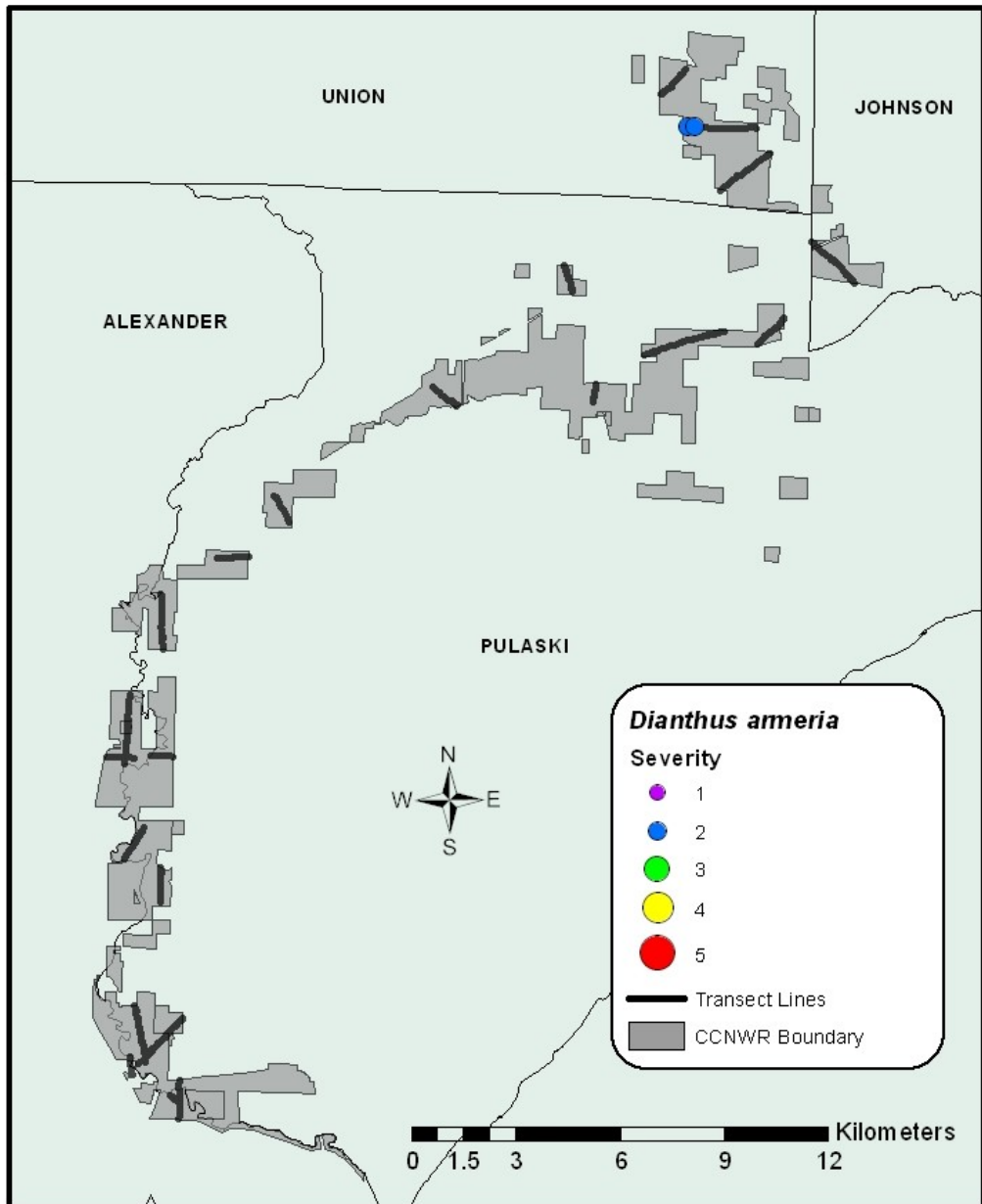
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