

Breaking the Cycle: No More Comparing Apples to Oranges



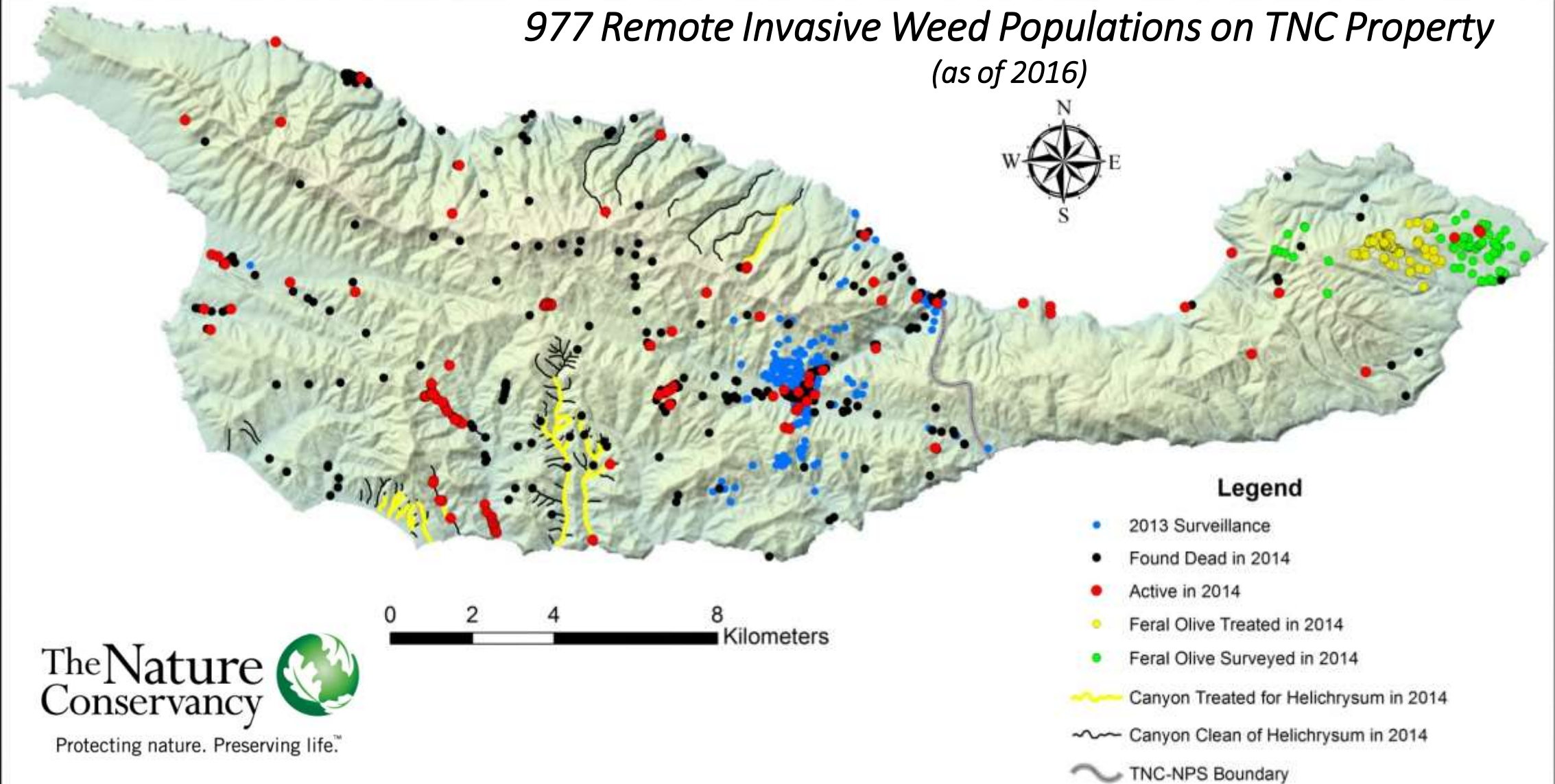
Katrina Olthof
Morgan Ball

**Grid
Mapping!**

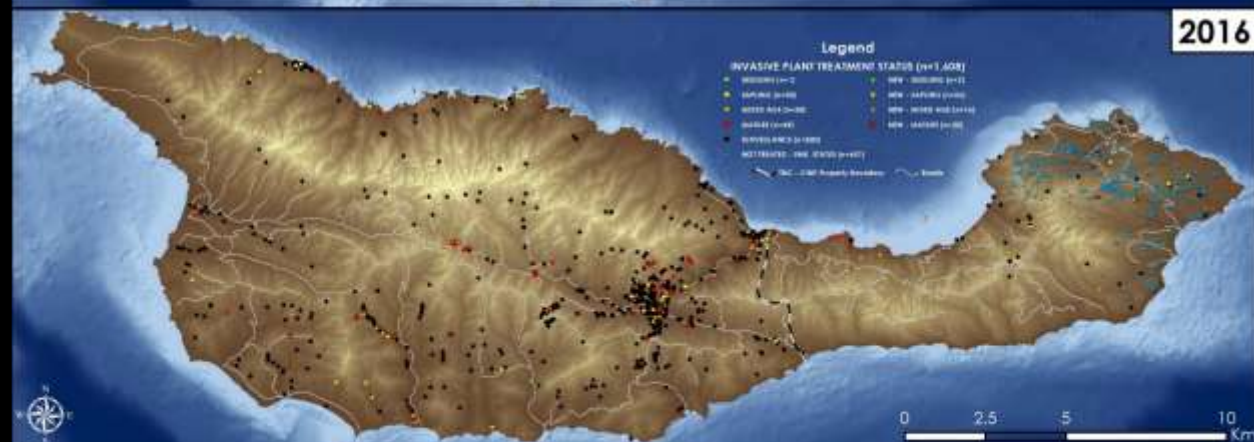
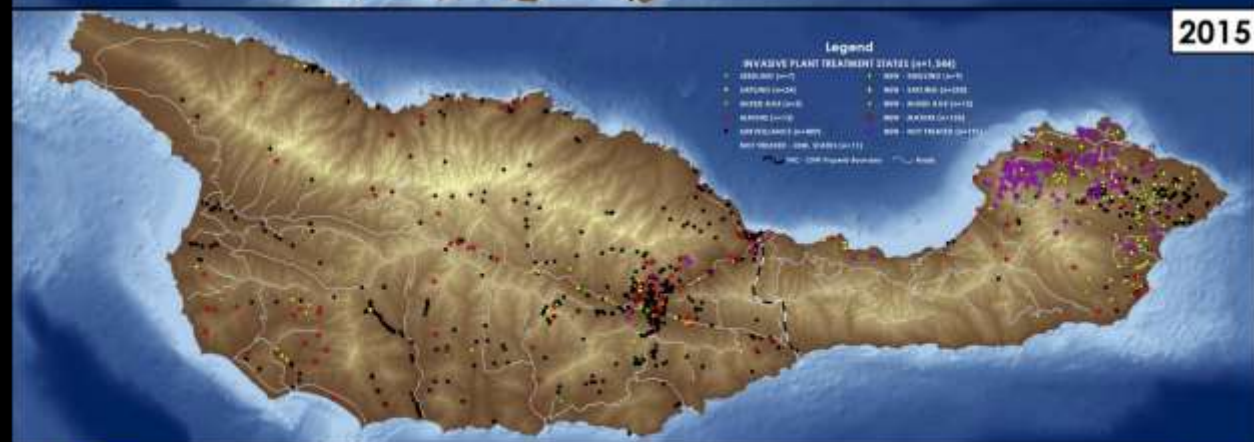


Santa Cruz Island Weed Target Map

*977 Remote Invasive Weed Populations on TNC Property
(as of 2016)*



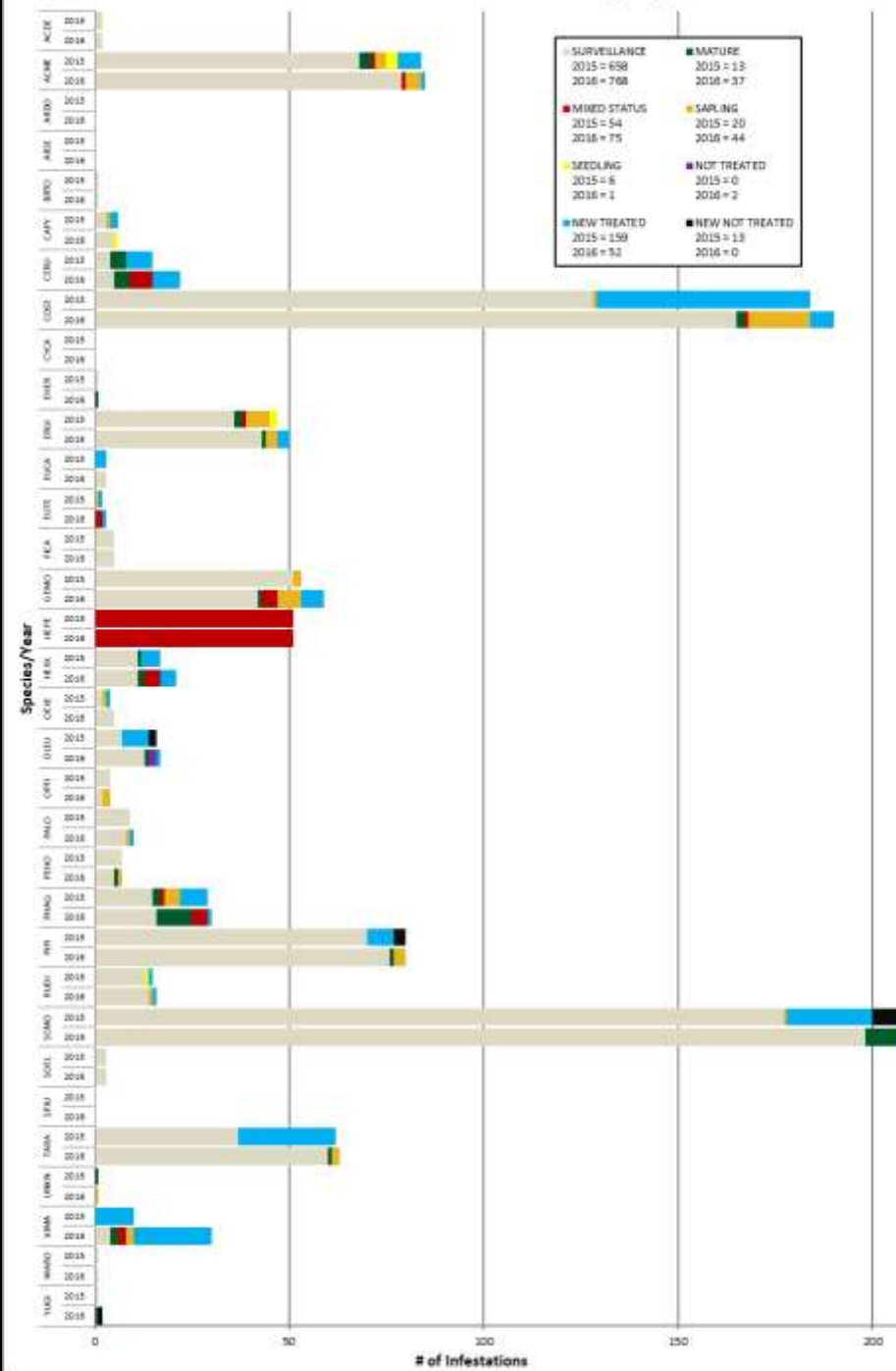
Strategy Objective					
Treatment Approach	Treatment Goal	Scientific Name	Common Name	4-Letter Code	Property
Remote Retreatment (26 taxa)	Island Eradication	Acacia dealbata	Green wattle	ACDE	TNC
		Acacia melanoxylon	Blackwood acacia	ACME	TNC
		Araujia sericifera	White bladderflower	ARSE	NPS
		Arundo donax	Giant reed	ARDO	NPS
		Brassica tournefortii	Sahara mustard	BRTO	TNC
		Carduus pycnocephalus	Italian thistle	CAPY	TNC
		Centranthus ruber	Red valerian	CERU	TNC
		Cortaderia selloana	Pampas grass	COSE	TNC & NPS
		Cynara cardunculus	Artichoke thistle	CYCA	NPS
		Ehrharta erecta	Panic veldtgrass	EHER	TNC
		Eriogonum giganteum	Saint Catherine's lace	ERGI	TNC
		Euphorbia terracina	Carnation spurge	EUTE	TNC
		Genista monspessulana	French broom	GEMO	TNC
		Lilium spp.	Unknown Lily	UNKN/LISP	TNC
		Oenothera xenogaura	Drummond's beeblossom	OEXE	TNC
		Olea europaea	Olive tree	OLEU	TNC & NPS
		Opuntia ficus-indica	Mission cactus	OPFI	NPS
		Paraserianthes lophantha	Plume acacia	PALO	TNC
		Pelargonium x hortorum	Geranium	PEHO	TNC
		Phalaris aquatica†	Harding grass	PHAQ	TNC
		Rubus discolor	Himalayan blackberry	RUDI	TNC
		Solanum elaeagnifolium	Silver horse nettle	SOEL	TNC
		Spartium junceum	Spanish broom	SPJU	NPS
		Tamarix spp.	Saltcedar	TARA/TAXX	TNC & NPS
		Vinca major	Periwinkle	VIMA	TNC & NPS
		Yucca gigantea*	Spineless yucca	YUGI	TNC
Rapid Response Outside of Landscaping (7 taxa)	Prevent Spread	Eucalyptus camaldulensis	Red gum	EUCA	TNC
		Eucalyptus globulus	Tasmanian bluegum	EUGL	TNC
		Ficus carica	Fig tree	FICA	TNC & NPS
		Hedera spp.	Ivy	HESP/HEXX	TNC & NPS
		Pinus pinea	Italian stone pine	PIPI	TNC & NPS
		Schinus molle	Peruvian pepper	SCMO	TNC & NPS
		Washingtonia robusta	Mexican fan palm	WARO	TNC
Remote Canyon Retreatment (1 taxa)	Island Eradication	Helichrysum petiolare	Limelight	HEPE	TNC
Priority Watersheds & Roadside (1 taxa)	Prevent Spread & Select Area Control	Foeniculum vulgare	Fennel	FOVU	TNC
Roadside Only (6 taxa)	Prevent Spread	Cardaria draba	Whitetop	CADR	TNC
		Centaurea solstitialis	Yellow star thistle	CESO	TNC
		Hirschfeldia incana	Summer mustard	HIIN	TNC
		Marrubium vulgare	Horehound	MAVU	TNC
		Piptatherum miliaceum	Rice grass	PIMI	TNC
		Salsola australis	Common Russian thistle	SAXX/SAAU	TNC
* Species added to the Remote Retreatment - Island Eradication list in 2015.					
†Species currently not managed with the goal of eradication on CINP property.					



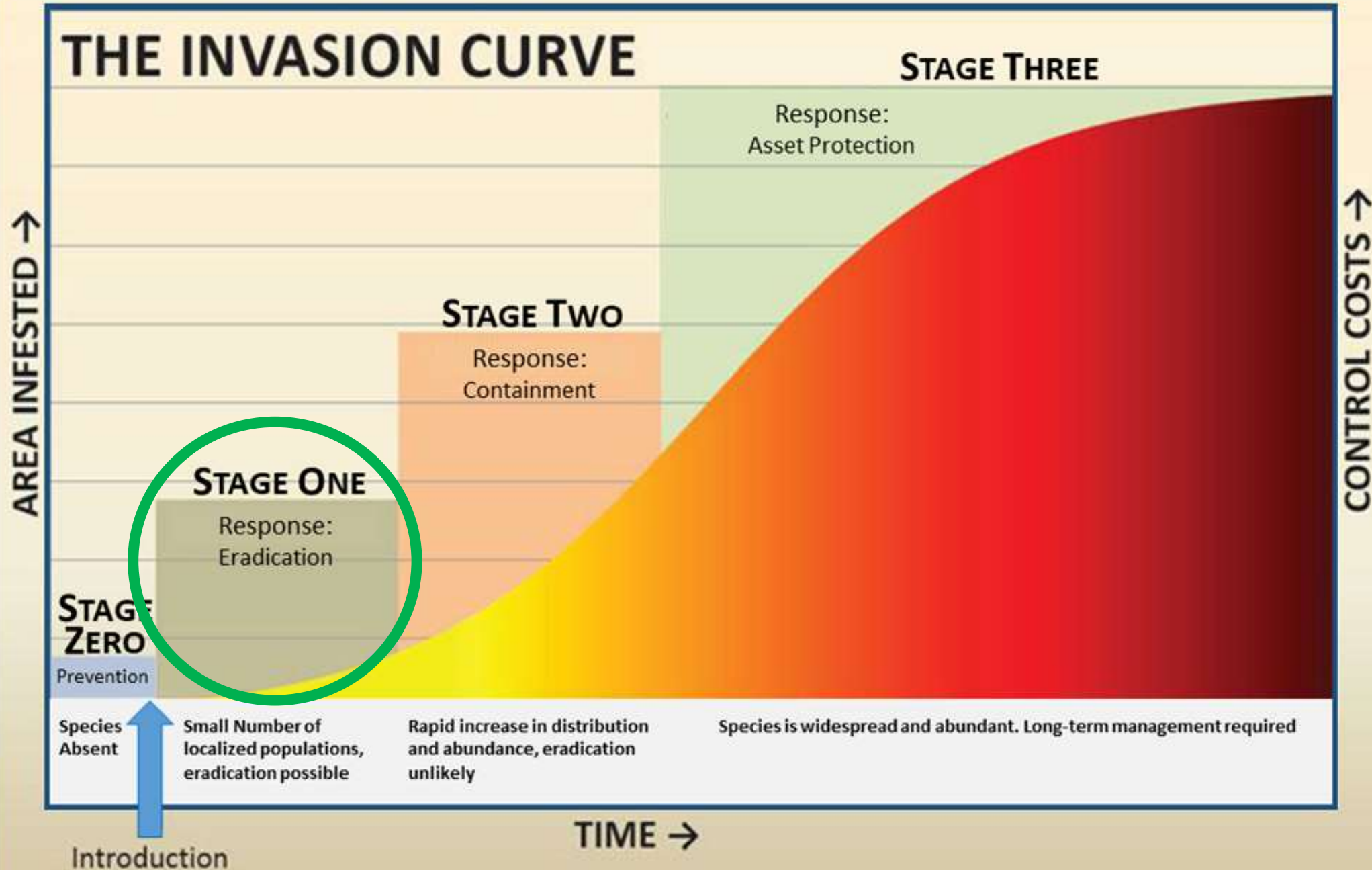
STATUS OF INVASIVE PLANT POPULATIONS BY TREATMENT YEAR
Santa Cruz Island

4-LETTER CODE	SANTA CRUZ ISLAND (TNC PROPERTY) TREATMENT STATUS - 2016												
	% CONTROL OF RETREATED IPI	SURVEILLANCE	MATURE	MIXED STATUS	SAPLING	SEEDLING	NOT TREATED	NEW MATURE	NEW MIXED STATUS	NEW SAPLING	NEW SEEDLING	NEW NOT TREATED	TNC TOTAL
ACDE	100%	2	•	•	•	•	•	•	•	•	•	•	2
ACME	94%	79	•	1	4	•	•	•	•	•	1	•	85
ARDO	NA	•	•	•	•	•	•	•	•	•	•	•	0
ARSE	NA	•	•	•	•	•	•	•	•	•	•	•	0
BRTO	100%	1	•	•	•	•	•	•	•	•	•	•	1
CAPY	83%	5	•	•	•	1	•	•	•	•	•	•	6
CERU	33%	5	4	6	•	•	•	2	5	•	•	•	22
COSE	90%	165	2	1	16	•	•	3	1	2	•	•	190
CYCA	NA	•	•	•	•	•	•	•	•	•	•	•	0
EHER	0%	•	1	•	•	•	•	•	•	•	•	•	1
ERGI	91%	43	1	•	3	•	•	1	1	1	•	•	50
EUCA	100%	3	•	•	•	•	•	•	•	•	•	•	3
EUTE	0%	•	•	2	•	•	•	1	•	•	•	•	3
FICA	100%	5	•	•	•	•	•	•	•	•	•	•	5
GEMO	79%	42	1	4	6	•	•	3	1	2	•	•	59
HEXX	65%	11	2	4	•	•	•	2	1	1	•	•	21
HEPE	0%	0	•	51	•	•	•	•	•	•	•	•	51
OEXE	100%	5	•	•	•	•	•	•	•	•	•	•	5
OLEU	81%	13	1	•	•	•	2	•	•	1	•	•	17
OPFI	50%	2	•	•	2	•	•	•	•	•	•	•	4
PALO	89%	8	•	•	1	•	•	•	•	1	•	•	10
PEHO	71%	5	1	•	1	•	•	•	•	•	•	•	7
PHAQ	55%	16	9	4	•	•	•	1	•	•	•	•	30
PIPI	95%	76	1	•	3	•	•	•	•	•	•	•	80
RUDI	93%	14	•	•	1	•	•	•	1	•	•	•	16
SCMO	94%	198	10	•	2	•	•	•	•	•	•	•	210
SOEL	100%	3	•	•	•	•	•	•	•	•	•	•	3
SPJU	NA	•	•	•	•	•	•	•	•	•	•	•	0
TARA	95%	60	1	•	2	•	•	•	•	•	•	•	63
UNKN	0%	•	•	•	1	•	•	•	•	•	•	•	1
VIMA	40%	4	2	2	2	•	•	6	6	8	•	•	30
WARO	100%	1	•	•	•	•	•	•	•	•	•	•	1
YUGI	0%	•	1	•	•	•	•	•	•	•	•	•	1
TOTAL	72.0%	766	37	75	44	1	2	19	16	16	1	0	977
% TOTAL	AVE. CONTROL	82.5%	4.0%	8.1%	4.7%	0.1%	0.2%	2.0%	1.7%	1.7%	0.1%	0%	100%