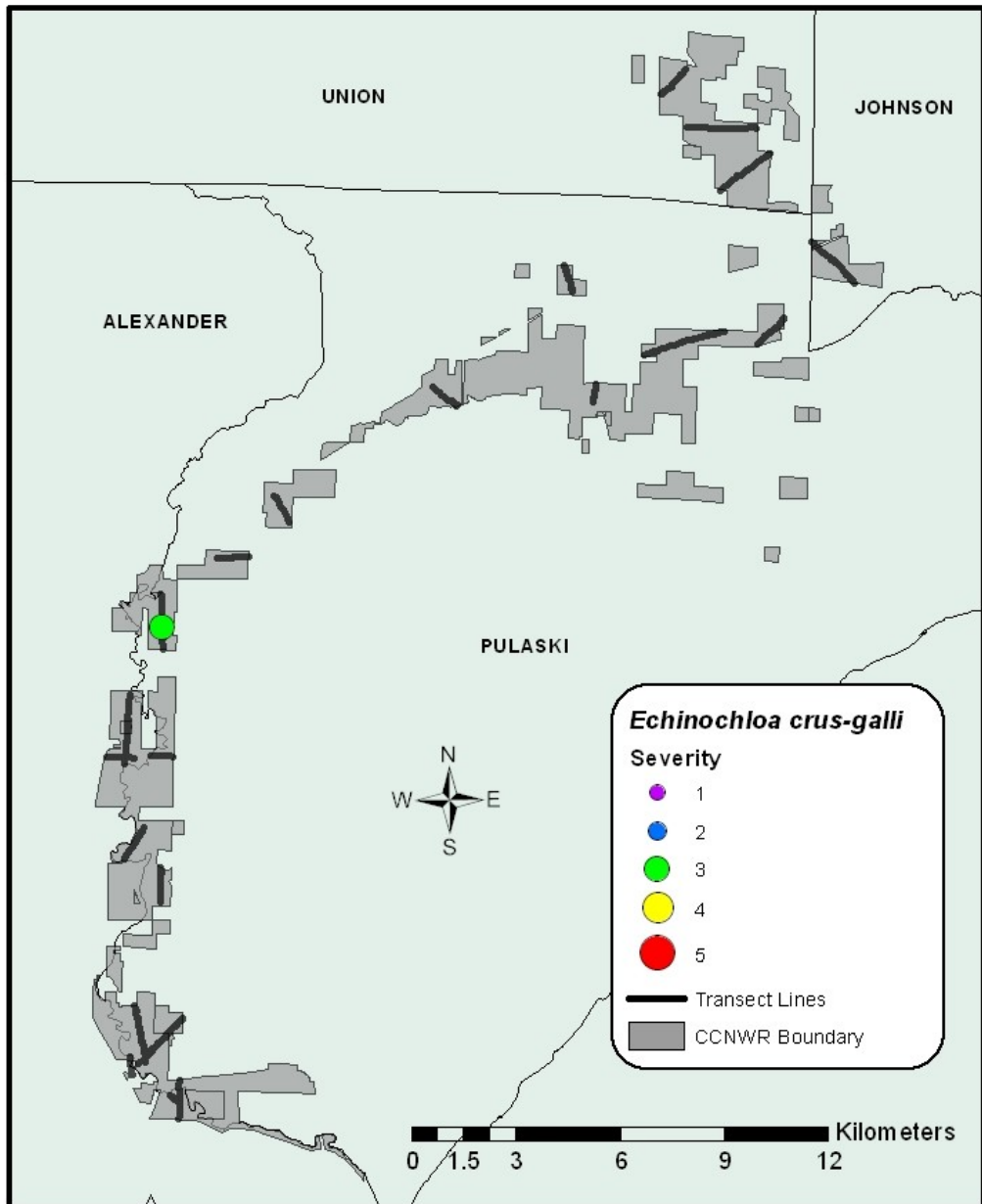
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