Remote Treatment Status - TNC Property

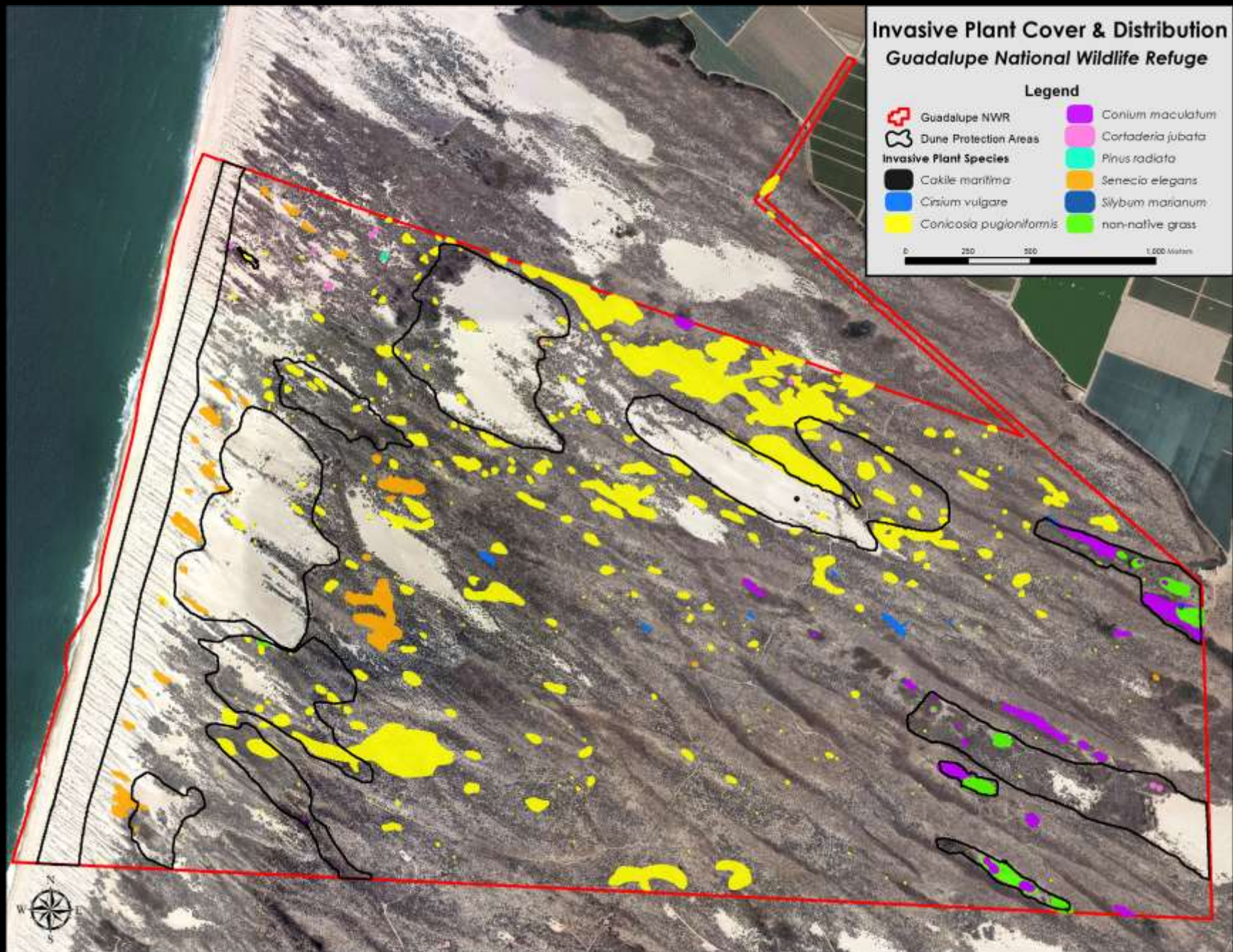


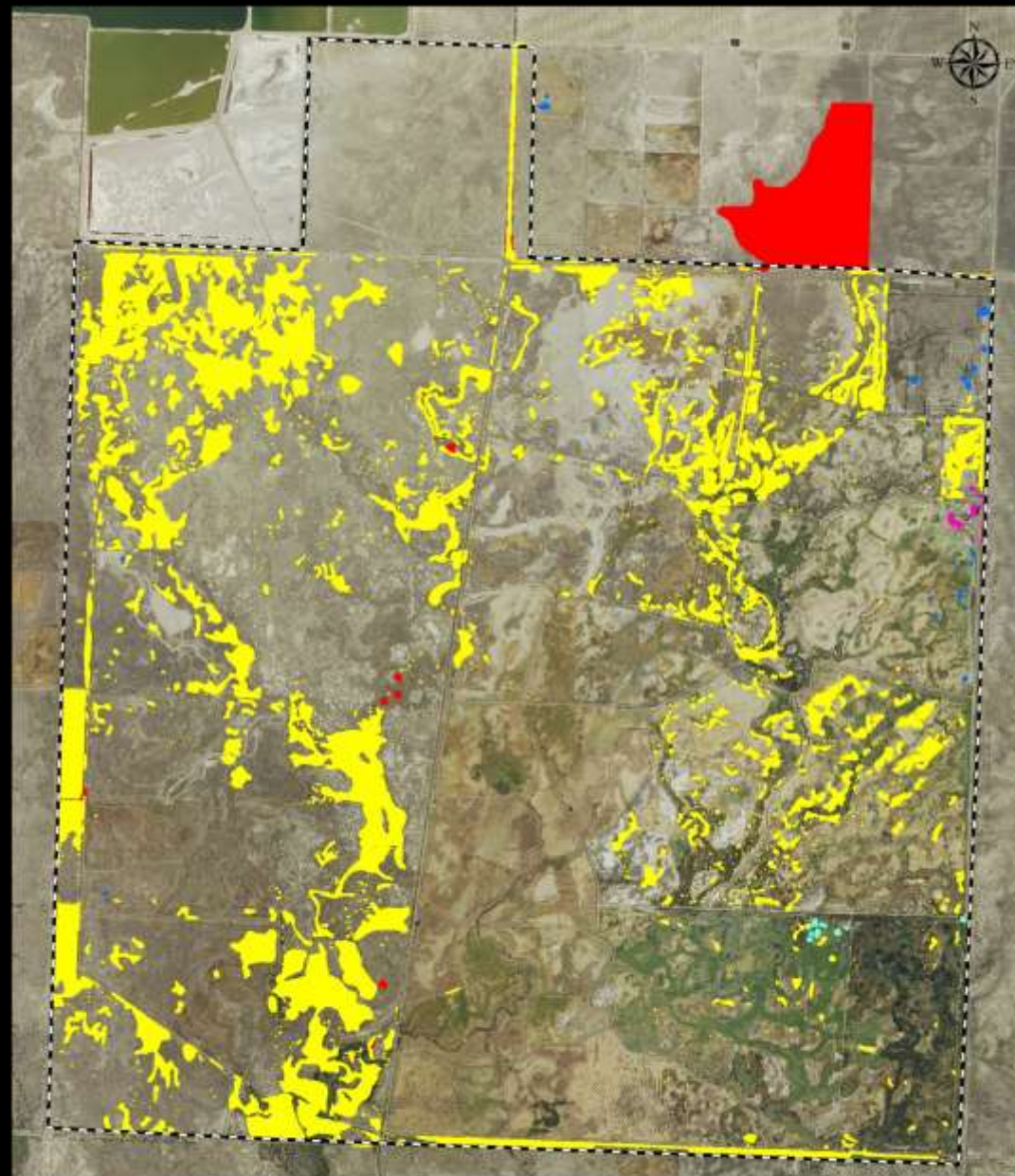
THE INVASION CURVE





Entrenched Weed Infestation





Invasive Plant Cover & Distribution
Kern National Wildlife Refuge

0 400 800 1,200 16,000 ft

- Legend**
- Invasive Plant Species**
- Phalaris sp.
 - Centaurea melitensis*
 - Ludwigia pepioides*
 - Rhaphanistrum repens*
 - Tamarix* spp.

European Beachgrass



Perennial Veldtgrass



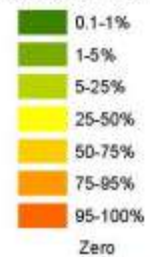
Iceplant



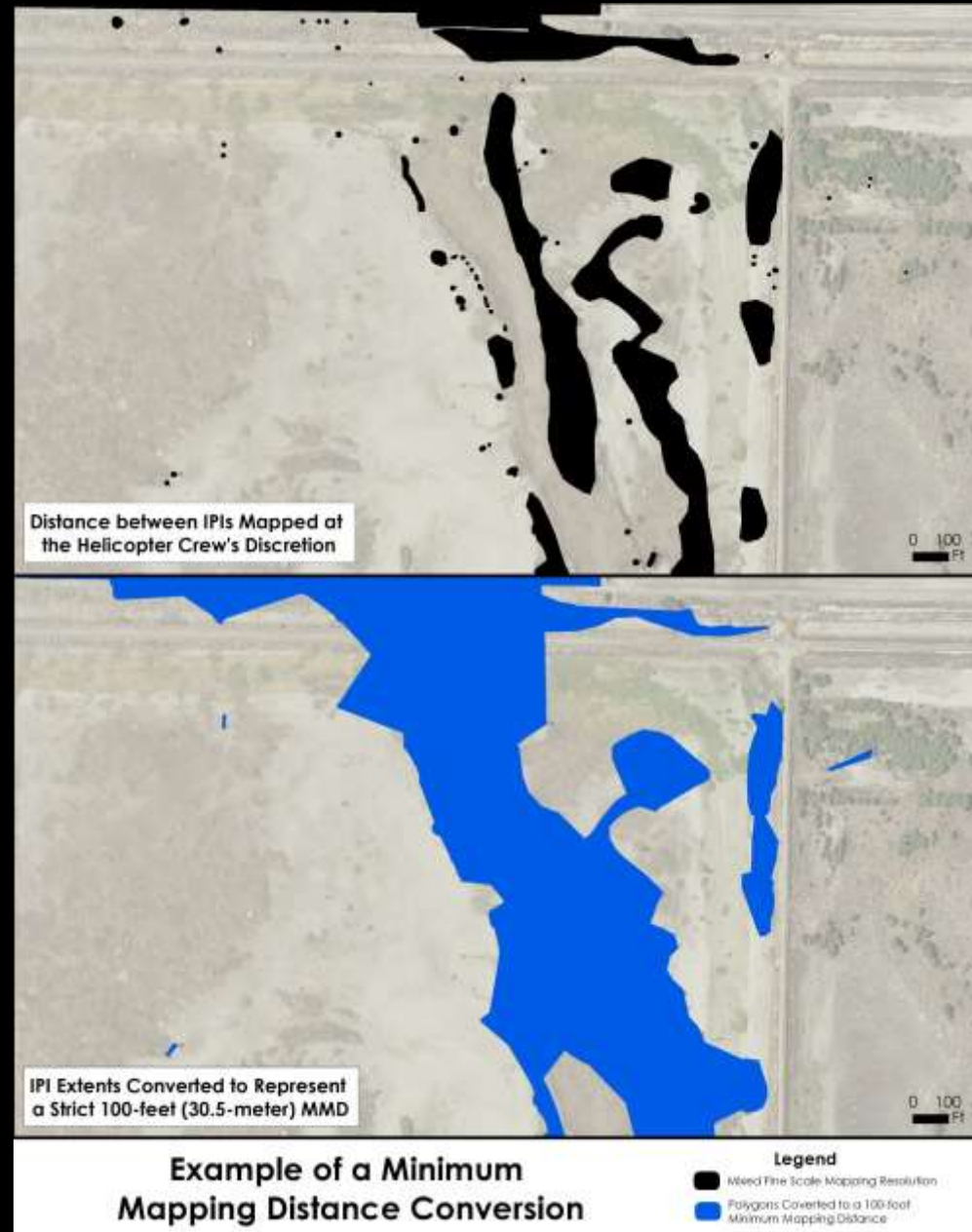
Slenderleaf Iceplant

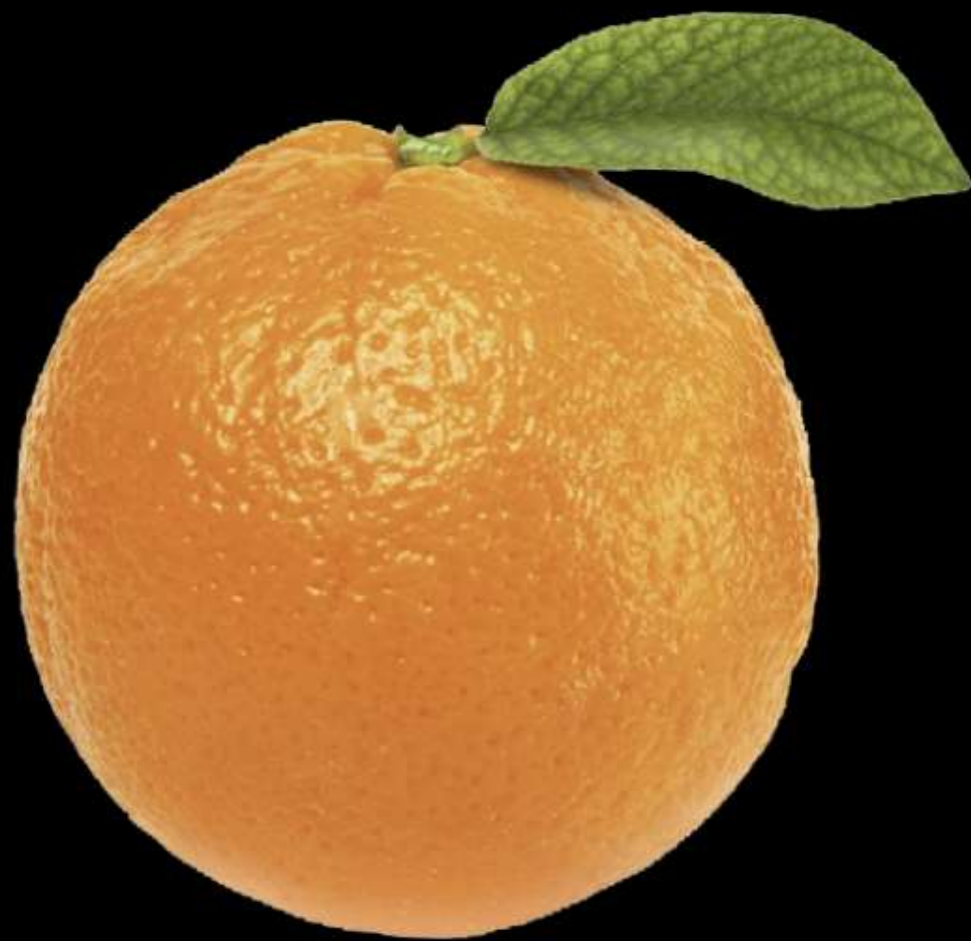


% Ground Cover

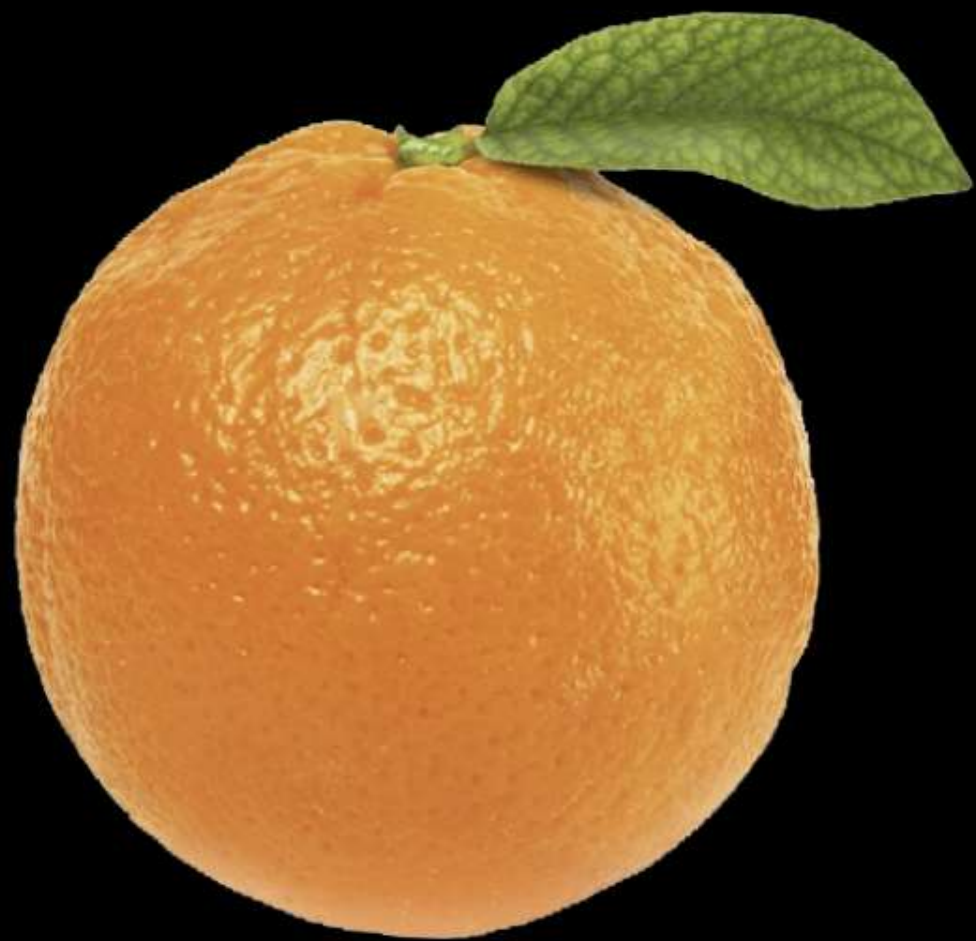


Minimum Mapping Distance “MMD”

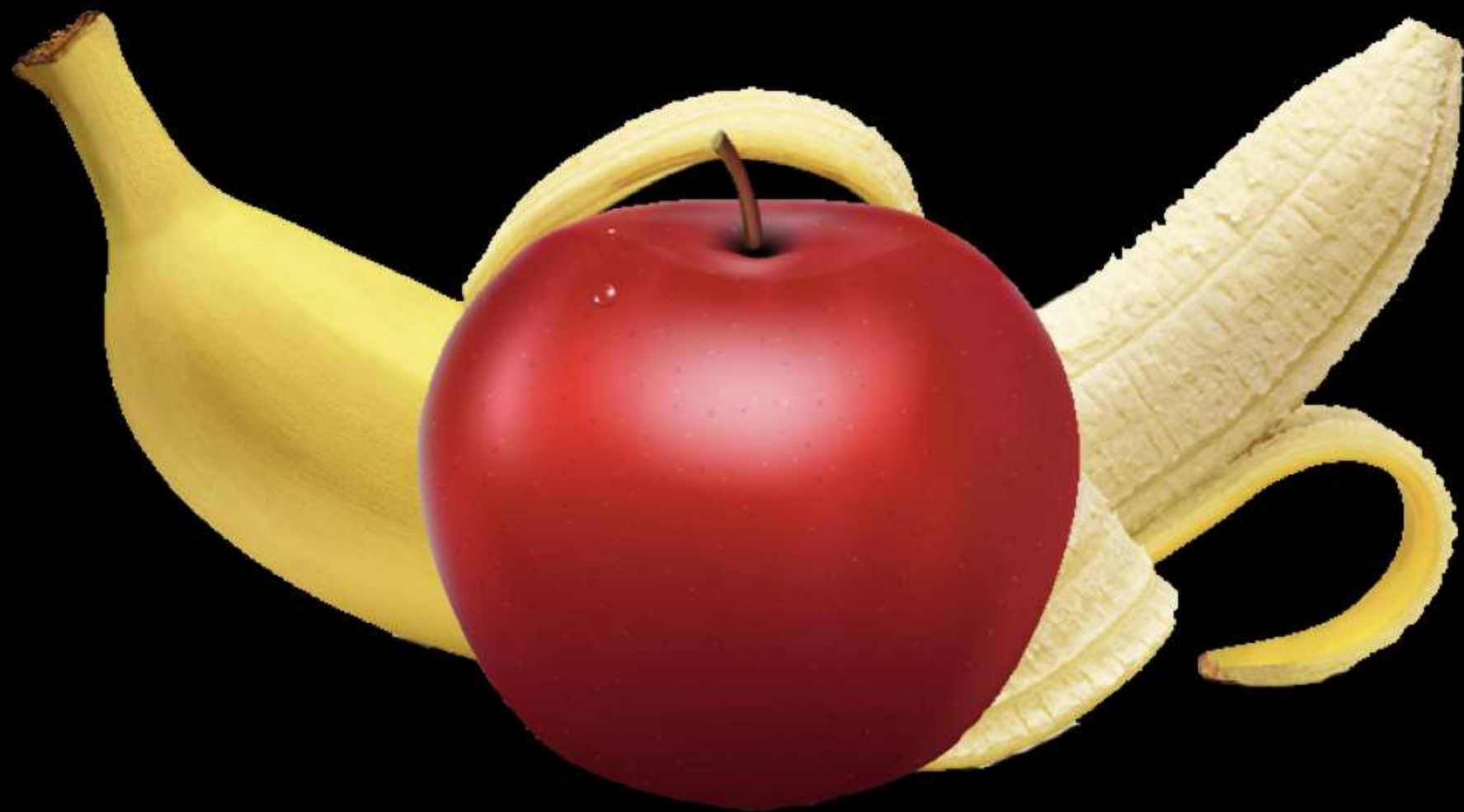


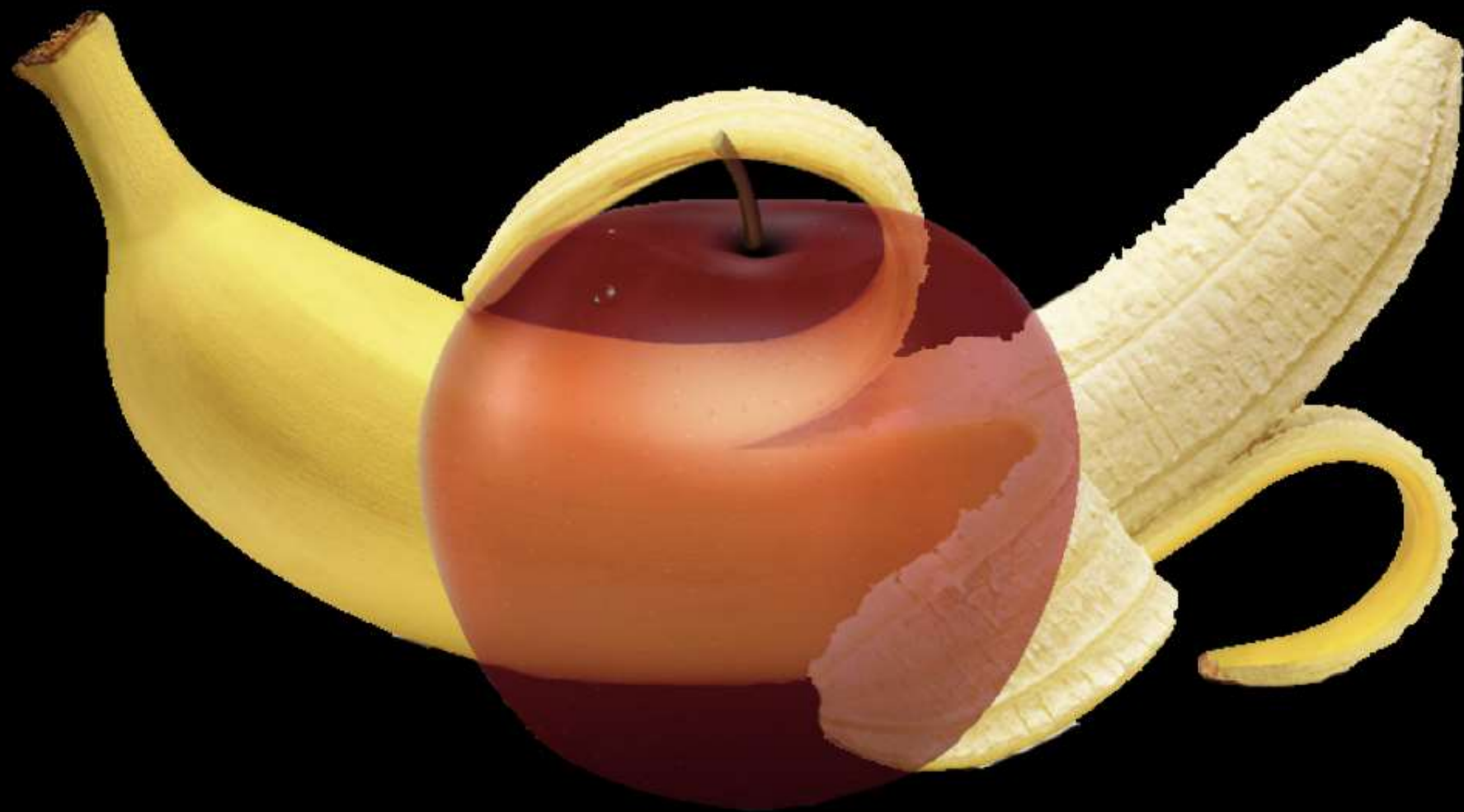












Year 1



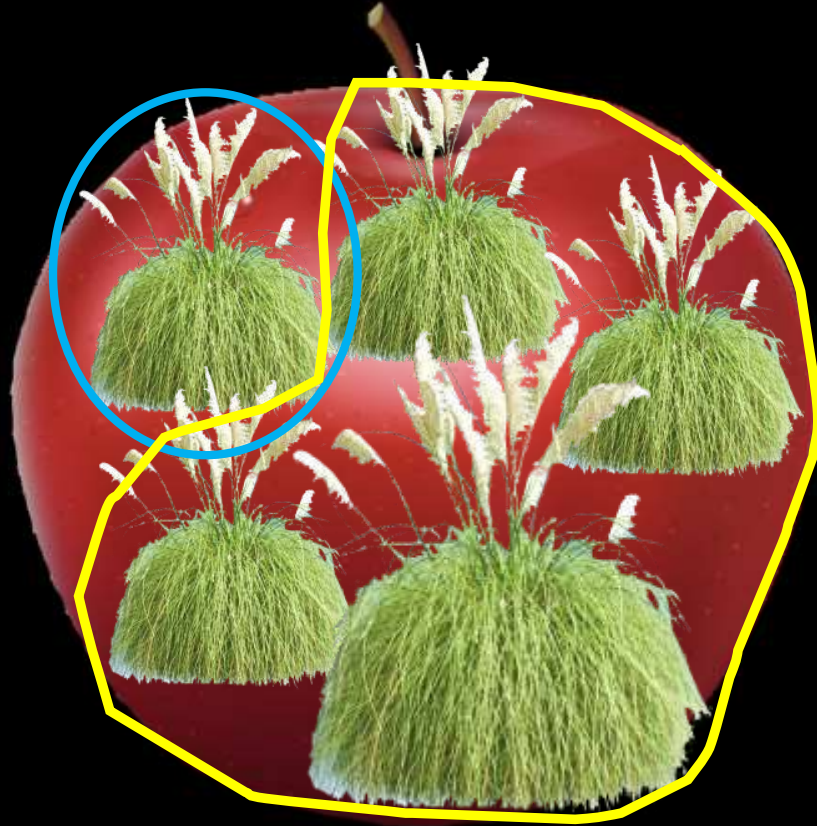
*Finished Gallons is
a Great Index for
Foliar Cover of the
Target Weed!!!*