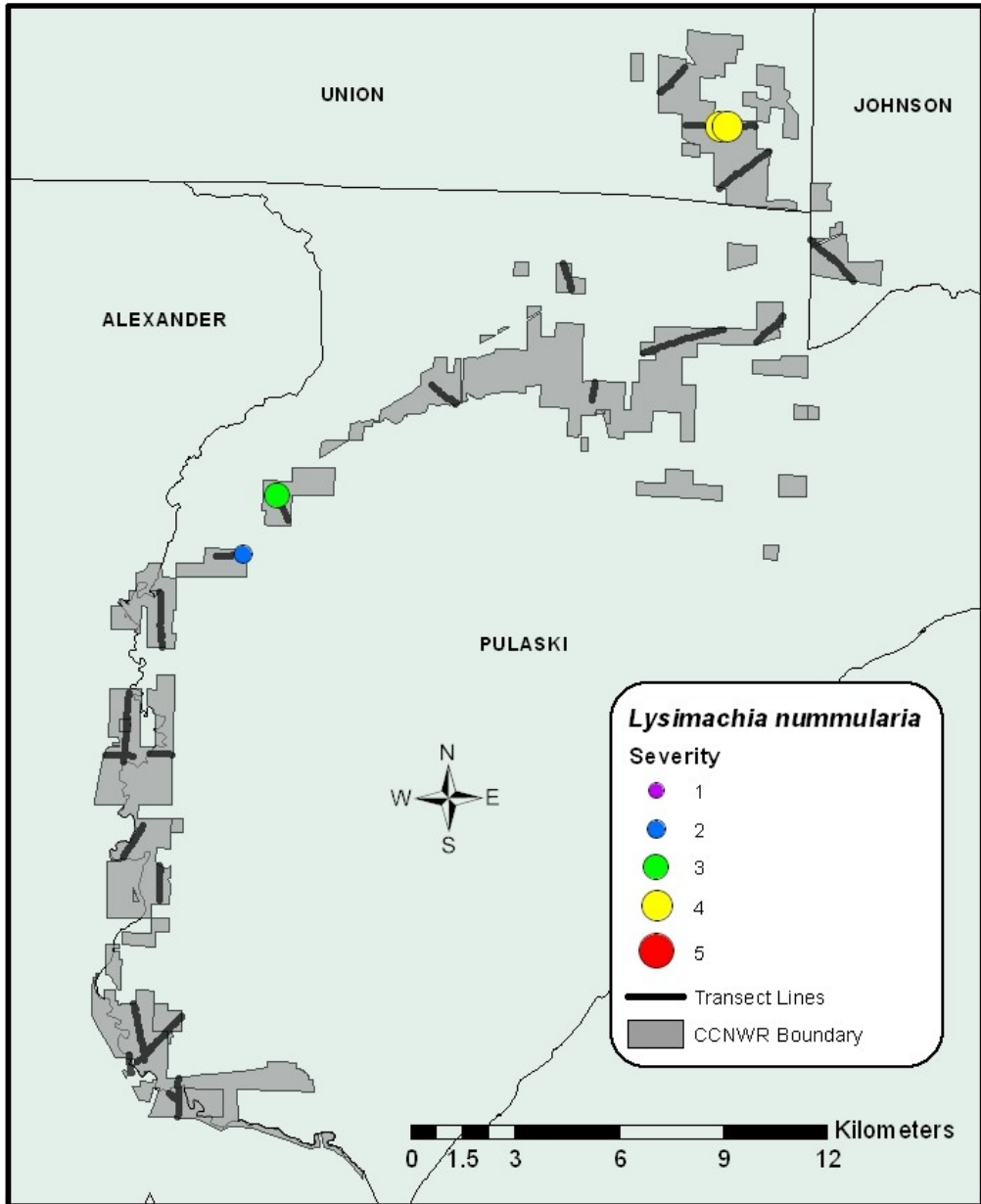
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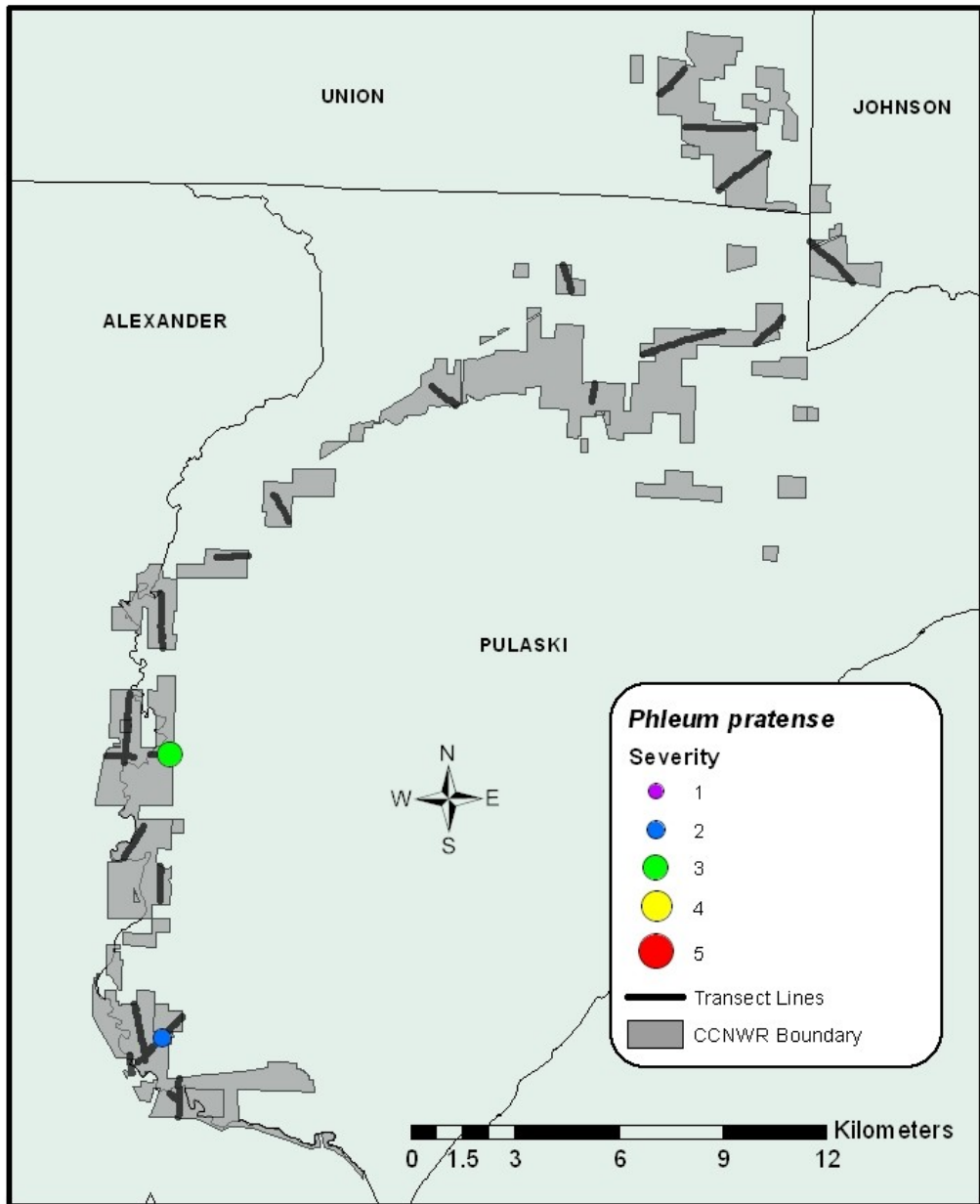
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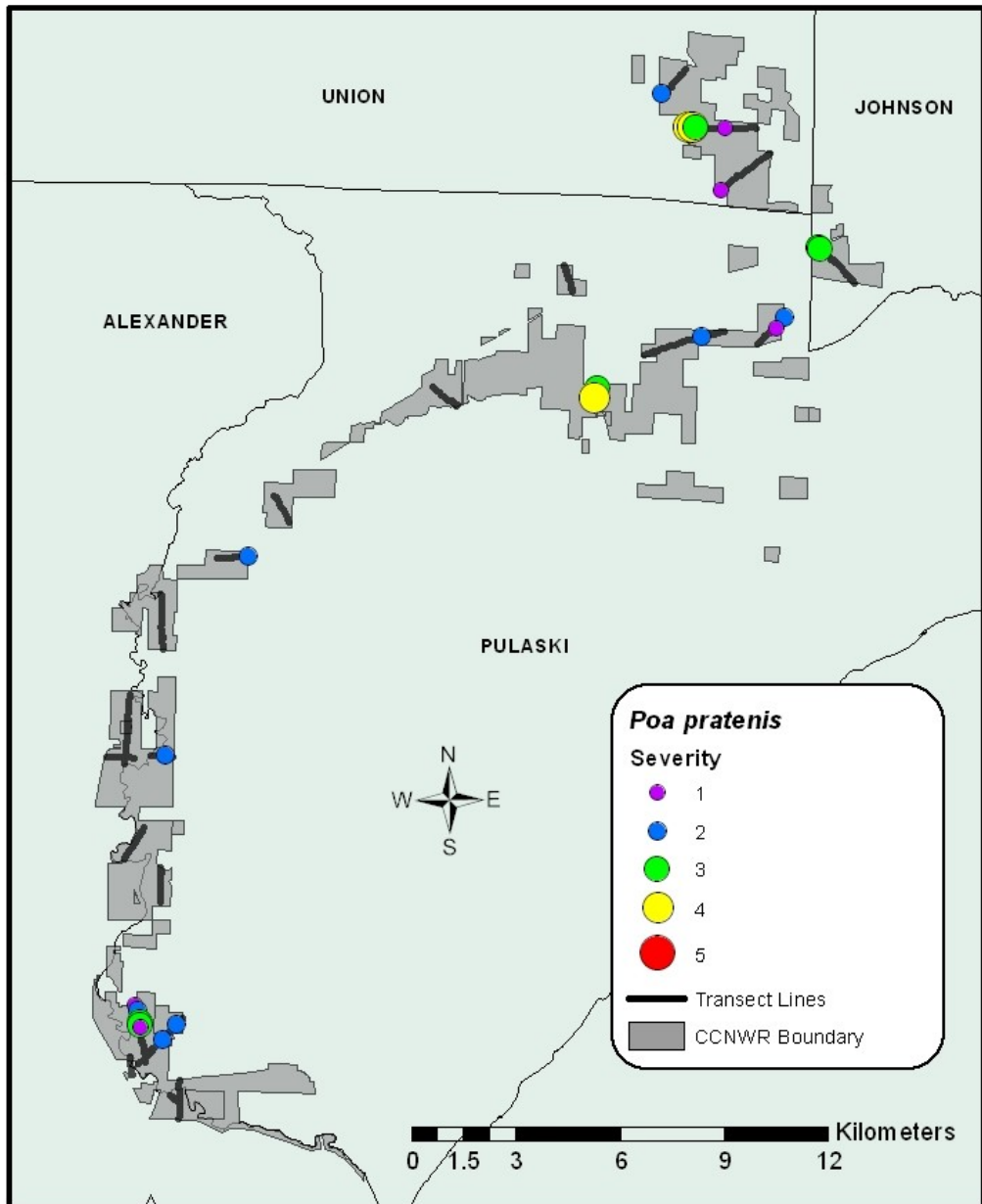