Year 1



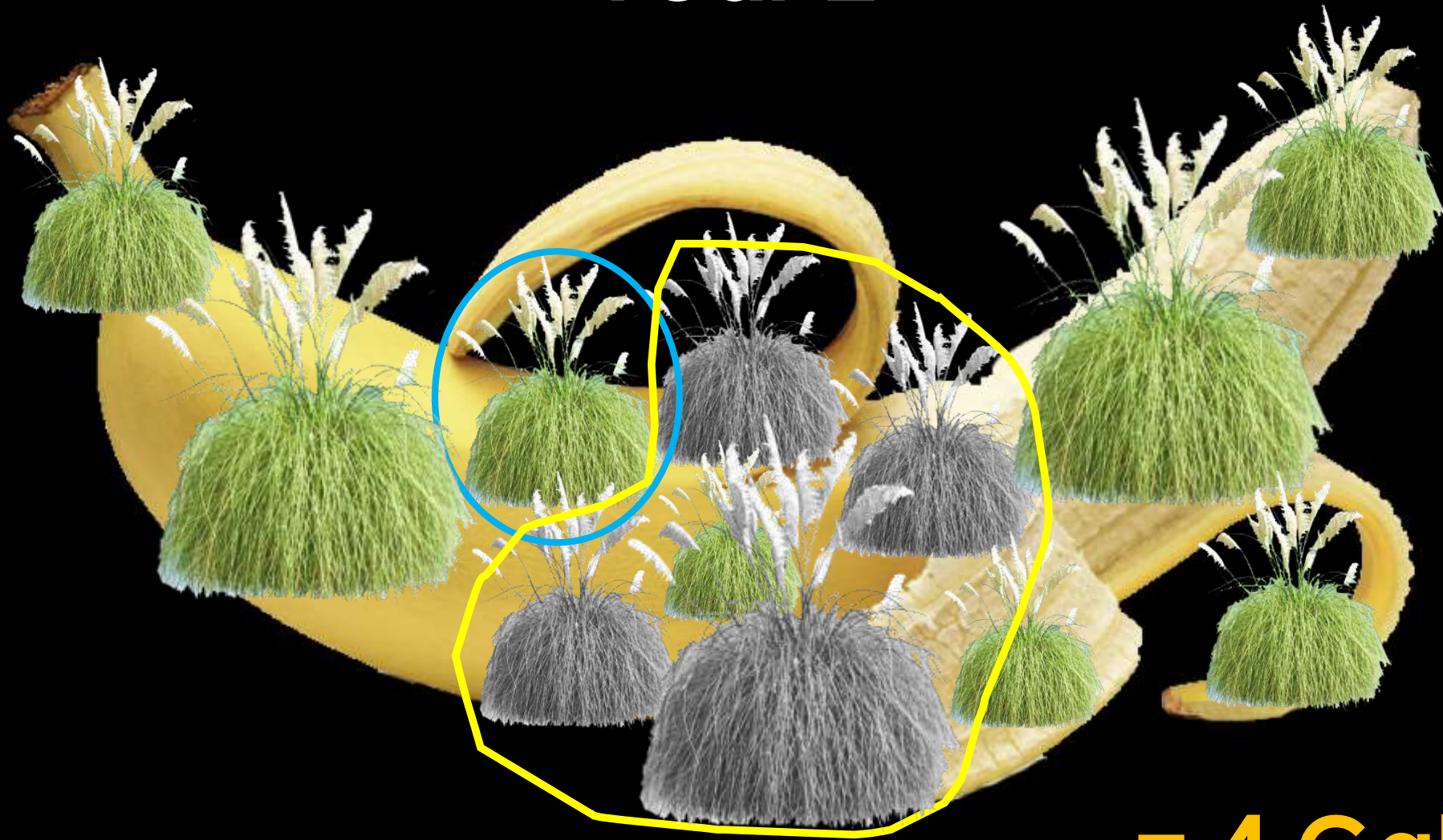
= 3 Gallons

Year 1



= 3 Gallons

Year 2

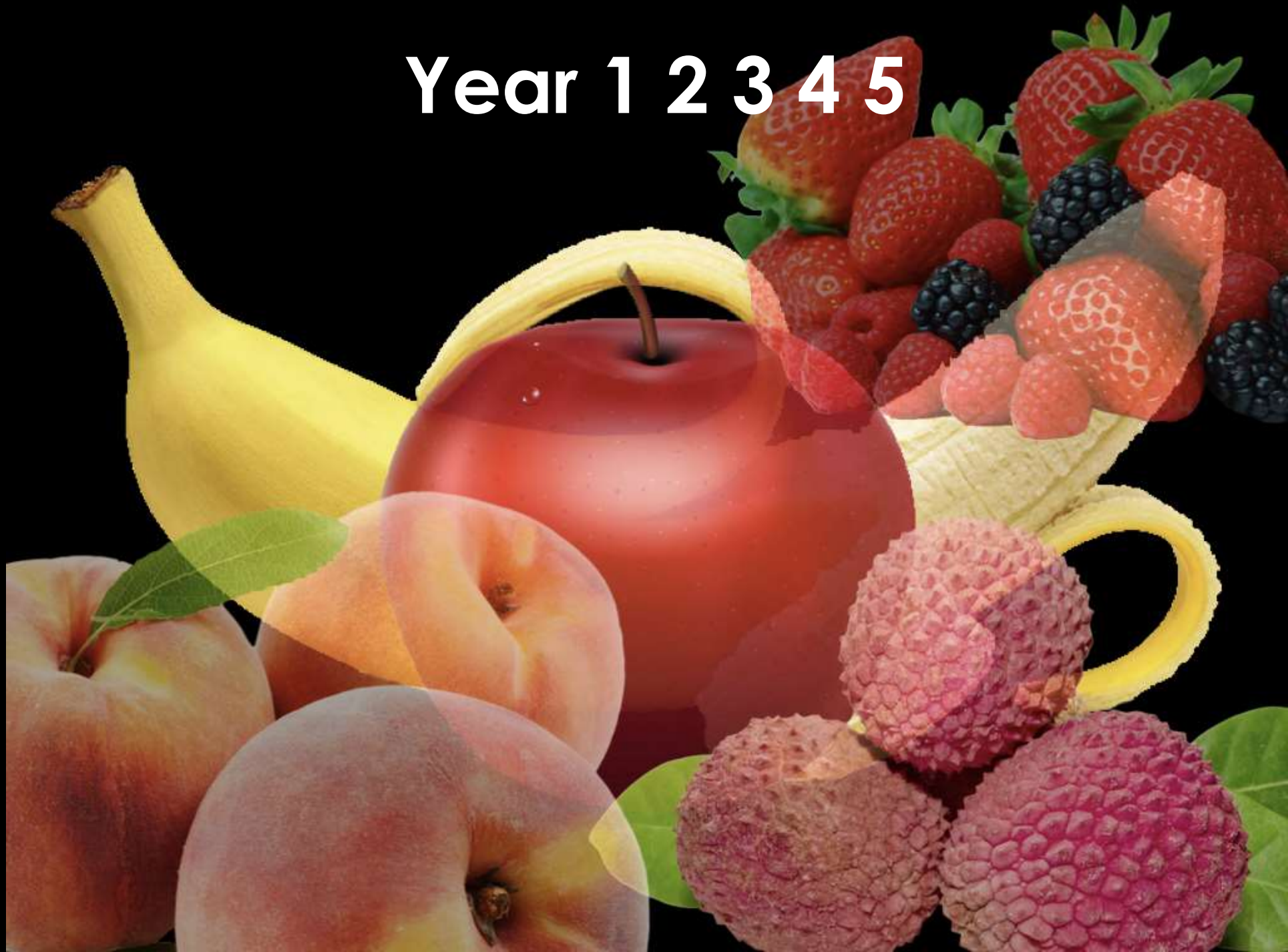


= 4 Gallons

Year 1 2 3 4



Year 1 2 3 4 5



YEAR 1 2 3 4 5 6



?

$$\begin{array}{l} \text{Apple} + \text{Apple} + \text{Apple} = 30 \\ \text{Apple} + \text{Banana} + \text{Banana} = 18 \\ \text{Banana} - \text{Coconut} = 2 \\ \text{Coconut} + \text{Apple} + \text{Banana} = ? \end{array}$$

?

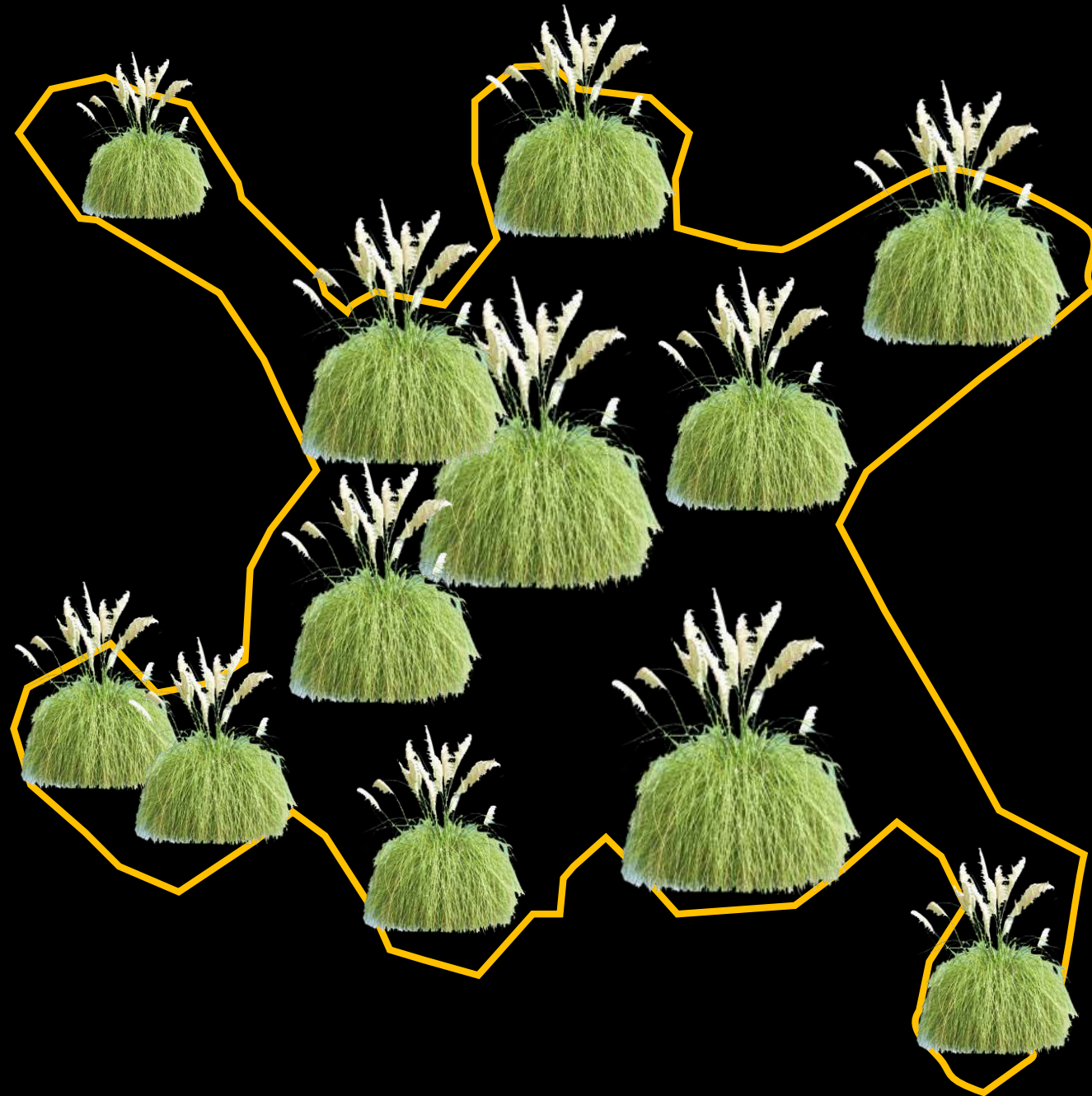


The
Solution?

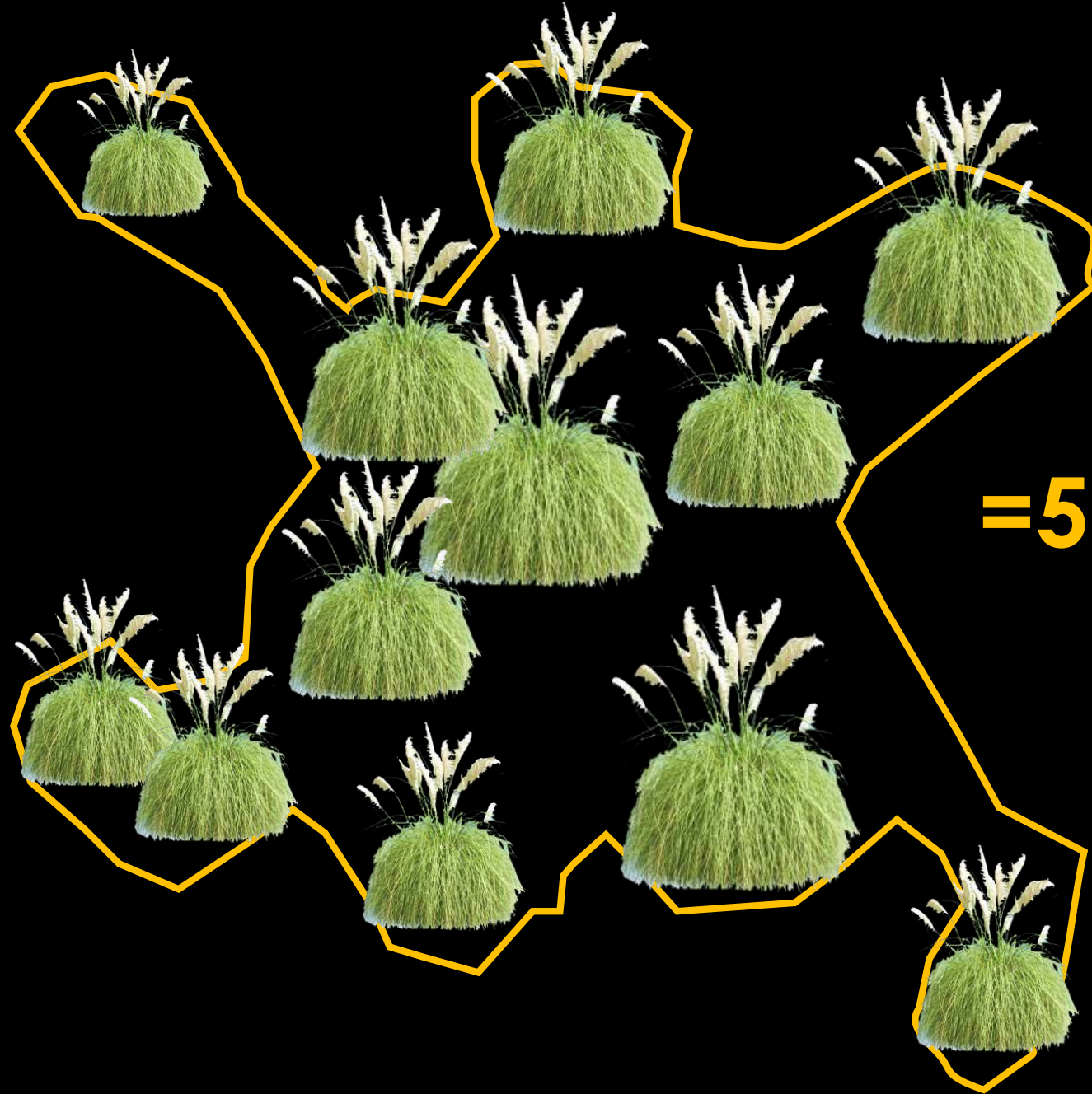
Sample Infestation



Polygon

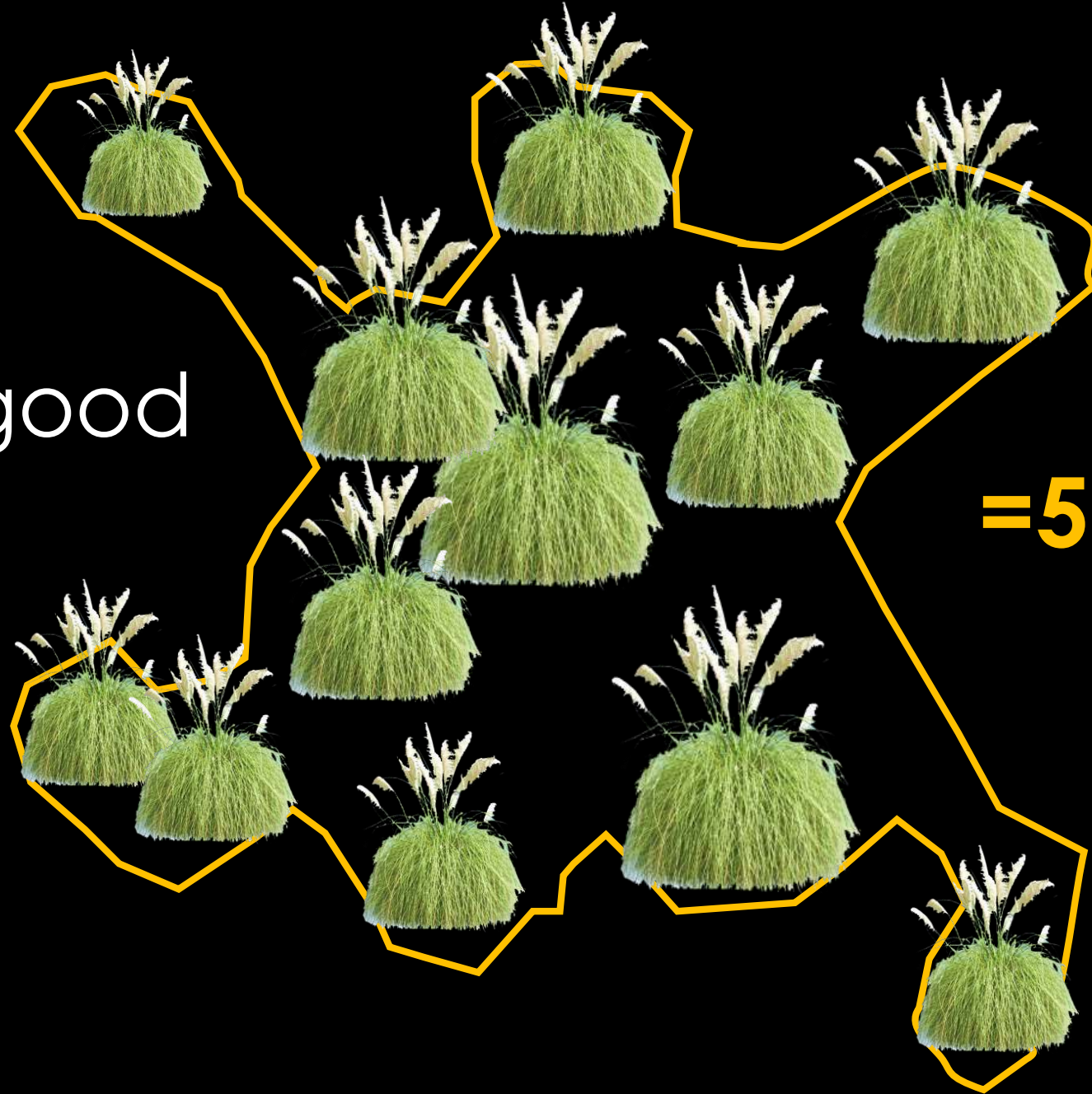


Polygon



=56 Gallons

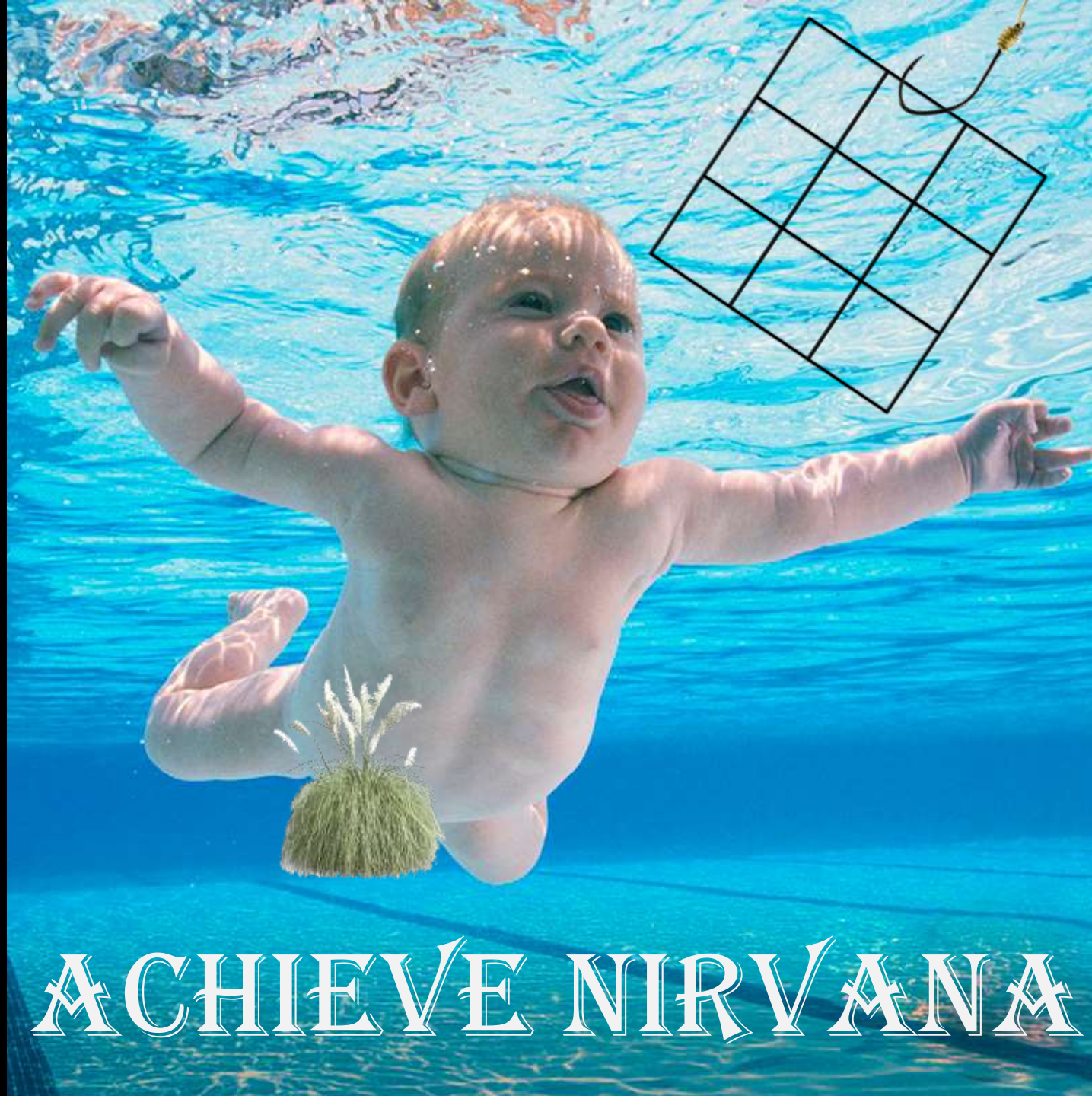
Fine and good
But...