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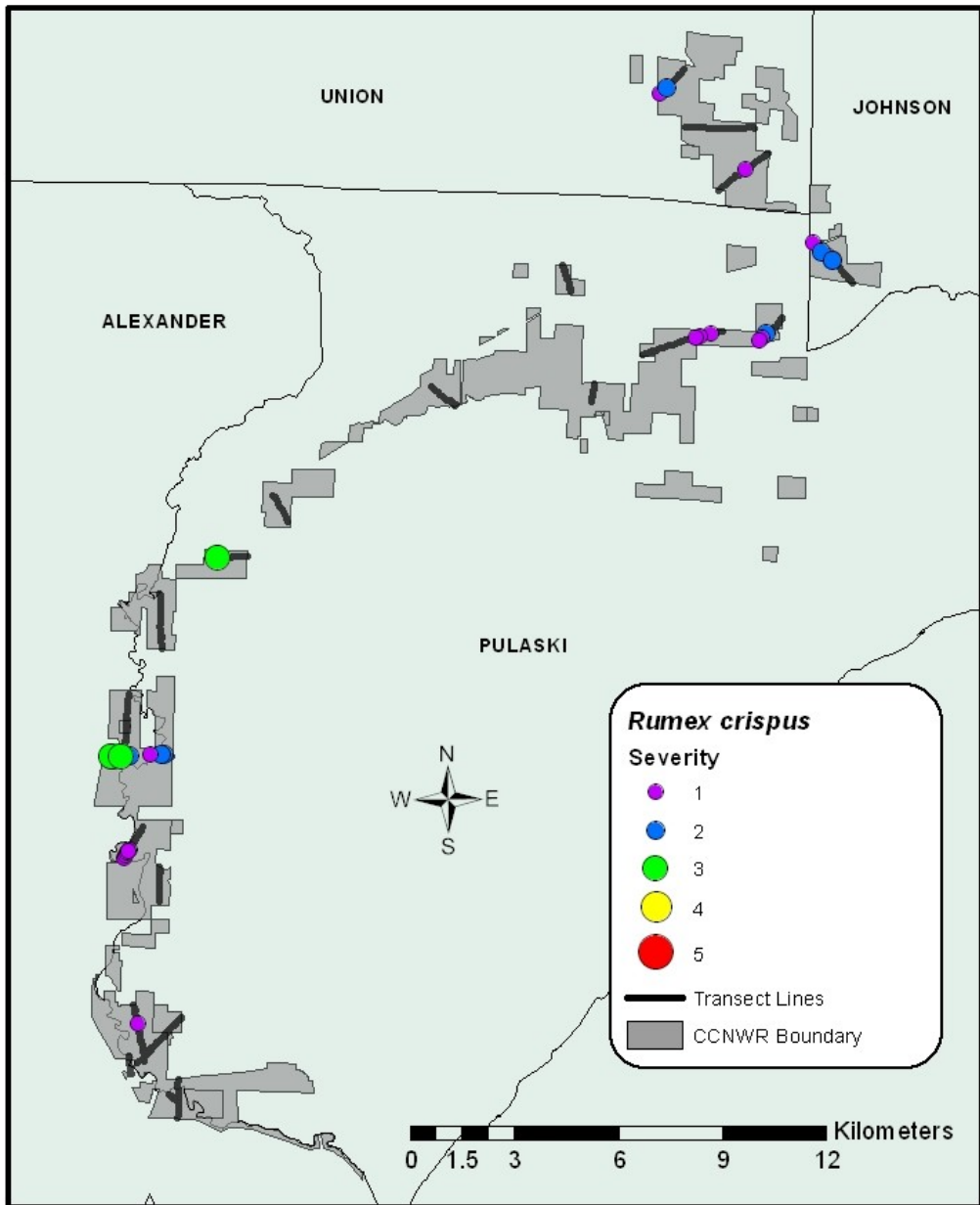