=56 Gallons

Let's Stop the cycle of Samsara



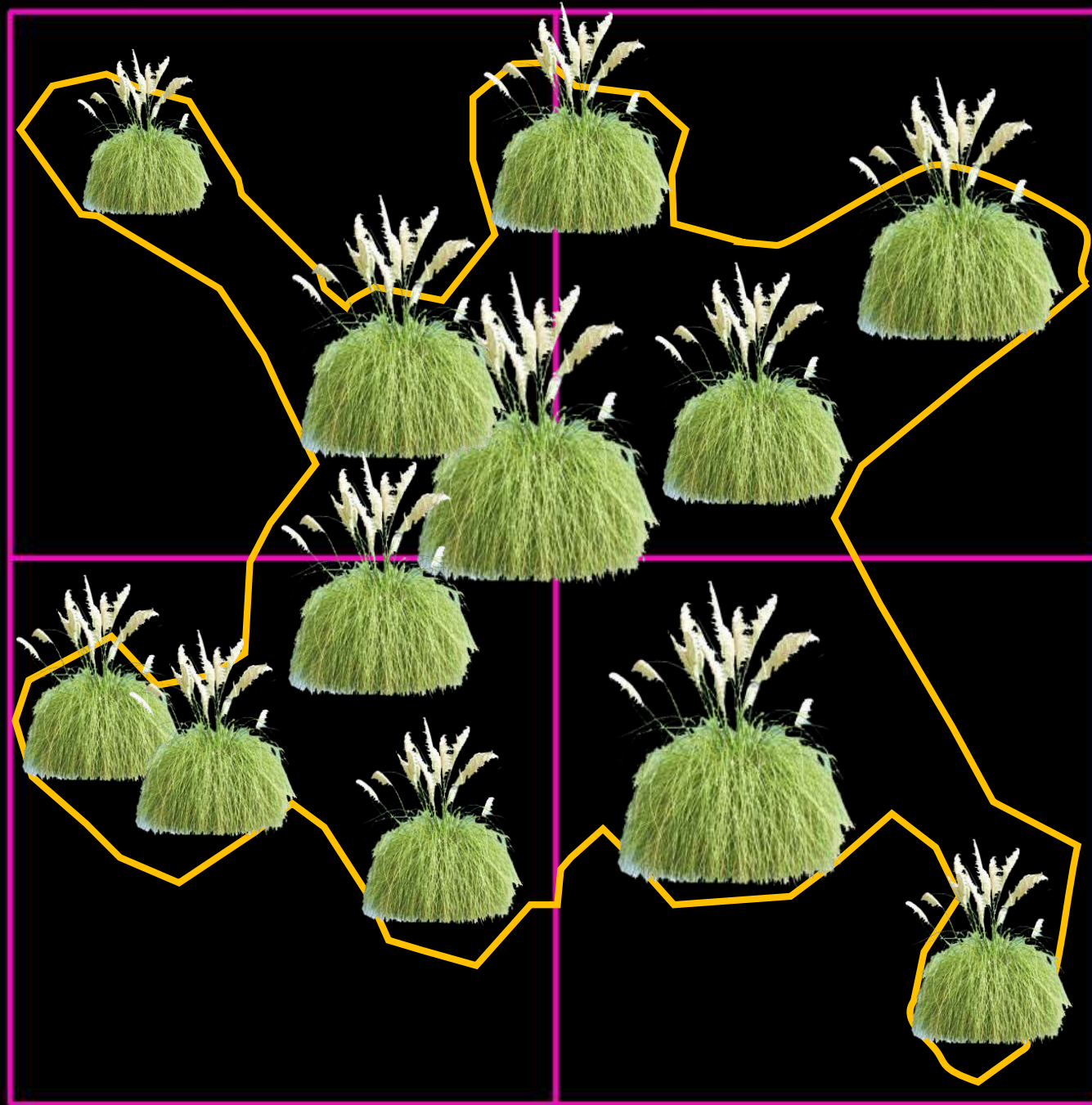


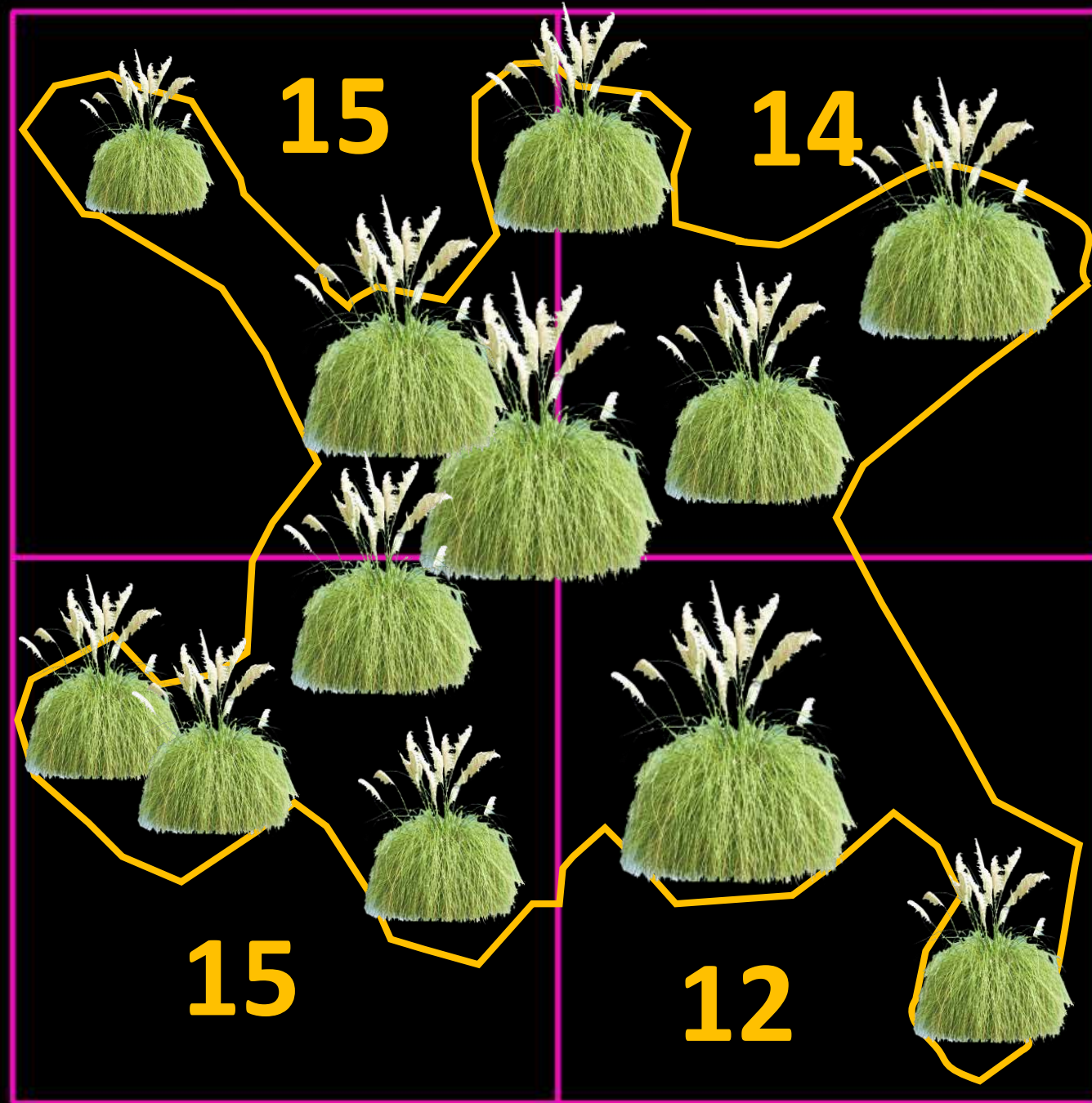
ACHIEVE NIRVANA

APPLY A GRID



Polygon
w/ 50m Grid



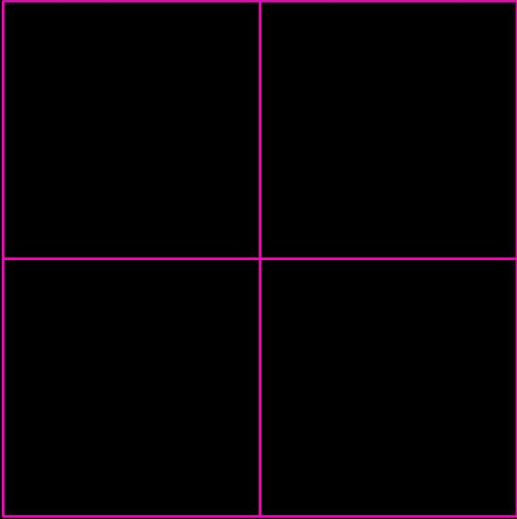


**=56
Finished
Gallons**

15	14
15	12

**=56
Finished
Gallons**

Let's Talk Scale



Nested Grid

800m

400m

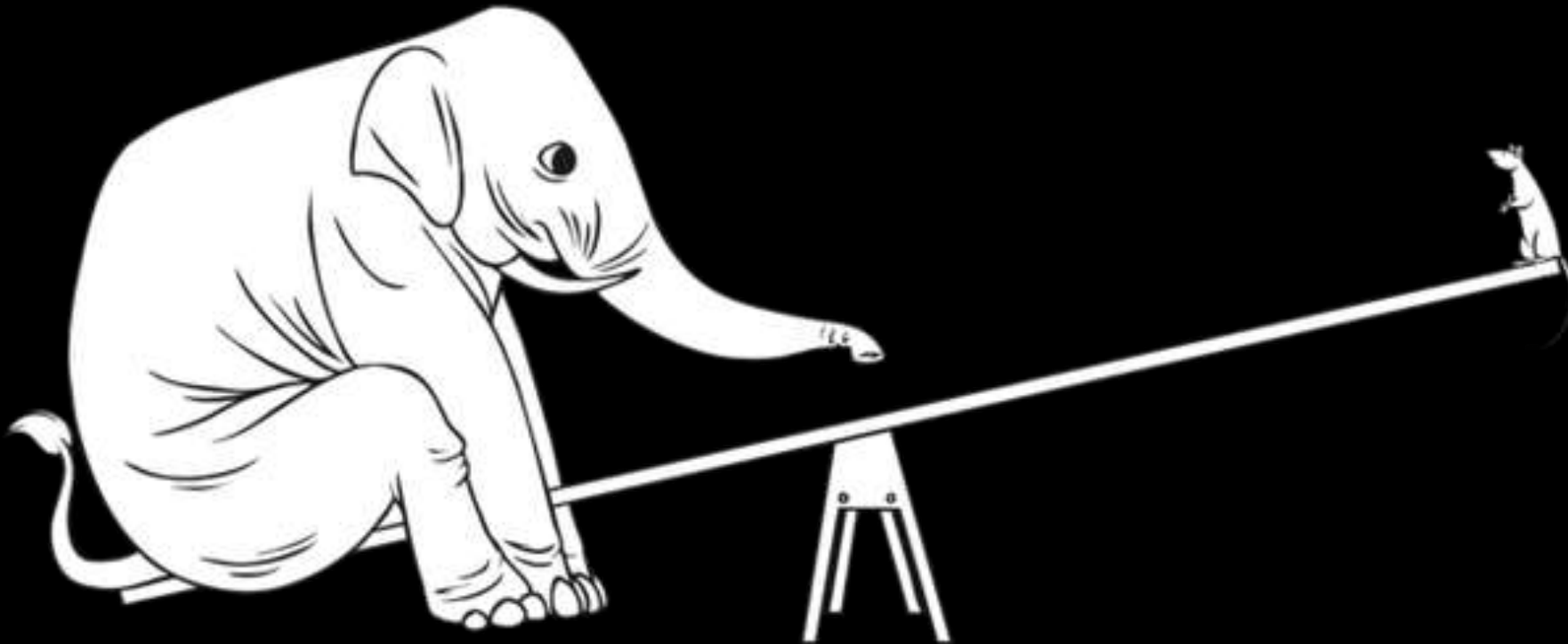
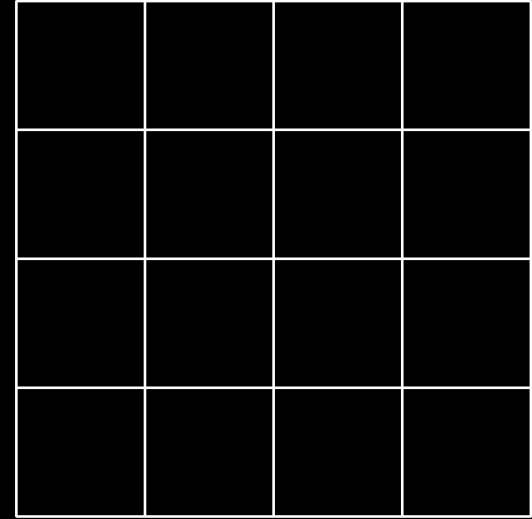
200m

100m

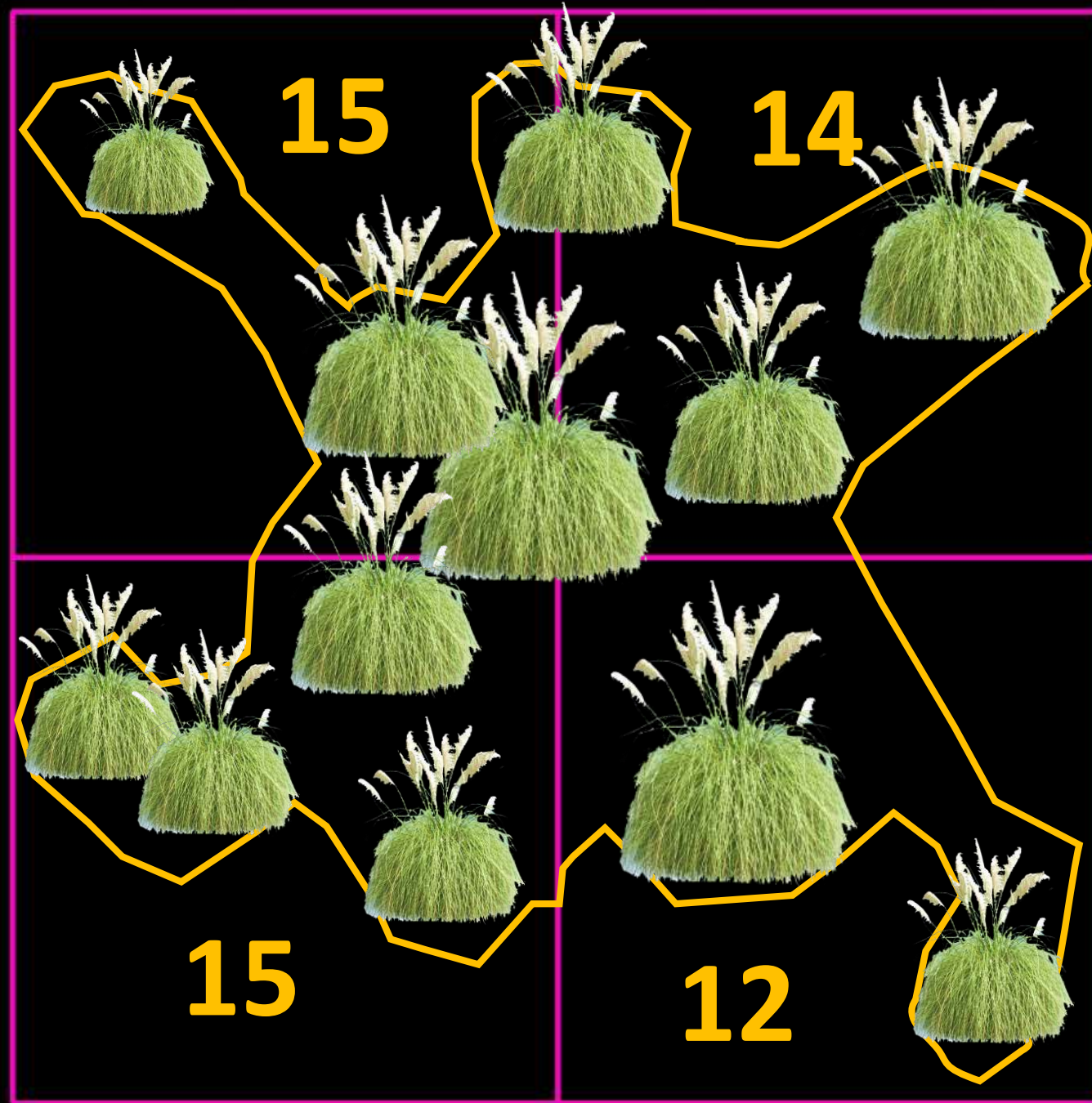
50m

25m

12.5m

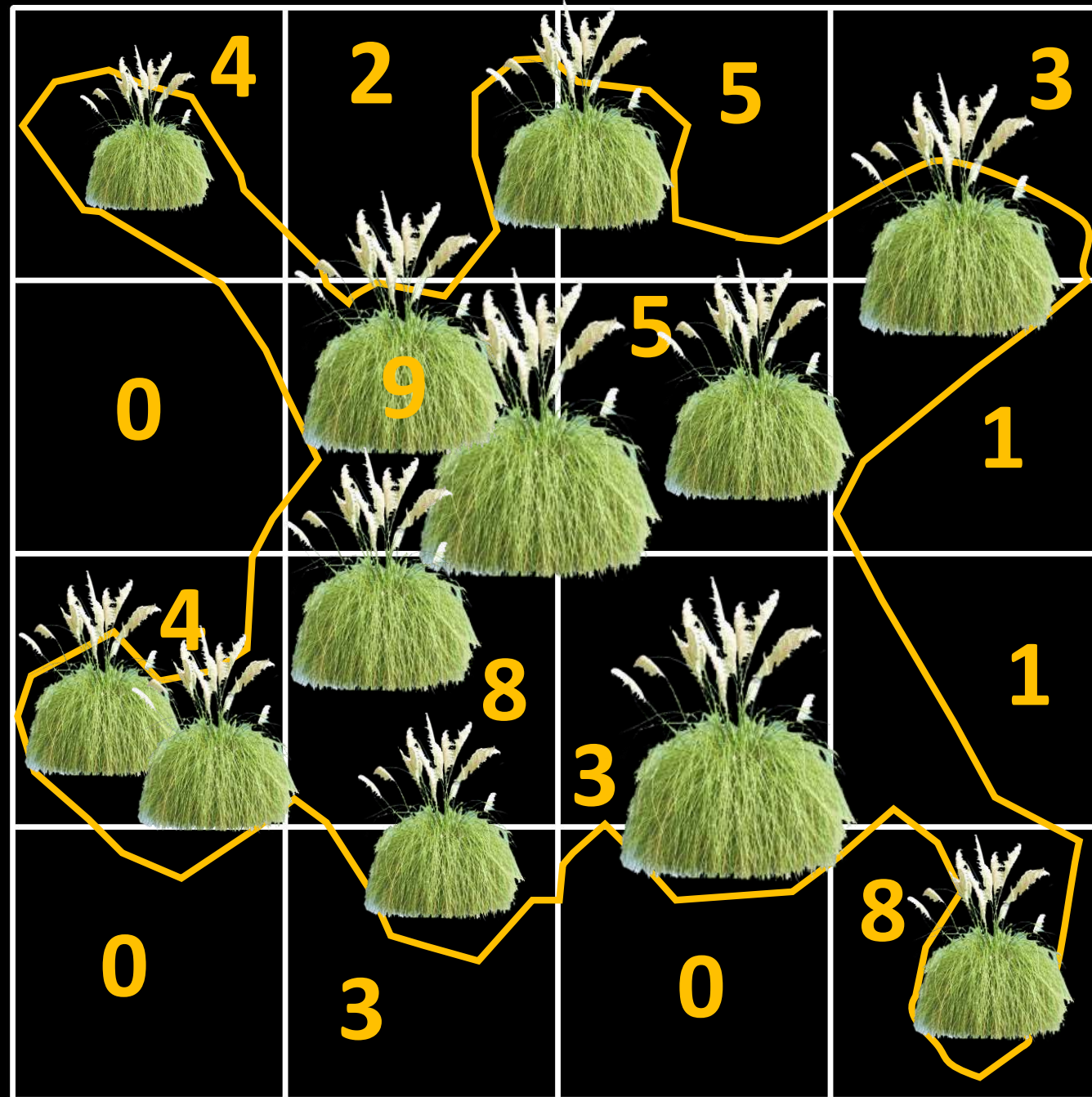


Polygon
w/ 50m Grid



=56
Finished
Gallons

Polygon
w/ 25m Grid



=56
Finished
Gallons

Polygon
w/ 25m Grid

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

**=56
Finished
Gallons**

Year - 1

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

=56

Year - 2

4	2	0	0
0	0	.1	1
.5	4	0	0
.6	3	.1	3

=18.3

Year - 1

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

=56

Year - 2

4	2	0	0
0	0	.1	1
.5	4	0	0
.6	3	.1	3

=18.3

Year - 1

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

=56

Year - 2

4	2	0	0
0	0	.1	1
.5	4	0	0
.6	3	.1	3

=18.3

Year - 1

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

=56

Year - 2

4	2	0	0
0	0	.1	1
.5	4	0	0
.6	3	.1	3

=18.3

Year - 1

4	2	5	3
0	9	5	1
4	8	3	1
0	3	0	8

=56

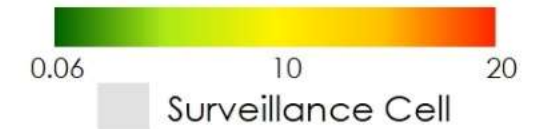
Year - 2

4	2	0	0
0	0	.1	1
.5	4	0	0
.6	3	.1	3

=18.3

Russian Knapweed Treatments 2016-2019

Finished Gallons Applied
per Treatment Cell



18 18

16 16 18
16 16 16 18 18 18
18 18
17
19

19

17

16 16 16 16 16

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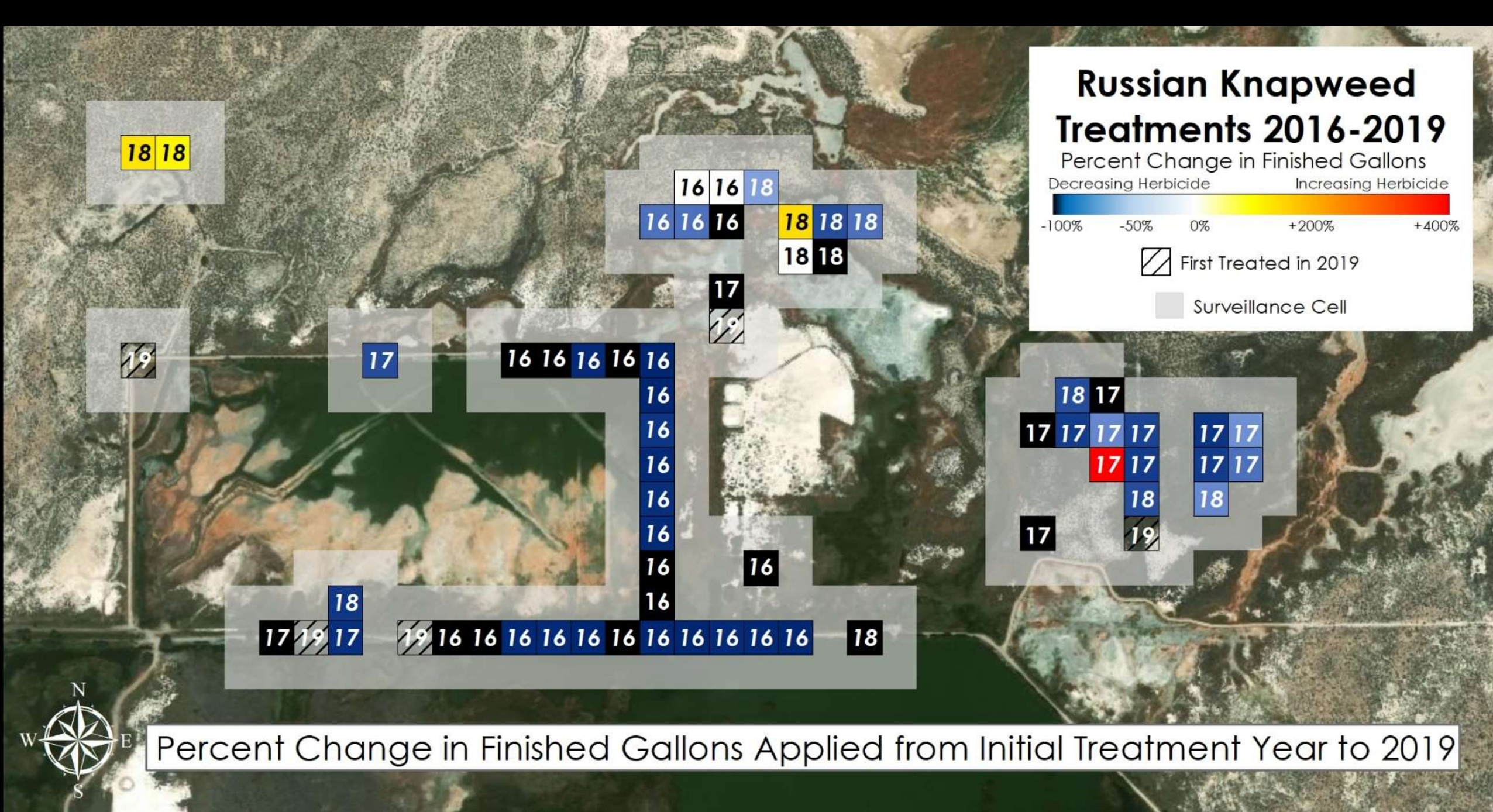
18 17
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19 16 16 16 16 16 16 16 16 16 16 16 16 16

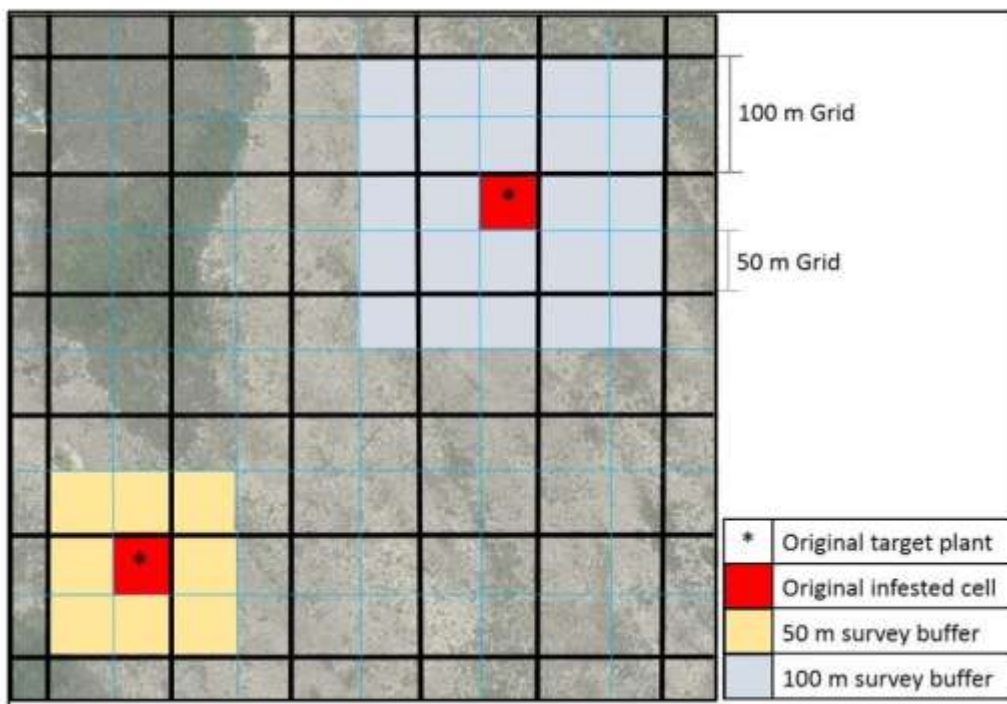
18

Finished Gallons Applied in Initial Treatment Year



Retreatment Approach

Set to a Variable Scale

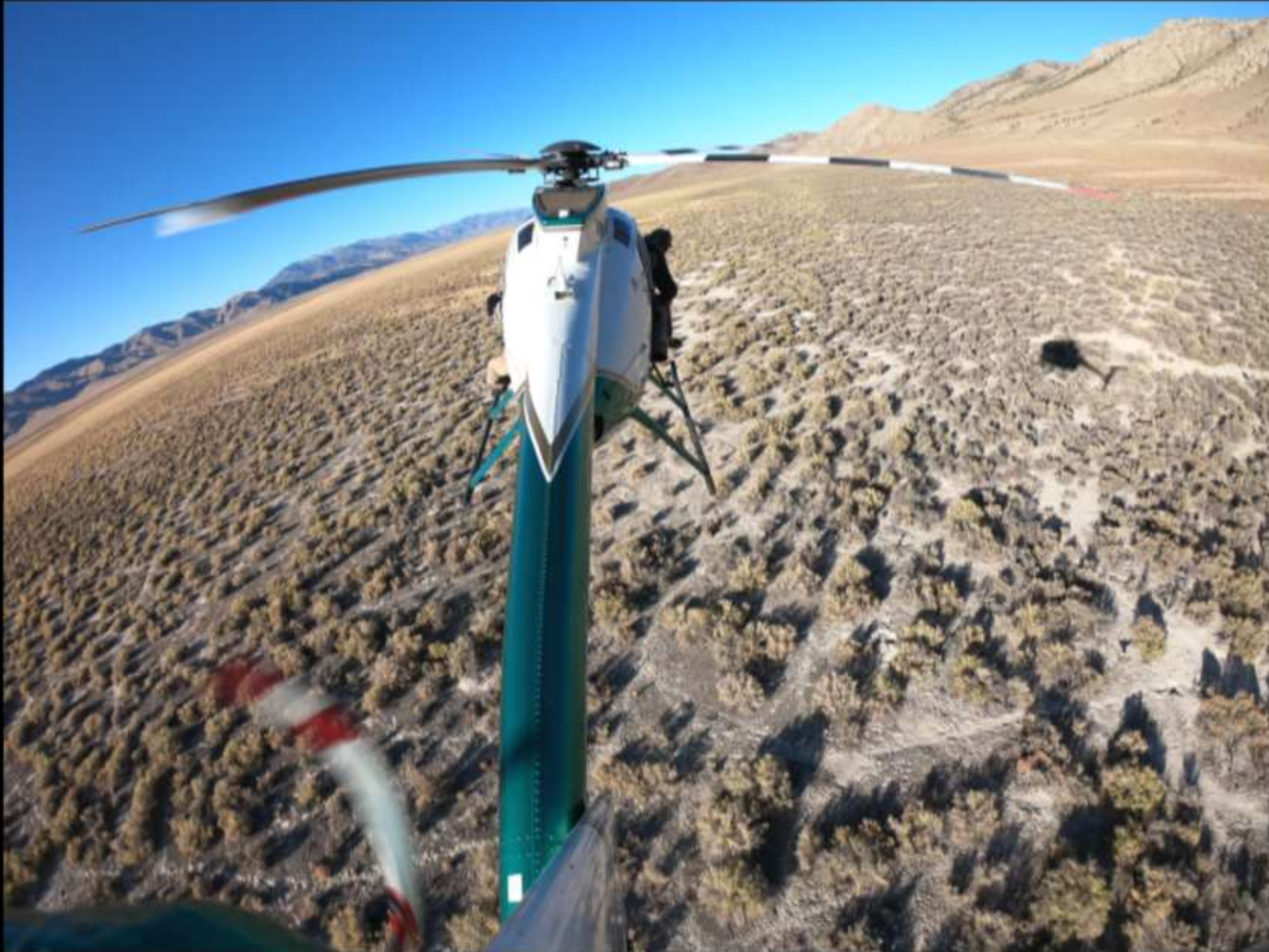


Common Name	Buffer Distance	Common Name	Buffer Distance
African Daisy	NA	Narrowleaf Firethorn	NA
Aleppo Pine	50 m	Oleander	NA
Australian Tea Tree	NA	Olive	50 m
Black Nightshade	50 m	Onion Weed	100 m
Blackwood Acacia	50 m	Orchardgrass	NA
Buffalobur Nightshade	50 m	Oxeye Daisy	50 m
Buffelgrass	100 m	Perez's Sea Lavender	50 m
California Buckwheat	50 m	Periwinkle	NA
Cape Ivy	50 m	Pig's Ear	NA
Castor Bean	50 m	Pink-Mat Iceplant	50 m
Coppery Mesembryanthemum	NA	Plume Acacia	50 m
Cultivated Geranium	NA	Pride Of Madeira	NA
Eucalyptus	50 m	Saharan Mustard	100 m
Fountain Grass	50 m	Soap Aloe	NA
French Broom	50 m	Southern Sandbur	50 m
Garland Chrysanthemum	50 m	Spineless Yucca	NA
Geraldton Carnation Weed	150 m	St. Catherine's Lace	50 m
Giant Reed	NA	Sweet Fennel	50 m
Gum Cistis	50 m	Sydney Golden Wattle	50 m
Harding Grass	100 m	Tamarisk	50 m
Hoary Cress	50 m	Tree Tobacco	50 m
Horehound	50 m	Tumbleweed	100 m
Iceplant Species	50 m	Unknown Acacia	NA
Indian Fig	NA	Unknown Cactus	NA
Indian Teasel	50 m	Unknown Cotoneaster	NA
Italian Stone Pine	NA	Unknown Cypress	NA
Jubata Grass	50 m	Unknown Ivy	NA
Kikuyu Grass	50 m	Unknown Pine	NA
Mexican Evening-Primrose	50 m	Viper's Bugloss	50 m
Monterey Cypress	50 m	Wavyleaf Sea Lavender	50 m
Monterey Pine	50 m	Wild Artichoke	100 m
Myoporum	NA	Yellow Starthistle	50 m

So... how
do you
GIS??????



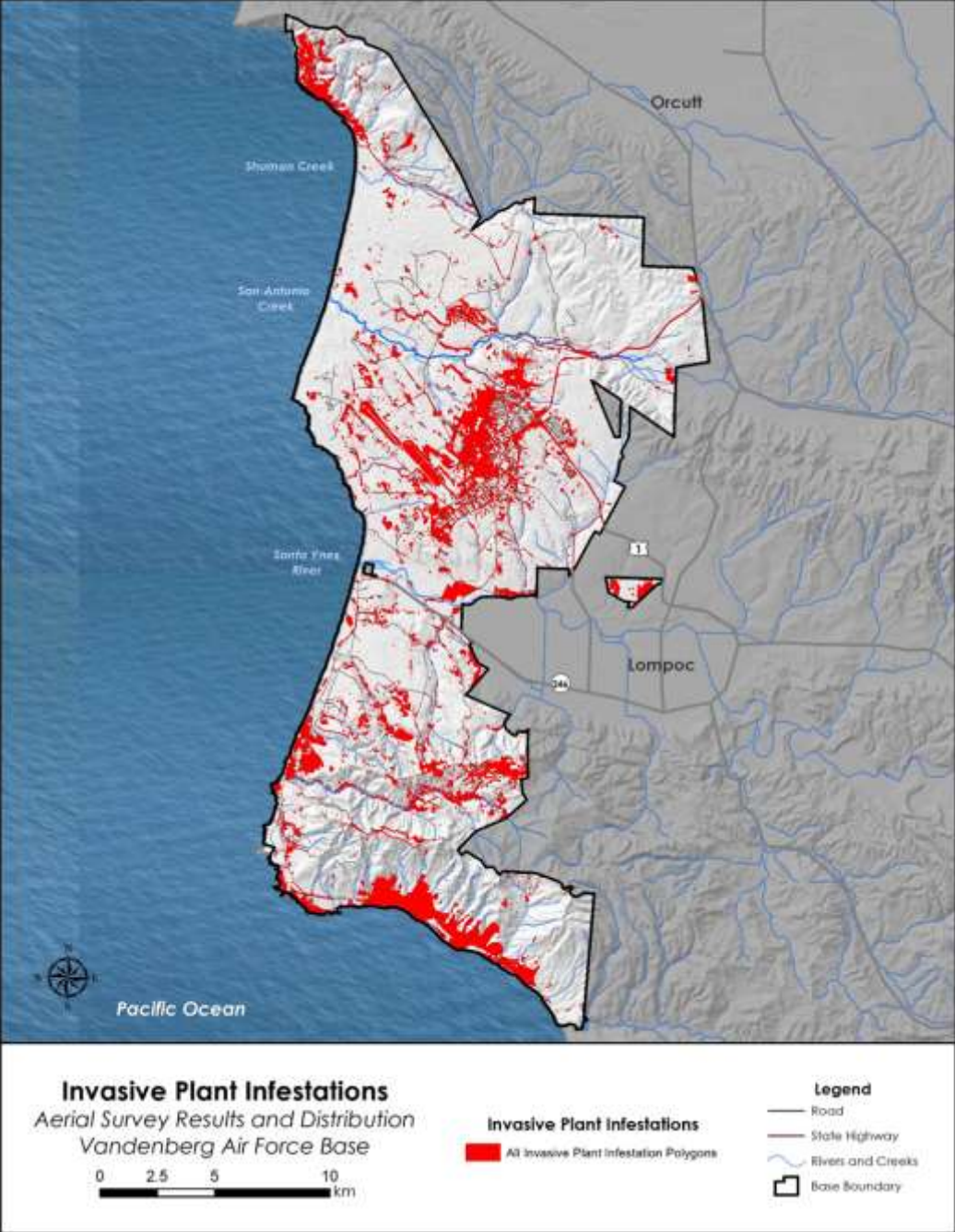
We Start With A Weed Map



VAFB Survey



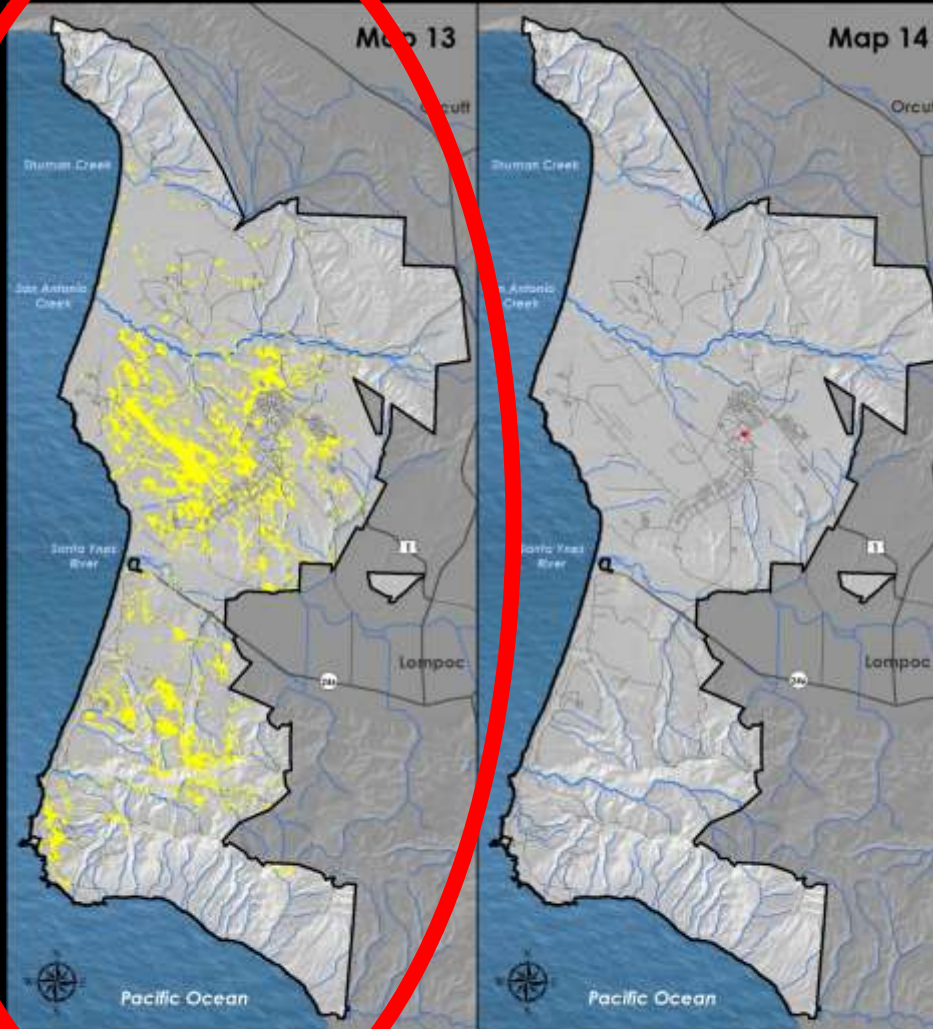
VAFB Survey



Scientific Name	Common Name	Number of IPIs	Total Net Acres	Total Gross Acres	Average Density
<i>Solanum nigrum</i>	Black Nightshade ⁿ	1	<0.001	0.000	0.150
<i>Solanum rostratum</i>	Buffalobur Nightshade ⁿ	1	<0.001	0.000	0.150
<i>Pennisetum ciliare</i>	Buffelgrass ⁿ	2	<0.001	0.001	0.009
<i>Oenothera speciosa</i>	Mexican Evening-Primrose ⁿ	1	<0.001	0.000	0.150
<i>Nerium oleander</i>	Oleander ^r	2	<0.001	0.004	0.067
<i>Cupressus</i> sp.	Unknown Cypress	1	<0.001	0.000	0.150
<i>Echium vulgare</i>	Viper's Bugloss ⁿ	2	<0.001	0.001	0.284
<i>Limonium perezii</i>	Perez's Sea Lavender ⁿ	3	0.001	0.127	0.009
<i>Pelargonium X hortorum</i>	Cultivated Geranium ⁿ	3	0.001	0.042	0.030
Cactaceae	Unknown Cactus	1	0.002	0.014	0.150
<i>Cotoneaster</i> sp.	Unknown Cotoneaster	1	0.002	0.079	0.030
<i>Centaurea solstitialis</i>	Yellow Starthistle	1	0.003	0.479	0.006
<i>Malephora crocea</i>	Coppery Mesembryanthemum ⁿ	1	0.004	0.025	0.150
<i>Echium candicans</i>	Pride Of Madeira ⁿ	12	0.006	0.094	0.061
<i>Cenchrus echinatus</i>	Southern Sandbur ⁿ	1	0.009	0.309	0.030
<i>Leptospermum laevigatum</i>	Australian Tea Tree ⁿ	1	0.011	0.377	0.030
<i>Pyracantha angustifolia</i>	Narrowleaf Firethorn ⁿ	7	0.014	0.090	0.152
<i>Limonium sinuatum</i>	Wavyleaf Sea Lavender ⁿ	1	0.014	0.094	0.150
<i>Ricinus communis</i>	Castor Bean ⁿ	2	0.016	0.107	0.150
<i>Genista monspessulana</i>	French Broom ⁿ	1	0.017	0.111	0.150
<i>Acacia</i> sp.	Unknown Acacia	2	0.024	0.228	0.106
<i>Osteospermum fruticosum</i>	African Daisy ⁿ	9	0.032	0.163	0.197
<i>Dactylis glomerata</i>	Orchardgrass ⁿ	8	0.033	1.329	0.025
<i>Aloe maculata</i>	Soap Aloe ⁿ	6	0.035	0.059	0.591
<i>Yucca</i> sp.	Yucca	23	0.042	0.107	0.393
<i>Pinus</i> sp.	Unknown Pine	20	0.064	0.199	0.324
<i>Hedera</i> spp.	Unknown Ivy	7	0.082	0.388	0.211
<i>Euphorbia terracina</i>	Geraldton Carnation Weed	7	0.097	3.625	0.027
<i>Acacia melanoxylon</i>	Blackwood Acacia ⁿ	1	0.120	0.192	0.625
<i>Olea europaea</i>	Olive ⁿ	12	0.127	0.476	0.267
<i>Eriogonum giganteum</i>	St. Catherine's Lace ⁿ	7	0.187	0.413	0.452
<i>Tamarix ramosissima</i>	Tamarisk	27	0.216	1.078	0.200
<i>Myoporum laetum</i>	Myoporum ⁿ	12	0.218	0.990	0.220
<i>Arundo donax</i>	Giant Reed	58	0.236	0.378	0.625
<i>Nicotiana glauca</i>	Tree Tobacco ⁿ	40	0.242	1.940	0.125
<i>Orosanthemum floribundum</i>	Pink-Mat Iceplant	1	0.290	9.679	0.030
<i>Cynara cardunculus</i>	Wild Artichoke	33	0.435	20.478	0.021
<i>Opuntia ficus-indica</i>	Indian Fig ⁿ	15	0.460	1.123	0.410
<i>Pinus halepensis</i>	Aleppo Pine ⁿ	11	0.517	1.890	0.273
<i>Glebionis coronaria</i>	Garland Chrysanthemum ⁿ	1	0.613	4.089	0.150
<i>Cotyledon orbiculata</i>	Pig's Ear ⁿ	7	0.702	4.186	0.168
<i>Paraserianthes lophantha</i>	Plume Acacia	21	0.713	2.878	0.248
<i>Vinca major</i>	Periwinkle ⁿ	6	0.816	8.470	0.096
<i>Leucanthemum vulgare</i>	Oxeye Daisy ⁿ	37	0.999	6.981	0.143
<i>Cistus ladanifer</i>	Gum Cistus	50	1.292	25.999	0.050
<i>Pennisetum setaceum</i>	Fountain Grass ⁿ	59	1.696	19.266	0.088
<i>Marrubium vulgare</i>	Horehound ⁿ	117	2.186	15.898	0.138
<i>Eriogonum fasciculatum</i>	California Buckwheat ⁿ	34	4.544	14.432	0.315
<i>Pennisetum clandestinum</i>	Kikuyu Grass ⁿ	146	6.798	32.871	0.207
<i>Pinus pinea</i>	Italian Stone Pine ⁿ	23	11.784	31.628	0.373
<i>Brassica tournefortii</i>	Saharan Mustard	35	22.643	103.753	0.218
<i>Lepidium draba</i>	Hoary Cress ⁿ	22	30.938	85.554	0.362
<i>Delairea odorata</i>	Cape Ivy	75	50.629	115.022	0.440
<i>Asphodelus fistulosus</i>	Onion Weed	185	51.979	378.296	0.137
<i>Azoreaceae</i> spp.	Iceplant Species	79	57.763	345.444	0.167
<i>Acacia longifolia</i>	Sydney Golden Wattle	316	96.563	424.153	0.228
<i>Opisacus sativus</i>	Indian Teasel	61	119.444	209.207	0.571
<i>Foeniculum vulgare</i>	Sweet Fennel	1774	138.376	802.973	0.172
<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	386	158.454	285.851	0.554
<i>Phalaris aquatica</i>	Harding Grass	262	172.250	404.868	0.425
<i>Salola</i> spp.	Tumbleweed	166	300.128	2029.140	0.148
<i>Cortaderia jubata</i>	Jubata Grass	6001	310.752	2157.430	0.144
<i>Pinus radiata</i>	Monterey Pine ⁿ	2122	717.366	1570.253	0.457
<i>Eucalyptus</i> spp.	Eucalyptus	1244	847.531	1657.889	0.511
Totals:		64 taxa 13,573 IPI's	3,110.5 net acres	10,783.2 gross acres	

64 Weed Taxa Documented

VAFB Survey



Invasive Plant Infestations

Aerial Survey Results and Distribution
Vandenberg Air Force Base

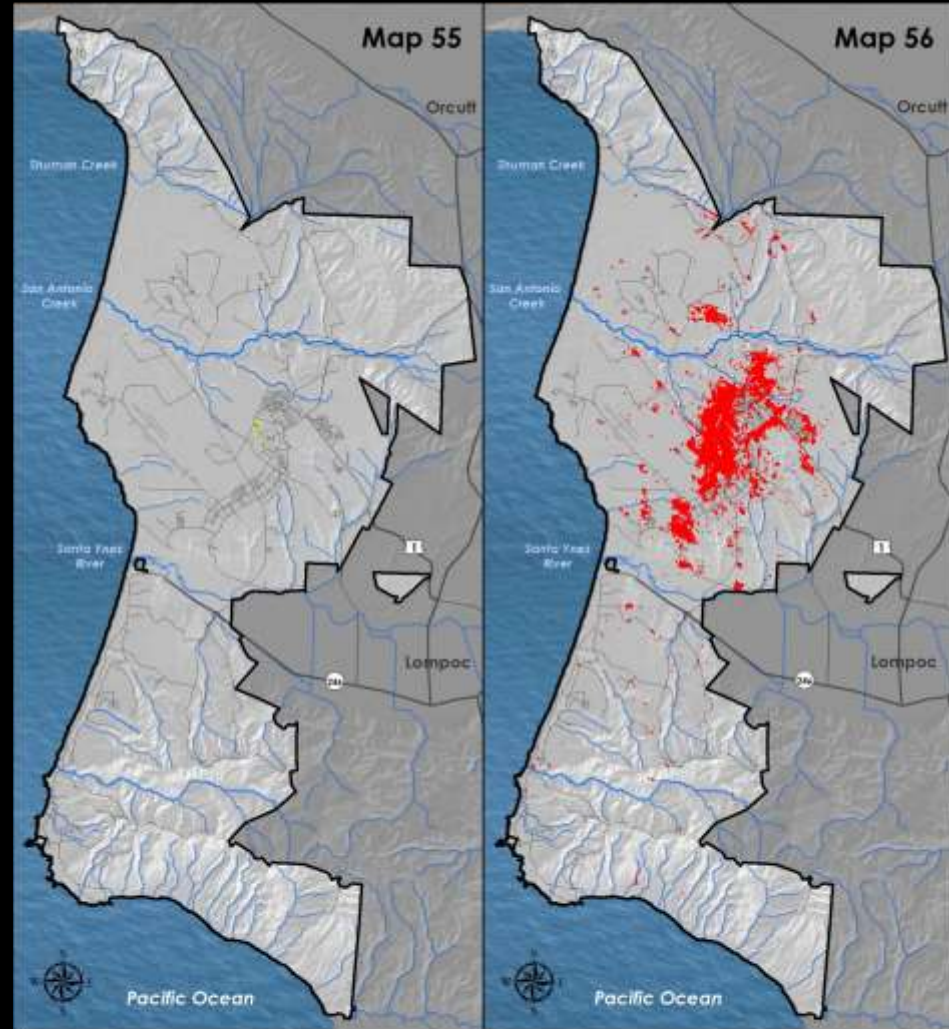


Invasive Plant Infestations

- Jubata grass (*Cortaderia jubata*)
- Unknown cotoneaster (*Cotoneaster* sp.)

Legend

- Road
- State Highway
- River and Creeks
- Base Boundary



Invasive Plant Infestations

Aerial Survey Results and Distribution
Vandenberg Air Force Base



Invasive Plant Infestations

- Leppa pine (*Pinus halepensis*)
- Monterey pine (*Pinus radiata*)

Legend

- Road
- State Highway
- River and Creeks
- Base Boundary

Let's Get Treatin'

Collector for ArcGIS

Accurate Data Collection Made Easy

Get Started



Hill People Gear





Maps

Search

My Maps



BeachLayia_North_VAFB_2019-20

Oct 8, 2019



BuckwheatTreatment_GolfCourse_VAFB_2019

Oct 15, 2019



CanyonFire_VAFB_2019-20

Oct 11, 2019



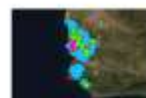
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Oct 8, 2019



ESA_Beaches_Purisima_VAFB_2019

Oct 8, 2019



ESBB_Restoration_VAFB_2019-20

Sep 13, 2019



GaviotaTarplant_VAFB_2019

Aug 30, 2019



GreyCanyonRestoration_VAFB_2019

Oct 8, 2019



Jubata_VAFB_2019

Oct 16, 2019



Jubata_VAFB_2019_ForMorgan

Oct 16, 2019



Jubata_VAFB_2018

Oct 16, 2019



LYS_35thStreetTreatment_VAFB_2019

Oct 11, 2019



LYS_Count_35thStreet_VAFB_2019

Offline areas



PPAFS_WeedTreatments

Jun 13, 2019



RR_VAFB_2019

Oct 8, 2019



SAC_OxbowMitigationSite_VAFB_2019

Oct 9, 2019





Maps

Search

My Maps



BeachLayia_North_VAFB_2019-20

Oct 8, 2019



BuckwheatTreatment_GolfCourse_VAFB_2019

Oct 15, 2019



CanyonFire_VAFB_2019-20

Oct 11, 2019



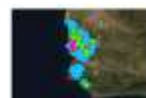
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Oct 8, 2019



ESA_Beaches_Purisima_VAFB_2019

Oct 8, 2019



ESBB_Restoration_VAFB_2019-20

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GaviotaTarplant_VAFB_2019

Aug 30, 2019



GreyCanyonRestoration_VAFB_2019

Oct 8, 2019



Jubata_VAFB_2019

Oct 16, 2019



Jubata_VAFB_2019_ForMorgan

Oct 16, 2019



Jubata_VAFB_2018

Oct 16, 2019



LYS_35thStreetTreatment_VAFB_2019

Oct 11, 2019



LYS_Count_35thStreet_VAFB_2019

Offline areas



PPAFS_WeedTreatments

Jun 13, 2019



RR_VAFB_2019

Oct 8, 2019



SAC_OxbowMitigationSite_VAFB_2019

Oct 9, 2019



Hot Mess!!!