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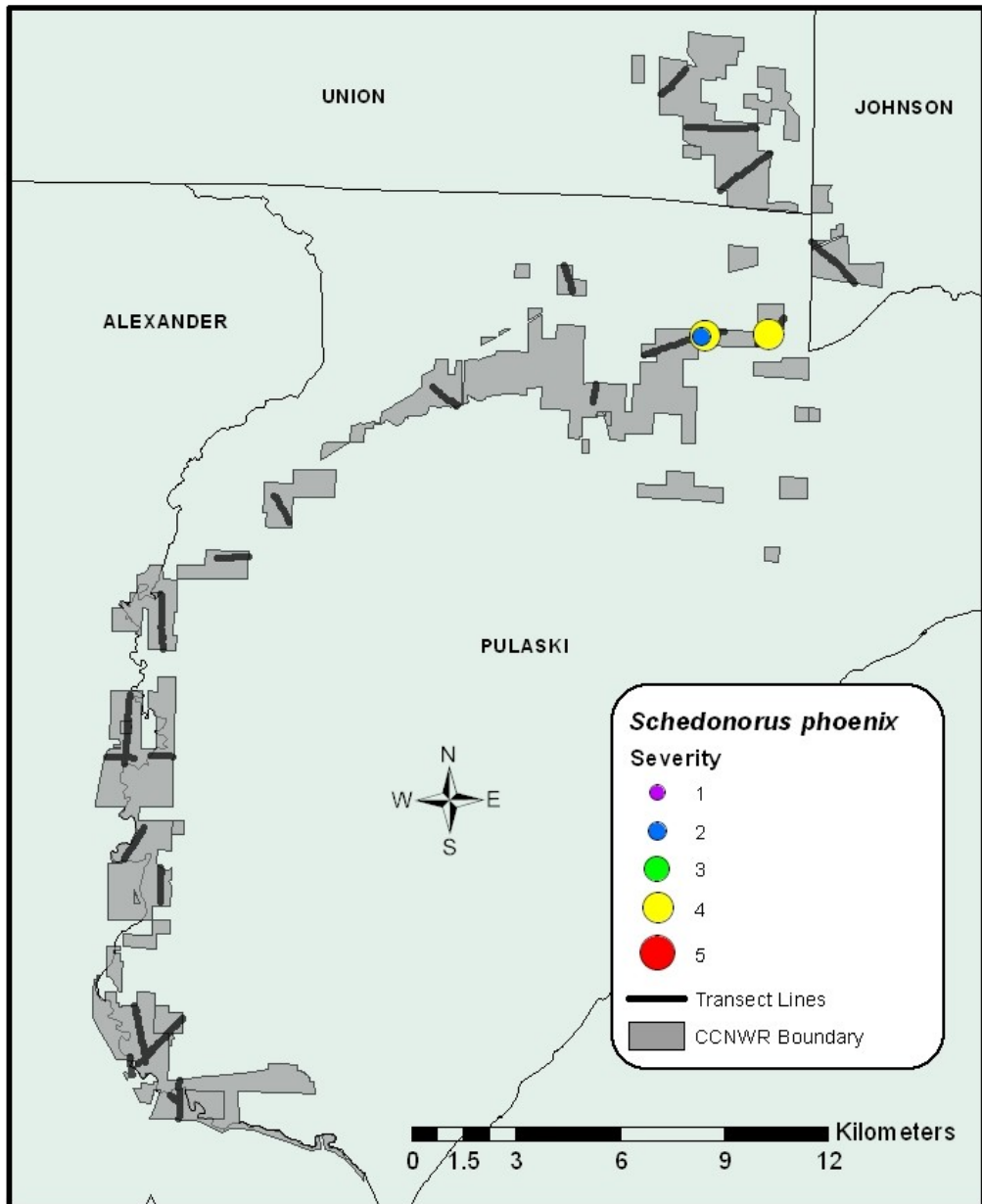
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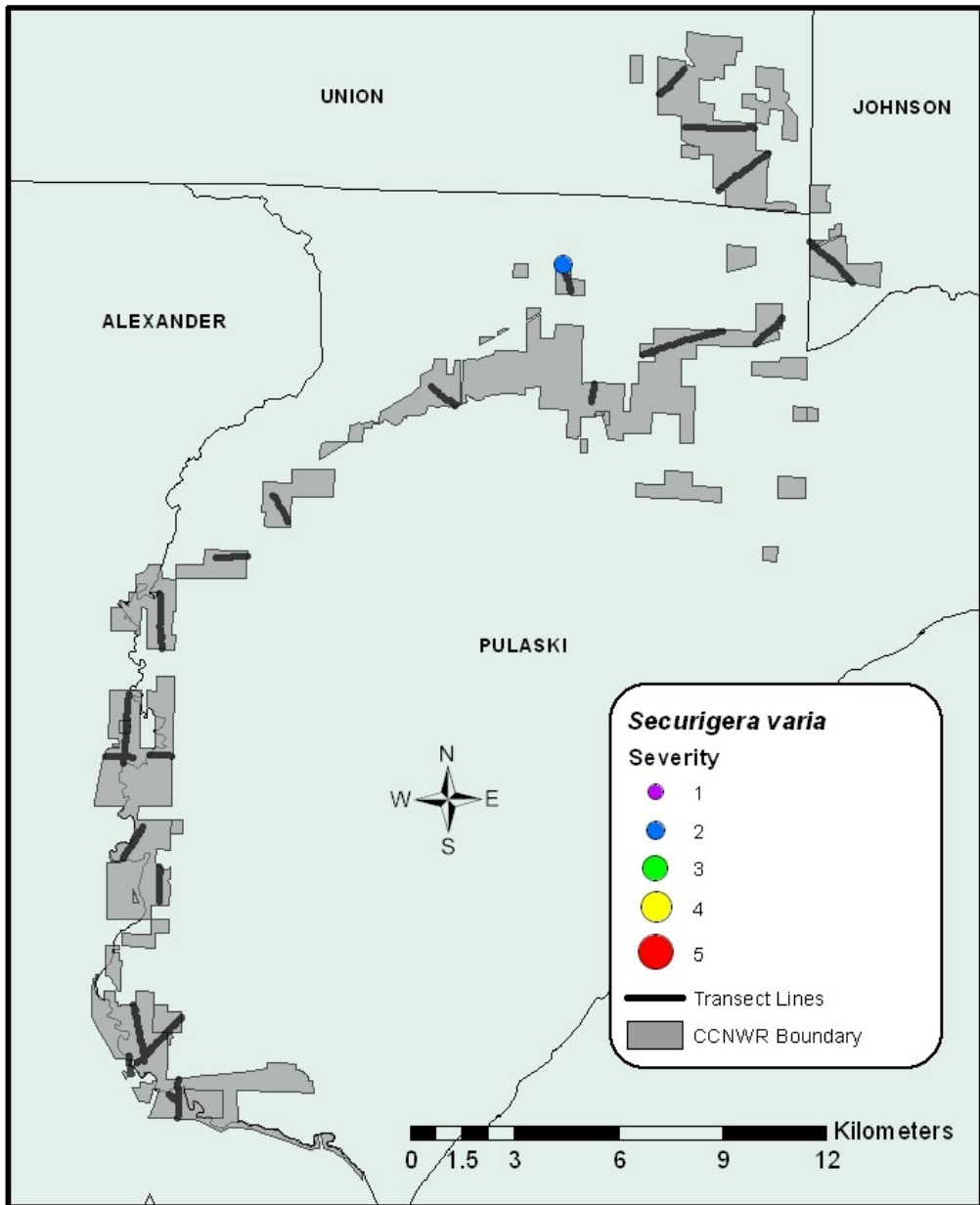
X.