Yikes!!!



But not really

Edit Files

	Weed_Point
WEEDDATAFORMORGAN - WEED_LINE	
	Weed_Line
WEEDDATAFORMORGAN - BREAD_CRUMB_POINT	
	Bread_Crumb_Point
WEEDDATAFORMORGAN - BREAD_CRUMB_LINE	
	Bread_Crumb_Line
WEEDDATAFORMORGAN - HIDDEN_WEED_POINT	
	Hidden_Weed_Point
WEEDDATAFORMORGAN - NO_TARGET_POINT	
	No_Target_Point
WEEDDATAFORMORGAN - NO_TARGET_LINE	
	No_Target_Line

	No_Treatment_Point
WEEDDATAFORMORGAN - NO_TREATMENT_LINE	
	No_Treatment_Line
WEEDDATAFORMORGAN - CUT_LINE	
	Cut_Line
WEEDDATAFORMORGAN - ASSIGNMENT_POINT	
	Assignment_Point
WEEDDATAFORMORGAN - ASSIGNMENT_LINE	
	Assignment_Line
WEEDDATAFORMORGAN - NOTE	
	Note
CEIEA_ASSIGNMENT - CEIEA_ASSIGNMENT_PT	
	CEIEA_Assignment_Pt
CEIEA_ASSIGNMENT - CEIEA_ASSIGNMENT_POLY	
	CEIEA_Assignment_Poly

Reference Files

	JubataVAFB_Targets2019
JUBATAVAFB_TARGETS2019 - JUBATAVAFB_TREATMENTZONES2019	
	1
	2
	3
	4
	5
	6
	Bob
JUBATAVAFB_TARGETS2019 - JUBATAVAFB_GRID2019	
	JubataVAFB_Grid2019
MINIMIZATION MEASURES	
	ESBB_MM_2018
VAFB_INFRASTRUCTURE - BASEWIDE BOUNDARY	
	VAFB_Boundary_2009

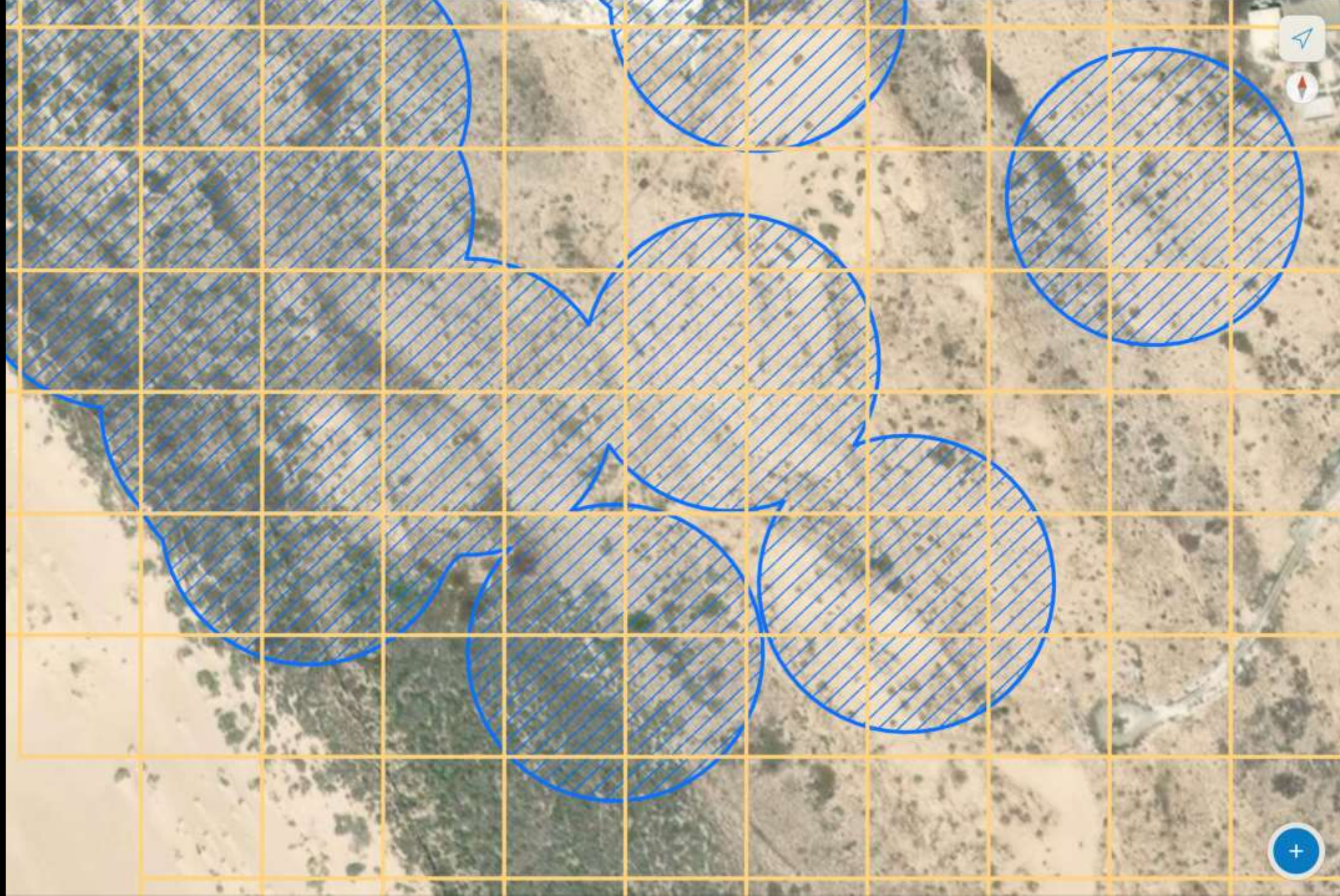
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	Bread_Crumb_Point
WEEDDATAFORMORGAN - BREAD_CRUMB_LINE	
	Bread_Crumb_Line
WEEDDATAFORMORGAN - HIDDEN_WEED_POINT	
	Hidden_Weed_Point
WEEDDATAFORMORGAN - NO_TARGET_POINT	
	No_Target_Point
WEEDDATAFORMORGAN - NO_TARGET_LINE	
	No_Target_Line

	No_Treatment_Point
WEEDDATAFORMORGAN - NO_TREATMENT_LINE	
	No_Treatment_Line
WEEDDATAFORMORGAN - CUT_LINE	
	Cut_Line
WEEDDATAFORMORGAN - ASSIGNMENT_POINT	
	Assignment_Point
WEEDDATAFORMORGAN - ASSIGNMENT_LINE	
	Assignment_Line
WEEDDATAFORMORGAN - NOTE	
	Note
CEIEA_ASSIGNMENT - CEIEA_ASSIGNMENT_PT	
	CEIEA_Assignment_Pt
CEIEA_ASSIGNMENT - CEIEA_ASSIGNMENT_POLY	
	CEIEA_Assignment_Poly

Reference Files

	JubataVAFB_Targets2019
JUBATAVAFB_TARGETS2019 - JUBATAVAFB_TREATMENTZONES2019	
	1
	2
	3
	4
	5
	6
	Bob
JUBATAVAFB_TARGETS2019 - JUBATAVAFB_GRID2019	
	JubataVAFB_Grid2019
MINI-SECTION MEASURES	
	ESBB_MM_2018
VAFB INFRASTRUCTURE - BASEWIDE BOUNDARY	
	VAFB_Boundary_2009



ESBB MM 2018: NO Ami...
24.2 acres 193 mi

Chem_Formu

NO Aminopyralid, Chlorsulfuron,
Imazapyr, Dyn-Amic

Applicatio

Back-pack / ULV only within
45ft(14m) of seacliff buckwheat

Seasonal_C

No chemical treatment 1 May - 30
September

Seasonal_M

No manual treatment 1 June - 30
September

GlobalID

Edit

Copy

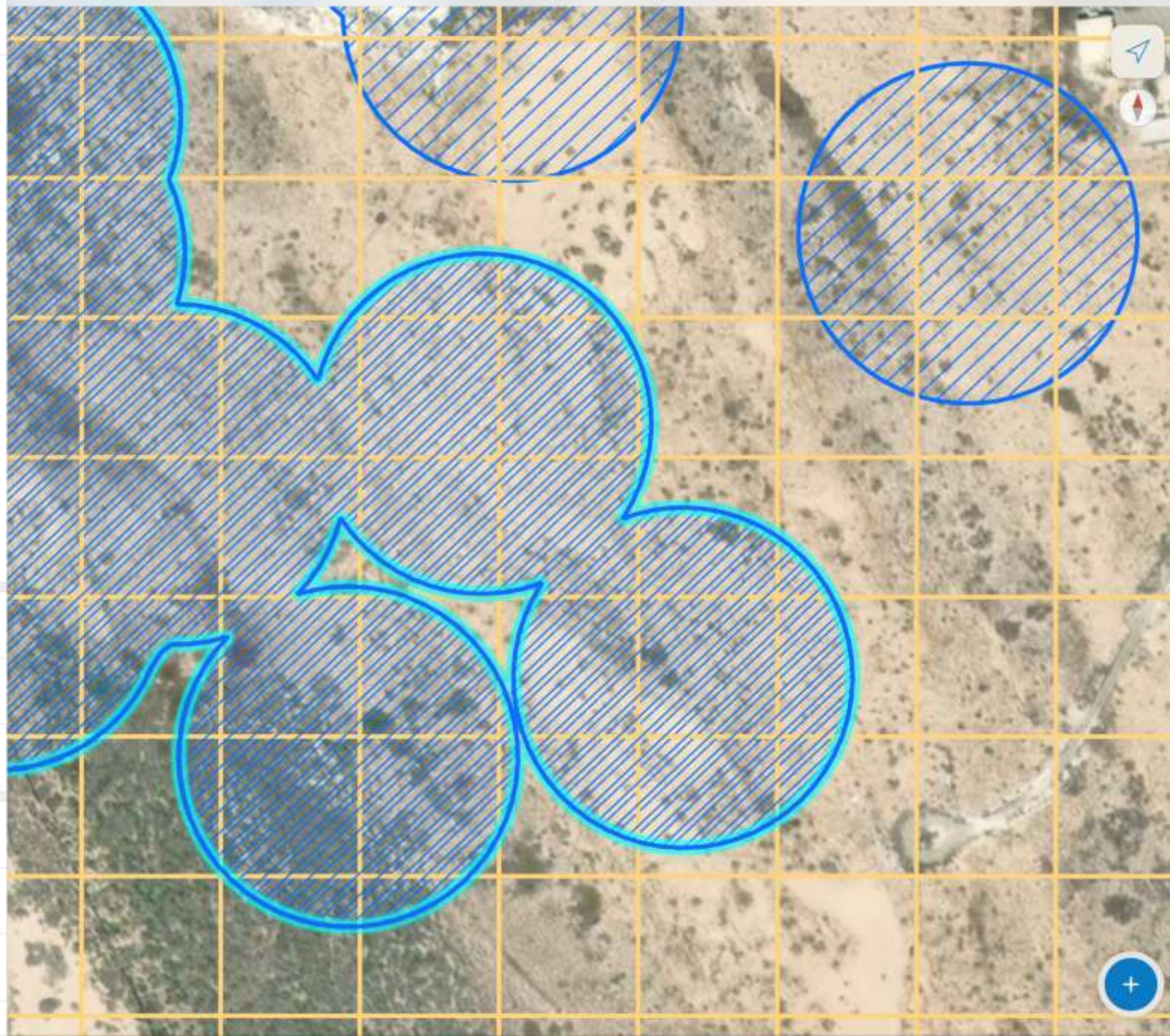
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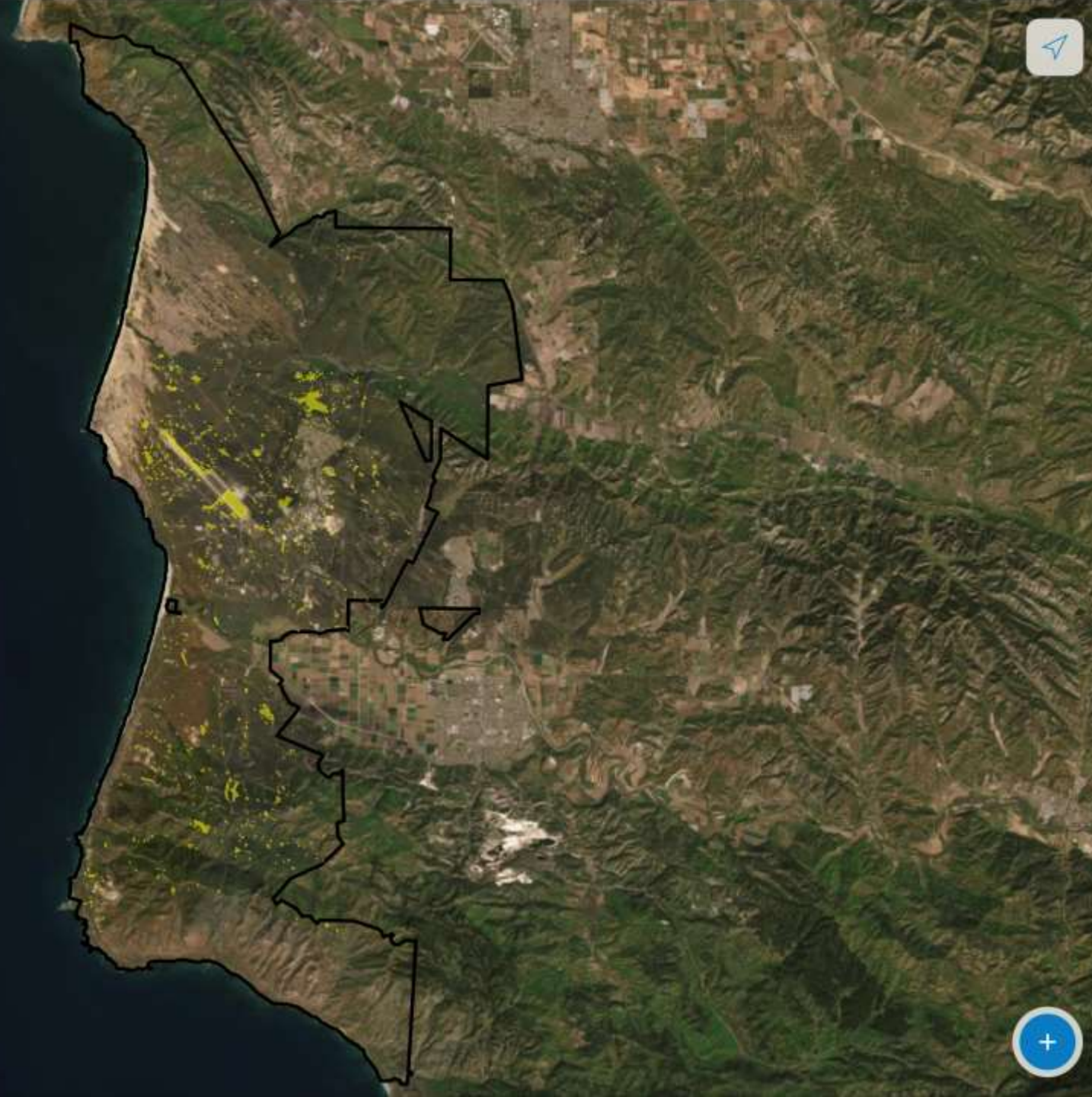
Compass

Add to My Places

GPS accuracy 32.8 ft · required 30 ft



JubataVAFB_Targets2019



JubataVAFB_Targets2019

JUBATAVAFB_TARGETS2019 -
JUBATAVAFB_TREATMENTZONES2019

1

2

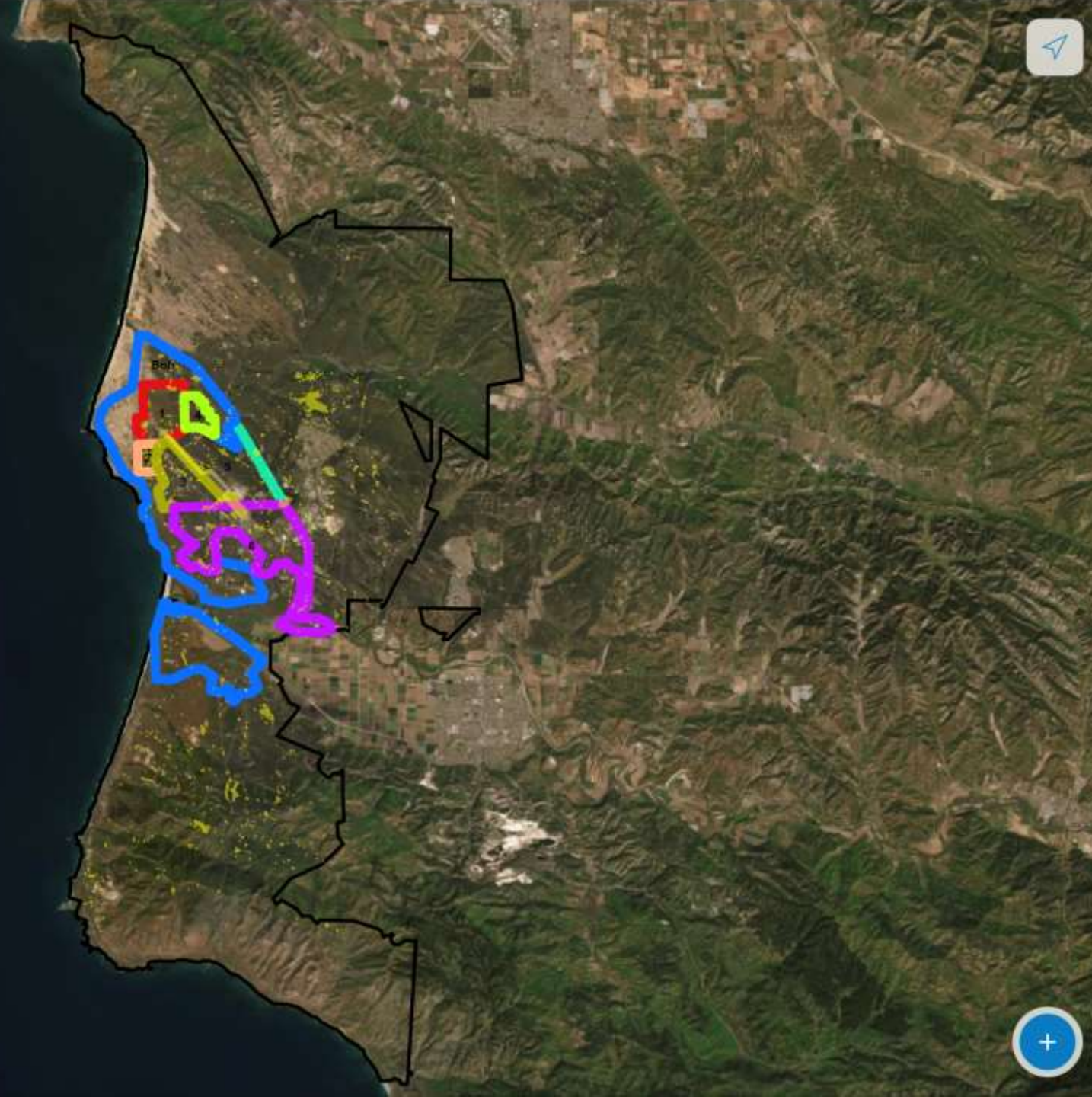
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Bob



JubataVAFB_Targets2019

JUBATAVAFB_TARGETS2019 -
JUBATAVAFB_TREATMENTZONES2019

1

2

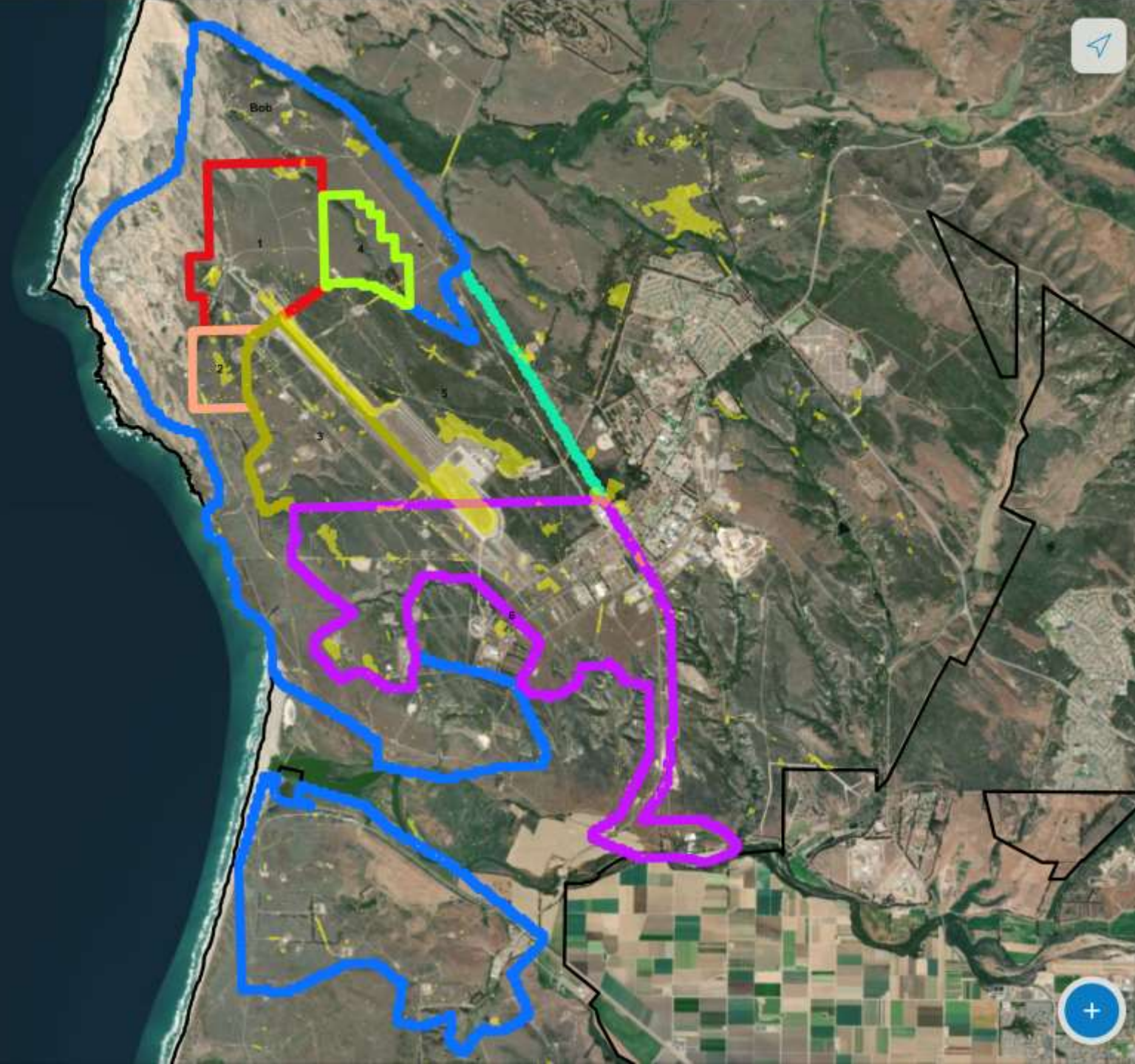
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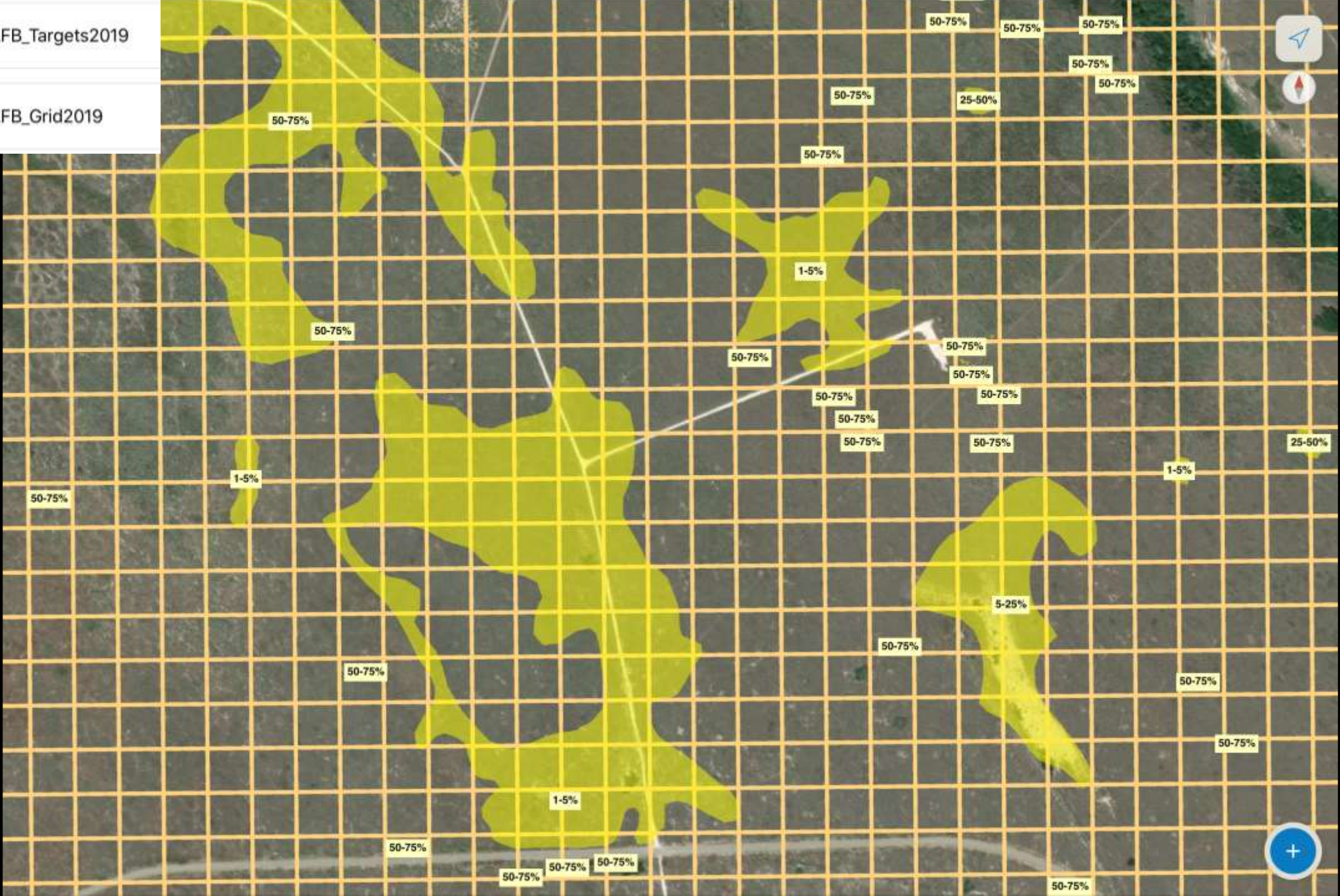
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Bob