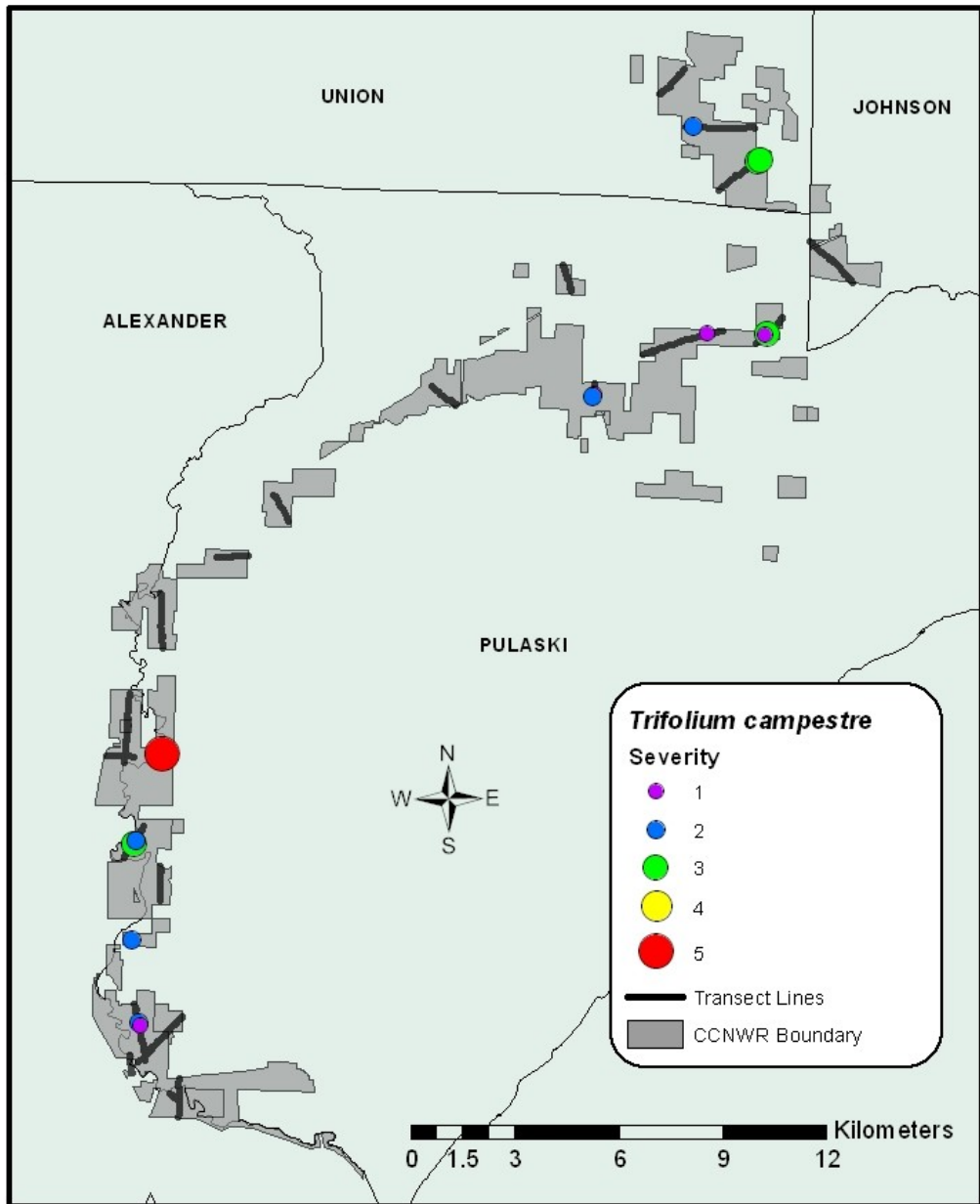
y.



Z.



aa.



bb.