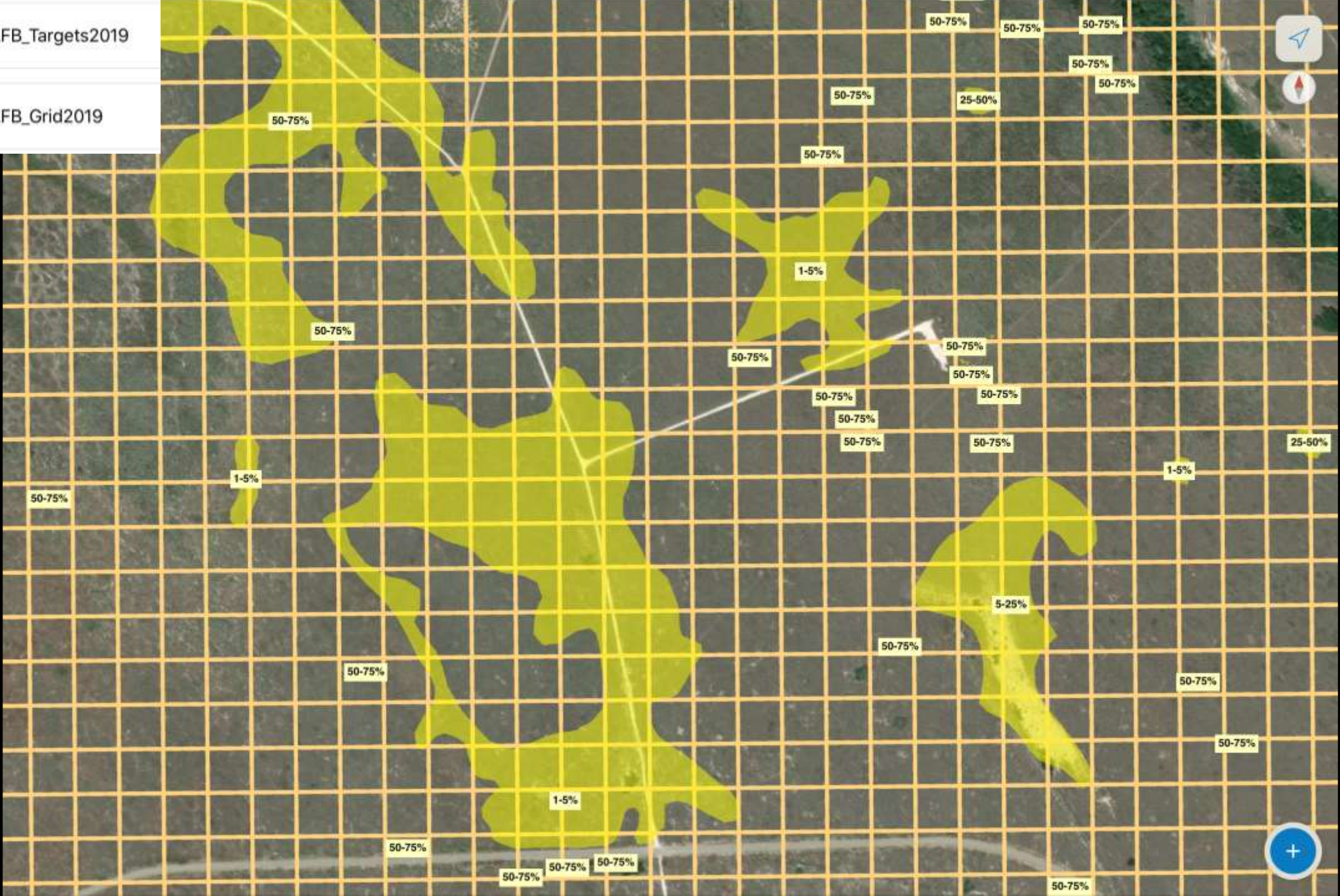
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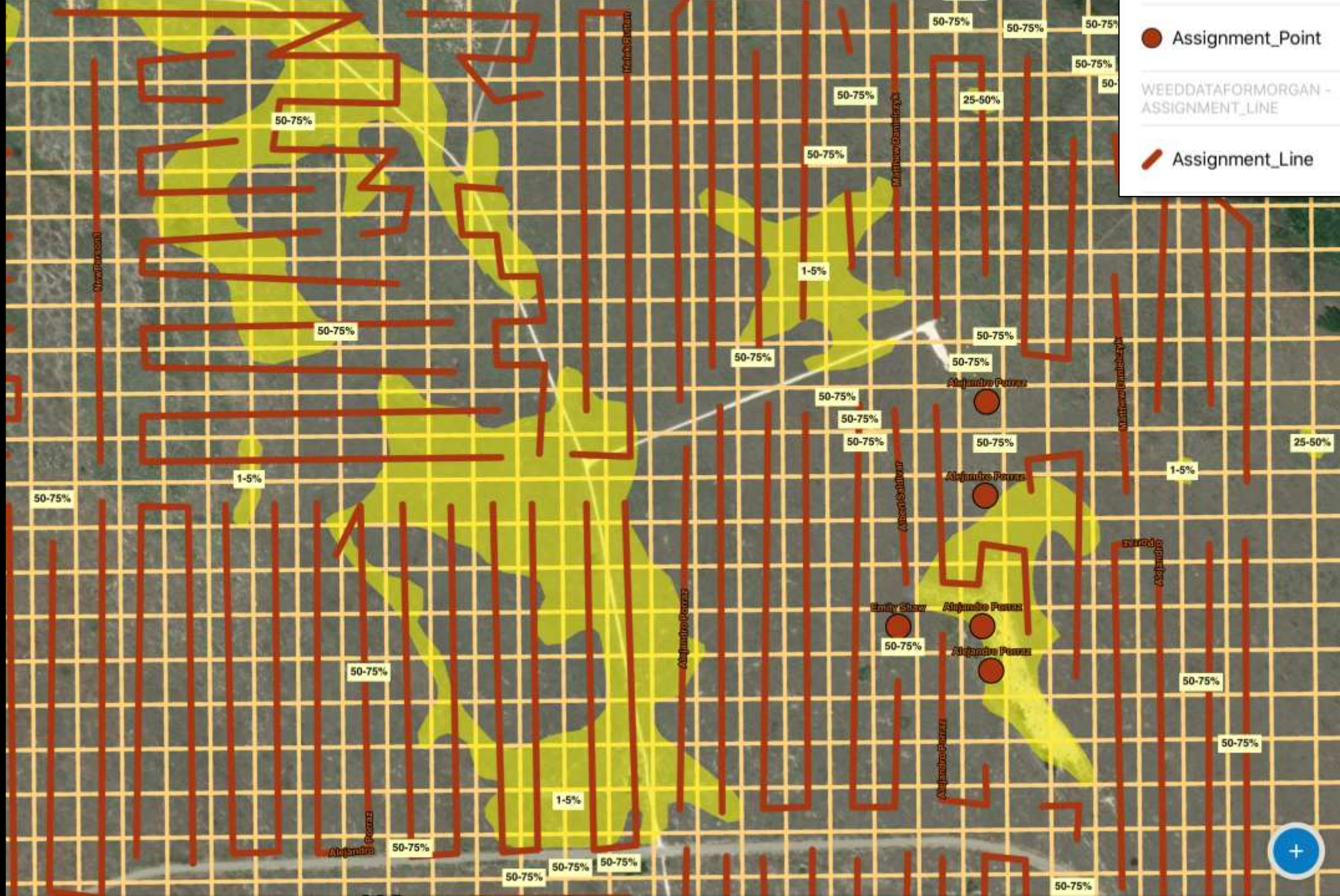
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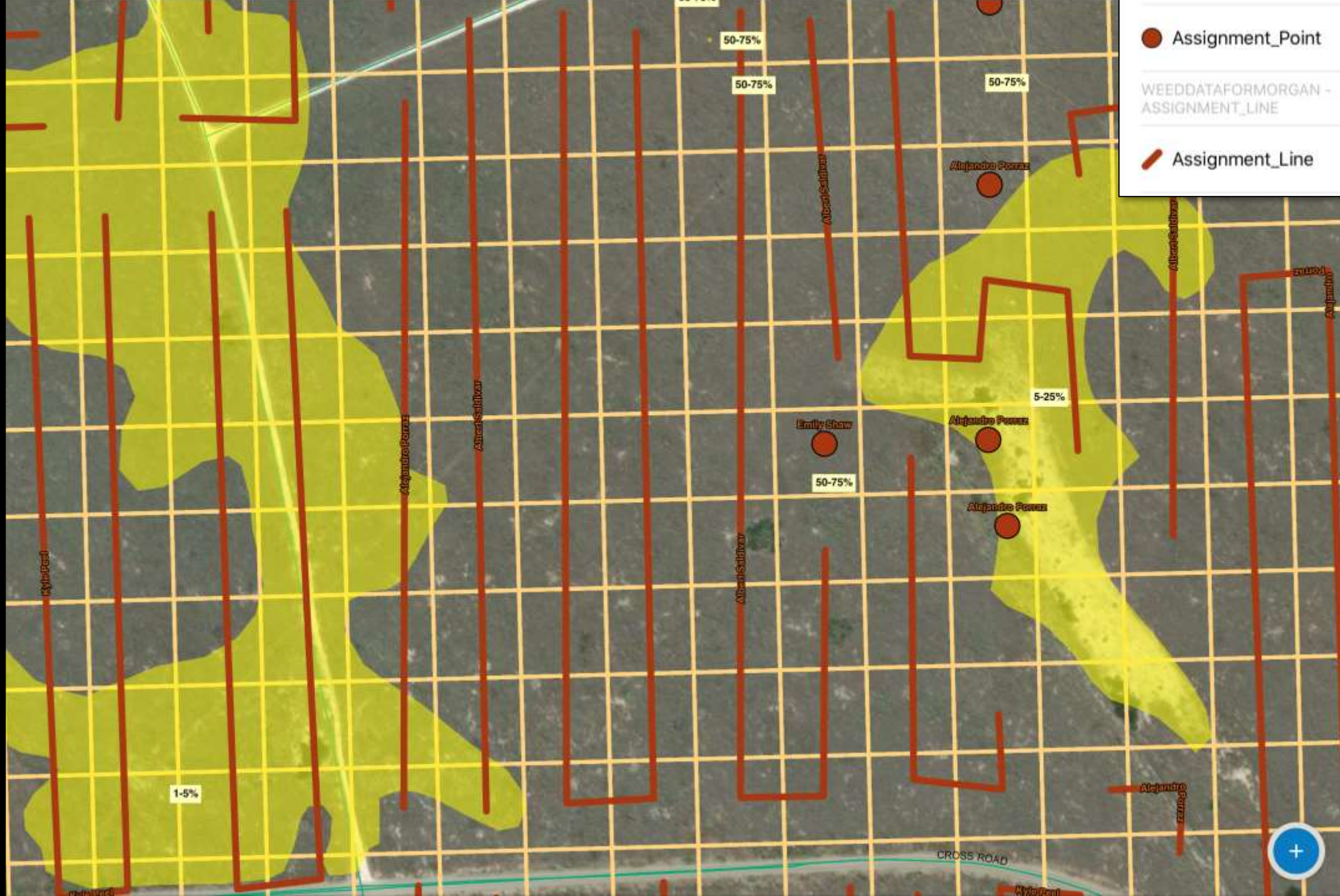


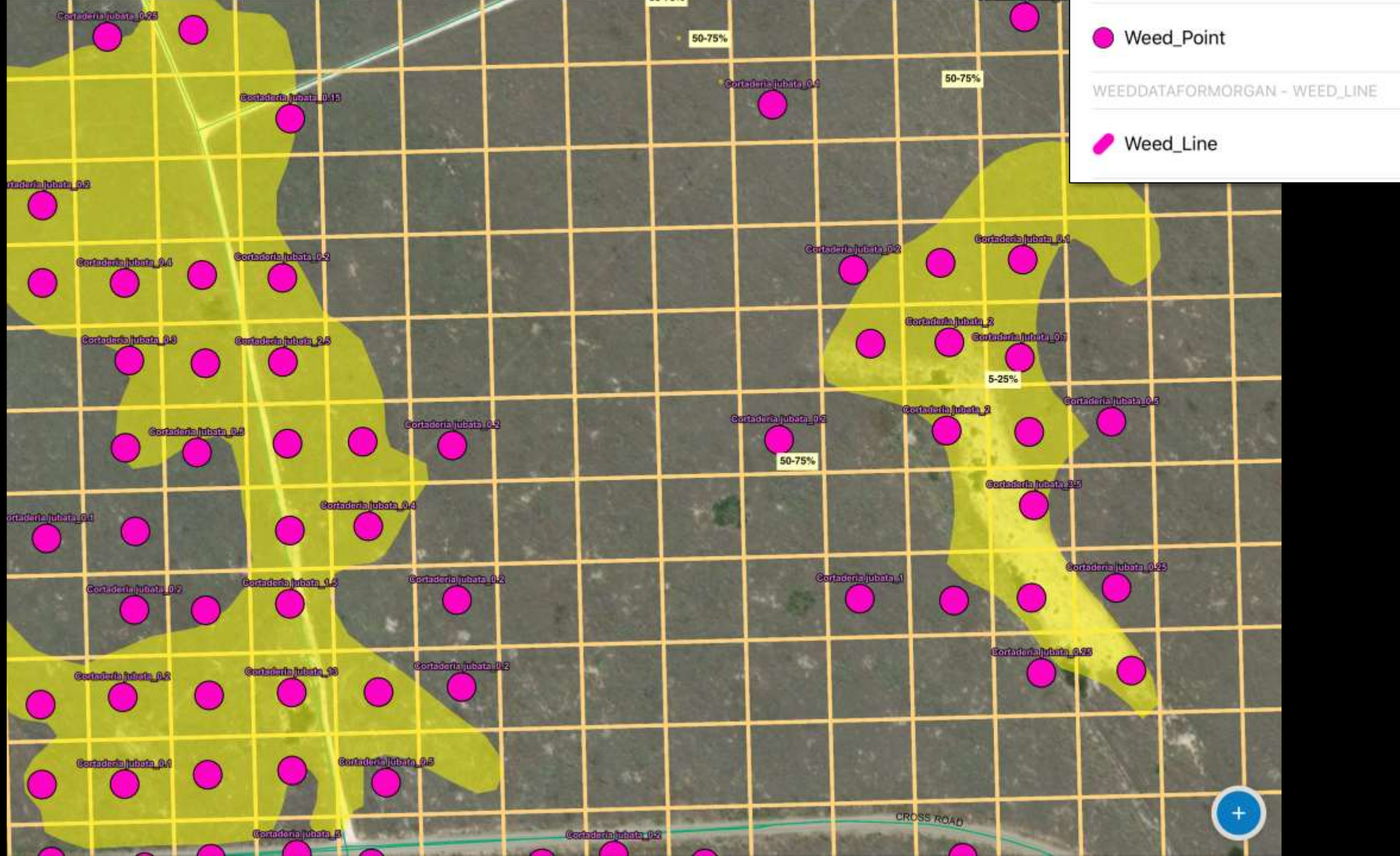
JubataVAFB_Targets2019

JubataVAFB_Grid2019









Front End Data

project
contract_Number
treatment_Date
applicator
weed_Target
weed_Target_Other
number_Individuals
percent_Target
treatment_Mode
formulation_Code
formulation_Other
finished_Gallons
finished_Ounces
retreat
percent_Dead_Integer
percent_Dead_Decimal
treatment_Note
asso_Species_1
asso_Species_2
asso_Species_3
asso_Species_4
asso_Species_5

Back End Data

scientific_Name

common_Name

chemical_1

chemical_1_Trade

chem_1_EPA

chem_1_WetRate

chem_1_DryRate

chem_1_Gallons

chem_1_Gallons

chem_1_Density

chem_1_Ounces

chem_1_Pounds

chem_2

chemical_2_Trade

chem_2_EPA

chem_2_WetRate

chem_2_DryRate

chem_2_Gallons

chem_2_Density

chem_2_Ounces

chem_2_Pounds

adjuvant_1_Trade

adjuvant_1_EPA

adjuvant_1_Rate

adjuvant_2_Trade

adjuvant_2_EPA

adjuvant_2_Rate

net_Acres

gross_Acres

note



Weed_Point:

34.757601°N 120.599353°W



Update Point

Survey Date

10/17/2019, 12:01 AM

Number of Individuals

0.00

Project *

Jubata - Ground



Project Other

Target Species *

Cortaderia jubata



Target Species Not On Domain List



Application Mode *

Foliar Herbicide - Backpack



Formulation Code *

Glyphosate 1 (Rodeo 1.5%) Agri-Dex 1%_WetSafe



Additional Formulation

Finished Gallons Applied *

1.70

Percent of Target Species Cover *

5% (11m x 11m)



Retreat Status *

Yes



Percent Dead Integer (Enter <1% as '111') *

95

GPS accuracy 32.8 ft - required 30 ft



Treatment Matrix

Invasive Species Name	Guild	Treatment Scenario	Life Stage	Post-Emergent / Non-persistent Herbicide		Pre-Emergent / Persistent Herbicide*		Non-Herbicide Method
				Treatment Method	Herbicide Formulation	Treatment Method	Herbicide Formulation	
<i>Acacia spp.</i> <i>Acacia species</i>	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	-
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	-
<i>Agave americana</i> Century plant	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	Rope Wick/Sponge	Imazapyr 2CS	-
<i>Cortaderia selloana</i> Pampas grass	Grass - Perennial	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1	Foliar Herbicide	Glyphosate/Imazapyr 1	Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Delosperma cooperi</i> Trailing iceplant	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
<i>Delosperma spp.</i> Iceplant species	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
<i>Eriogonum cinereum</i> coastal buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum fasciculatum</i> California buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum giganteum</i> St. Catherine's lace	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum giganteum x cinereum</i> St. Catherine's lace hybrid	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Euphorbia alluaudii</i> Cat's tail euphorbia	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig & Bag
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig & Bag
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Hypericum sp.</i> St. John's wort species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2	Foliar Herbicide	Aminopyralid 1 or Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature shrubs	Girdle & Paint or Cut Stump & Paint	Glyphosate 2	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G	Foliar Herbicide	Aminopyralid 1G or Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature shrubs	Foliar Herbicide	Glyphosate 2G	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		ESBB Avoidance	all life stages	Cut Stump & Paint	Glyphosate 5CS	Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
			all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
<i>Malephora crocea</i> Red iceplant	Succulent	Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo	Glyphosate 3M	-	-	-
			all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Melinis repens</i> Natal grass	Perennial grass	Standard Treatment	all life stages	Foliar Herbicide	Clethodim 1 or Clethodim 1 or Glyphosate 1	Foliar Herbicide	Dithiopyr 1 or Dithiopyr 2 or Glyphosate/Imazapyr 1	Pull/Dig & Bag or Dig & Flip or Hoe
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Clethodim 1G or Clethodim 1G or Glyphosate 1G	Foliar Herbicide	Dithiopyr 1G or Dithiopyr 2G or Glyphosate/Imazapyr 1G	Pull/Dig & Bag or Dig & Flip or Hoe
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-

Treatment Matrix

Invasive Species Name	Guild	Treatment Scenario	Life Stage	Post-Emergent / Non-persistent Herbicide		Pre-Emergent / Persistent Herbicide*		Non-Herbicide Method
				Treatment Method	Herbicide Formulation	Treatment Method	Herbicide Formulation	
<i>Acacia</i> spp. <i>Acacia</i> species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	-
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	-
<i>Agave americana</i> Century plant	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Dig & Flip
<i>Cortaderia selloana</i> Pampas grass	Grass - Perennial	ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	Rope Wick/Sponge	Imazapyr 2CS	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1	Foliar Herbicide	Glyphosate/Imazapyr 1	Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Dig & Flip
<i>Delosperma cooperi</i> Trailing iceplant	Succulent	ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
<i>Delosperma</i> spp. Iceplant species	Succulent	ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
<i>Eriogonum cinereum</i> coastal buckwheat	Shrub	ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
<i>Eriogonum fasciculatum</i> California buckwheat	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
<i>Eriogonum giganteum</i> St. Catherine's lace	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
<i>Eriogonum giganteum</i> x <i>cinereum</i> St. Catherine's lace hybrid	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
<i>Euphorbia alluaudii</i> Cat's tail euphorbia	Shrub	ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig & Bag
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig & Bag
<i>Hypericum</i> sp. St. John's wort species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2	Foliar Herbicide	Aminopyralid 1 or Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature shrubs	Girdle & Paint or Cut Stump & Paint	Glyphosate 2	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G	Foliar Herbicide	Aminopyralid 1G or Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature shrubs	Foliar Herbicide	Glyphosate 2G	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		ESBB Avoidance	all life stages	Cut Stump & Paint	Glyphosate 5CS	Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
			all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
<i>Malephora crocea</i> Red iceplant	Succulent	ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
<i>Melinis repens</i> Natal grass	Perennial grass	ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
		Standard Treatment	all life stages	Foliar Herbicide	Clethodim 1 or Clethodim 1 or Glyphosate 1	Foliar Herbicide	Dithiopyr 1 or Dithiopyr 2 or Glyphosate/Imazapyr 1	Pull/Dig & Bag or Dig & Flip or Hoe
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Clethodim 1G or Clethodim 1G or Glyphosate 1G	Foliar Herbicide	Dithiopyr 1G or Dithiopyr 2G or Glyphosate/Imazapyr 1G	Pull/Dig & Bag or Dig & Flip or Hoe

Treatment Matrix

Invasive Species Name	Guild	Treatment Scenario	Life Stage	Post-Emergent / Non-persistent Herbicide		Pre-Emergent / Persistent Herbicide*		Non-Herbicide Method
				Treatment Method	Herbicide Formulation	Treatment Method	Herbicide Formulation	
<i>Acacia</i> spp. <i>Acacia</i> species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	-
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	-
<i>Agave americana</i> Century plant	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	Rope Wick/Sponge	Imazapyr 2CS	-
<i>Cortaderia selloana</i> Pampas grass	Grass - Perennial	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1	Foliar Herbicide	Glyphosate/Imazapyr 1	Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Delosperma cooperi</i> Trailing iceplant	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
<i>Delosperma</i> spp. Iceplant species	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-
<i>Eriogonum cinereum</i> coastal buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum fasciculatum</i> California buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum giganteum</i> St. Catherine's lace	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Eriogonum giganteum</i> x <i>cinereum</i> St. Catherine's lace hybrid	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump
<i>Euphorbia alluaudii</i> Cat's tail euphorbia	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig & Bag
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig & Bag
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Hypericum</i> sp. St. John's wort species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2	Foliar Herbicide	Aminopyralid 1 or Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature shrubs	Girdle & Paint or Cut Stump & Paint	Glyphosate 2	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G	Foliar Herbicide	Aminopyralid 1G or Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature shrubs	Foliar Herbicide	Glyphosate 2G	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
		ESBB Avoidance	all life stages	Cut Stump & Paint	Glyphosate 5CS	Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump
			all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
<i>Malephora crocea</i> Red iceplant	Succulent	Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo	Glyphosate 3M	-	-	-
			all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-
<i>Melinis repens</i> Natal grass	Perennial grass	Standard Treatment	all life stages	Foliar Herbicide	Clethodim 1 or Clethodim 1 or Glyphosate 1	Foliar Herbicide	Dithiopyr 1 or Dithiopyr 2 or Glyphosate/Imazapyr 1	Pull/Dig & Bag or Dig & Flip or Hoe
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Clethodim 1G or Clethodim 1G or Glyphosate 1G	Foliar Herbicide	Dithiopyr 1G or Dithiopyr 2G or Glyphosate/Imazapyr 1G	Pull/Dig & Bag or Dig & Flip or Hoe
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-

Treatment Matrix

Invasive Species Name	Guild	Treatment Scenario	Life Stage	Post-Emergent / Non-persistent Herbicide		Pre-Emergent	Persistent Herbicide*		Non-Herbicide Method
				Treatment Method	Herbicide Formulation		Treatment Method	Herbicide Formulation	
Acacia spp. Acacia species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump	
			mature trees	-	-	-	-	Cut Stump	
			root burl regrowth	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	Glyphosate/Imazapyr 1	-	
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump	
			mature trees	-	-	-	-	Cut Stump	
			root burl regrowth	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	Glyphosate/Imazapyr 1G	-	
Agave americana Century plant	Shrub	ESBB Avoidance	all life stages	-	-	-	-	Cut Stump	
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Dig & Flip	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Dig & Flip	
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	Rope Wick/Sponge	Imazapyr 2CS	-	
Cortaderia selloana Pampas grass	Grass - Perennial	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1	Foliar Herbicide	Glyphosate/Imazapyr 1	Dig & Flip	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Dig & Flip	
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-	
Delosperma cooperi Trailing iceplant	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize	
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	
Delosperma spp. Iceplant species	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize	
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	
Eriogonum cinereum coastal buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump	
Eriogonum fasciculatum California buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump	
Eriogonum giganteum St. Catherine's lace	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump	
Eriogonum giganteum x cinereum St. Catherine's lace hybrid	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Pull/Dig or Cut Stump	
		ESBB Avoidance	all life stages	-	-	-	-	Cut Stump	
Euphorbia alluaudii Cat's tail euphorbia	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig & Bag	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig & Bag	
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-	
Hypericum sp. St. John's wort species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2	Foliar Herbicide	Aminopyralid 1 or Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump	
			mature shrubs	Girdle & Paint or Cut Stump & Paint	Glyphosate 2	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump	
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G	Foliar Herbicide	Aminopyralid 1G or Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump	
			mature shrubs	Foliar Herbicide	Glyphosate 2G	Girdle & Paint or Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump	
		ESBB Avoidance	all life stages	Cut Stump & Paint	Glyphosate 5CS	Cut Stump & Paint	Imazapyr 2CS	Girdle or Cut Stump	
Malephora crocea Red iceplant	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	Glyphosate/Imazapyr 1	Pull/Dig or Solarize	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize	
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	
Melinis repens Natal grass	Perennial grass	Standard Treatment	all life stages	Foliar Herbicide	Clethodim 1 or Clethodim 1G or Glyphosate 1	Foliar Herbicide	Dithiopyr 1 or Dithiopyr 2 or Glyphosate/Imazapyr 1	Pull/Dig & Bag or Dig & Flip or Hoe	
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Clethodim 1G or Clethodim 1G or Glyphosate 1G	Foliar Herbicide	Dithiopyr 1G or Dithiopyr 2G or Glyphosate/Imazapyr 1G	Pull/Dig & Bag or Dig & Flip or Hoe	
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	



Weed_Point:

34.757601°N 120.599353°W

...

Update Point

Survey Date

12/29/1899, 4:00 PM

Number of Individuals

0.00

Project *

Jubata - Ground



Project Other

Target Species *

Cortaderia jubata



Target Species Not On Domain List >

Application Mode *



Formulation Code *



Additional Formulation

Finished Gallons Applied *

0.00

Percent of Target Species Cover *



Retreat Status *



Percent Dead Integer (Enter <1% as '111') *

0

GPS accuracy 32.8 ft · required 30 ft

Filter

Cancel

No Value



Foliar Herbicide - Backpack

Foliar Herbicide - ATV Skid

Foliar Herbicide - Truck Skid

Foliar Herbicide - Boom

Foliar Herbicide - Mankar

Foliar Herbicide - Mankar Halo

Foliar Herbicide - Rope Wick/Sponge

Manual & Herbicide - Cut Stump & Paint

Manual & Herbicide - Girdle & Paint

Treatment Matrix

Invasive Species Name	Guild	Treatment Scenario	Life Stage	Post-Emergent / Non-persistent Herbicide		Pre-Emergent	Persistent Herbicide*		Non-Herbicide
				Treatment Method	Herbicide Formulation		Treatment Method	Herbicide Formulation	
<i>Acacia</i> spp. <i>Acacia</i> species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	Glyphosate/Imazapyr 1	-
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature trees	-	-	-	-	-	Cut Stump
			root burl regrowth	Foliar Herbicide	Glyphosate 2G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	-
<i>Agave americana</i> Century plant	Shrub	ESBB Avoidance	all life stages	-	-	-	-	-	Cut Stump
		Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig or Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig or Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	Rope Wick/Sponge	-	Imazapyr 2CS	-
<i>Cortaderia selloana</i> Pampas grass	Grass - Perennial	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Dig & Flip
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Dig & Flip
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-	-
<i>Delosperma cooperi</i> Trailing iceplant	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	-
<i>Delosperma</i> spp. Iceplant species	Succulent	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	-
<i>Eriogonum cinereum</i> coastal buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	-	Cut Stump
<i>Eriogonum fasciculatum</i> California buckwheat	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	-	Cut Stump
<i>Eriogonum giganteum</i> St. Catherine's lace	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	-	Cut Stump
<i>Eriogonum giganteum</i> x <i>cinereum</i> St. Catherine's lace hybrid	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Triclopyr 2 or Triclopyr choline 3	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Triclopyr 2G or Triclopyr choline 3G	Foliar Herbicide	-	-	Pull/Dig or Cut Stump
		ESBB Avoidance	all life stages	-	-	-	-	-	Cut Stump
<i>Euphorbia alluaudii</i> Cat's tail euphorbia	Shrub	Standard Treatment	all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig & Bag
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig & Bag
		ESBB Avoidance	all life stages	Rope Wick/Sponge	Glyphosate 4W	-	-	-	-
<i>Hypericum</i> sp. St. John's wort species	Shrub	Standard Treatment	seedlings and saplings	Foliar Herbicide	Glyphosate 2	Foliar Herbicide	-	Aminopyralid 1 or Glyphosate/Imazapyr 1	Pull/Dig or Cut Stump
			mature shrubs	Girdle & Paint or Cut Stump & Paint	Glyphosate 2	Girdle & Paint or Cut Stump & Paint	-	Imazapyr 2CS	Girdle or Cut Stump
		Windy Conditions Near Natives	seedlings and saplings	Foliar Herbicide	Glyphosate 2G	Foliar Herbicide	-	Aminopyralid 1G or Glyphosate/Imazapyr 1G	Pull/Dig or Cut Stump
			mature shrubs	Foliar Herbicide	Glyphosate 2G	Girdle & Paint or Cut Stump & Paint	-	Imazapyr 2CS	Girdle or Cut Stump
		ESBB Avoidance	all life stages	Cut Stump & Paint	Glyphosate 5CS	Cut Stump & Paint	-	Imazapyr 2CS	Girdle or Cut Stump
			all life stages	Foliar Herbicide	Glyphosate 1 or Glyphosate 2	Foliar Herbicide	-	Glyphosate/Imazapyr 1	Pull/Dig or Solarize
<i>Malephora crocea</i> Red iceplant	Succulent	Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 1G or Glyphosate 2G	Foliar Herbicide	-	Glyphosate/Imazapyr 1G	Pull/Dig or Solarize
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	Glyphosate 3M Glyphosate 4W	-	-	-	-
			all life stages	Foliar Herbicide	Clethodim 1 or Clethodim 1 or Glyphosate 1	Foliar Herbicide	-	Dithiopyr 1 or Dithiopyr 2 or Glyphosate/Imazapyr 1	Pull/Dig & Bag or Dig & Flip or Hoe
<i>Melinis repens</i> Natal grass	Perennial grass	Standard Treatment	all life stages	Foliar Herbicide	Clethodim 1G or Clethodim 1G or Glyphosate 1G	Foliar Herbicide	-	Dithiopyr 1G or Dithiopyr 2G or Glyphosate/Imazapyr 1G	Pull/Dig & Bag or Dig & Flip or Hoe
		Windy Conditions Near Natives	all life stages	Foliar Herbicide	Glyphosate 3M Glyphosate 4W	-	-	-	-
		ESBB Avoidance	all life stages	Mankar Halo Rope Wick/Sponge	-	-	-	-	-

Formulation Code	Herbicide			Surfactant		Treatment Considerations			Herbicide Tool Kit								
	Active Ingredient	Trade Name(s)	Herbicide Rate	Surfactant Name	Surfactant Rate	Selectivity	Emergence/ Persistence	Approved for Aquatic Use									
Foliar Herbicide Application									Glyphosate/ Imazapyr 1G	Glyphosate/ Imazapyr	Roundup Custom™/ Polaris®	1.5%/1%	Agri-Dex & Grounded-W	1% & 1%	Non-specific Broad-spectrum	pre- and post-emergent / persistent	No
Aminopyralid 1	Aminopyralid	Milestone	7oz/ac	Agri-Dex	1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Imazapyr 1	Imazapyr	Polaris® or Habitat®	1%	Agri-Dex	1%	Non-specific Broad-spectrum	pre- and post-emergent / persistent	Yes
Aminopyralid 1G	Aminopyralid	Milestone	7oz/ac	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Imazapyr 1G	Imazapyr	Polaris® or Habitat®	1%	Agri-Dex & Grounded-W	1% & 1%	Non-specific Broad-spectrum	pre- and post-emergent / persistent	No
Aminopyralid/ Triclopyr 1	Aminopyralid/ Triclopyr (pre-mix)	Milestone VM Plus	6.5pints/ac	Agri-Dex	1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Pendimethalin 1	Pendimethalin	Specimen Pendulum® 3.3 EC	3.6pints/ac	NA	NA	Grass-specific	pre-emergent / persistent	No
Aminopyralid/ Triclopyr 1G	Aminopyralid/ Triclopyr (pre-mix)	Milestone VM Plus	6.5pints/ac	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Pendimethalin 1G	Pendimethalin	Specimen Pendulum® 3.3 EC	4.8pints/ac	Grounded-W	1%	Grass-specific	pre-emergent / persistent	No
Chlorsulfuron 1	Chlorsulfuron	Telar®XP	2.5oz/ac	Agri-Dex	1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Triclopyr 1	Triclopyr	Garlon®4 Ultra	1%	Agri-Dex	1%	Broad-leaf specific	post-emergent / non-persistent	No
Chlorsulfuron 1G	Chlorsulfuron	Telar®XP	2.5oz/ac	Agri-Dex	1%	Broad-leaf specific	pre- and post-emergent / persistent	No	Triclopyr 1G	Triclopyr	Garlon®4 Ultra	1%	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	post-emergent / non-persistent	No
Clethodim 1	Clethodim	Arrow™2EC	33oz/ac	Agri-Dex	1%	Grass-specific	post-emergent / non-persistent	No	Triclopyr 2	Triclopyr	Garlon®4 Ultra	2%	Agri-Dex	1%	Broad-leaf specific	post-emergent / non-persistent	No
Clethodim 1G	Clethodim	Arrow™2EC	33oz/ac	Agri-Dex & Grounded-W	1% & 1%	Grass-specific	post-emergent / non-persistent	No	Triclopyr 2G	Triclopyr	Garlon®4 Ultra	2%	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	post-emergent / non-persistent	No
Clethodim 2	Clethodim	Arrow™2EC	65oz/ac	Agri-Dex	1%	Grass-specific	post-emergent / non-persistent	No	Triclopyr choline 1	Triclopyr choline	Vastlan™	12oz/ac	Agri-Dex	1%	Broad-leaf specific	post-emergent / non-persistent	Yes
Clethodim 2G	Clethodim	Arrow™2EC	65oz/ac	Agri-Dex & Grounded-W	1% & 1%	Grass-specific	post-emergent / non-persistent	No	Triclopyr choline 1G	Triclopyr choline	Vastlan™	12oz/ac	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	post-emergent / non-persistent	No
Dithiopyr 1	Dithiopyr	Dimension 2EW	1pint/ac	Agri-Dex	1%	Grass-specific	pre- and post-emergent / persistent	No	Triclopyr choline 2	Triclopyr choline	Vastlan™	44oz/ac	Agri-Dex	1%	Broad-leaf specific	post-emergent / non-persistent	Yes
Dithiopyr 1G	Dithiopyr	Dimension 2EW	1pint/ac	Agri-Dex & Grounded-W	1% & 1%	Grass-specific	pre- and post-emergent / persistent	No	Triclopyr choline 2G	Triclopyr choline	Vastlan™	44oz/ac	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	post-emergent / non-persistent	No
Dithiopyr 2	Dithiopyr	Dimension 2EW	2pint/ac	Agri-Dex	1%	Grass-specific	pre- and post-emergent / persistent	No	Triclopyr choline 3	Triclopyr choline	Vastlan™	56oz/ac	Agri-Dex	1%	Broad-leaf specific	post-emergent / persistent	Yes
Dithiopyr 2G	Dithiopyr	Dimension 2EW	2pint/ac	Agri-Dex & Grounded-W	1% & 1%	Grass-specific	pre- and post-emergent / persistent	No	Triclopyr choline 3G	Triclopyr choline	Vastlan™	56oz/ac	Agri-Dex & Grounded-W	1% & 1%	Broad-leaf specific	post-emergent / non-persistent	No
Glyphosate 1	Glyphosate	Rodeo® or Roundup Custom™	1.50%	Agri-Dex	1%	Non-specific Broad-spectrum	post-emergent / non-persistent	Yes	Mankar Herbicide Application								
Glyphosate 1G	Glyphosate	Rodeo® or Roundup Custom™	1.50%	Agri-Dex & Grounded-W	1% & 1%	Non-specific Broad-spectrum	post-emergent / non-persistent	No	Glyphosate 3M	Imazapyr	Rodeo® or Roundup Custom™	100%	Agri-Dex	33%	Non-specific Broad-spectrum	post-emergent / non-persistent	Yes
Glyphosate 2	Glyphosate	Rodeo® or Roundup Custom™	4%	Agri-Dex	1%	Non-specific Broad-spectrum	post-emergent / non-persistent	Yes	Triclopyr 2M	Triclopyr	Garlon®4 Ultra	100%	Agri-Dex	50%	Broad-leaf specific	post-emergent / non-persistent	No
Glyphosate 2G	Glyphosate	Rodeo® or Roundup Custom™	4%	Agri-Dex & Grounded-W	1% & 1%	Non-specific Broad-spectrum	post-emergent / non-persistent	No	Triclopyr choline 4M	Triclopyr	Vastlan™	100%	Agri-Dex	50%	Broad-leaf specific	post-emergent / non-persistent	No
									Girdle and Cut Stump or Wick Herbicide Application								
									Glyphosate 4W	Glyphosate	Rodeo® or Roundup Custom™	33%	Agri-Dex	33%	Non-specific Broad-spectrum	post-emergent / non-persistent	Yes
									Glyphosate 5CS	Glyphosate	Rodeo® or Roundup Custom™	50%	Agri-Dex	50%	Non-specific Broad-spectrum	post-emergent / non-persistent	Yes
									Imazapyr 2CS	Imazapyr	Polaris® or Habitat®	33%	Agri-Dex	33%	Non-specific Broad-spectrum	pre- and post-emergent / persistent	Yes



Weed_Point:

34.757601°N 120.599353°W

...

Update Point

Survey Date

12/29/1899, 4:00 PM

Number of Individuals

0.00

Project *

Jubata - Ground



Project Other

Target Species *

Cortaderia jubata



Target Species Not On Domain List



Application Mode *

Foliar Herbicide - Backpack



Formulation Code *



Additional Formulation

Finished Gallons Applied *

0.00

Percent of Target Species Cover *



Retreat Status *



Percent Dead Integer (Enter <1% as '111') *

0

GPS accuracy 32.8 ft · required 30 ft

Filter

Cancel

No Value



Glyphosate 1 (Rodeo 1.5%) Agri-Dex 1%_WetSafe

Glyphosate 1G (Rodeo 1.5%) Agri-Dex 1%Grounded-W 1%_NoWet

Glyphosate 2 (Rodeo 4%) Agri-Dex 1%_WetSafe

Glyphosate 2G (Rodeo 4%) Agri-Dex 1%Grounded-W 1%_NoWet

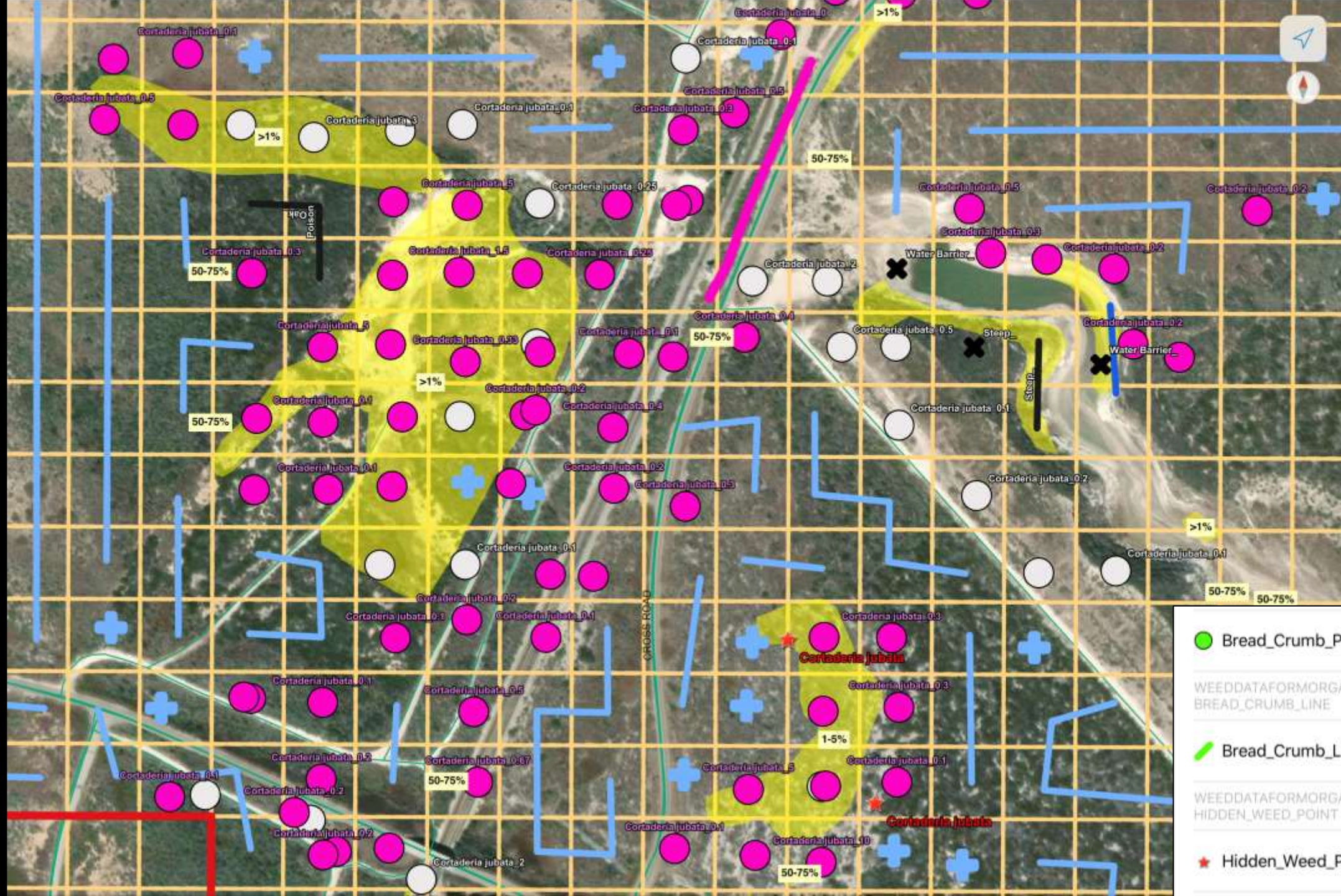
Glyphosate/Imazapyr 1 (Rodeo 1.5%/Polaris 1%) Agri-Dex 1%_WetSafe

Glyphosate/Imazapyr 1G (Rodeo 1.5%/Polaris 1%) Agri-Dex 1%Grounded-W 1%_NoWet

Aminopyralid 1 (Milestone 7oz/100gal) Agri-Dex 1%_NoWet

Aminopyralid 1G (Milestone 7oz/100gal) Agri-Dex 1%Grounded-W 1%_NoWet





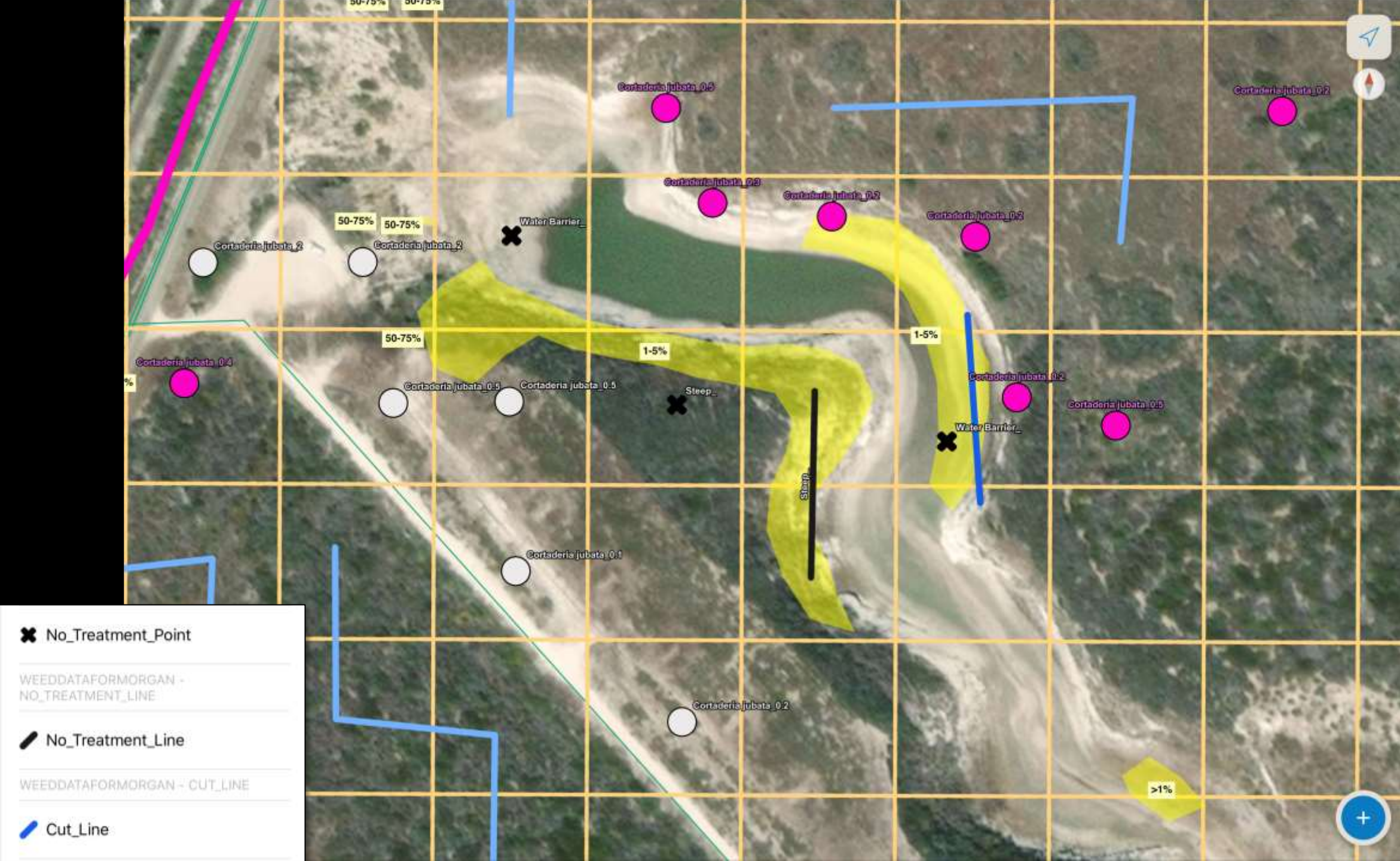
● Bread_Crumb_Point

WEEDDATAFORMORGAN -
BREAD_CRUMB_LINE

● Bread_Crumb_Line

WEEDDATAFORMORGAN -
HIDDEN_WEED_POINT

★ Hidden_Weed_Point



✖ No_Treatment_Point

WEEDDATAFORMORGAN - NO_TREATMENT_LINE

✖ No_Treatment_Line

WEEDDATAFORMORGAN - CUT_LINE

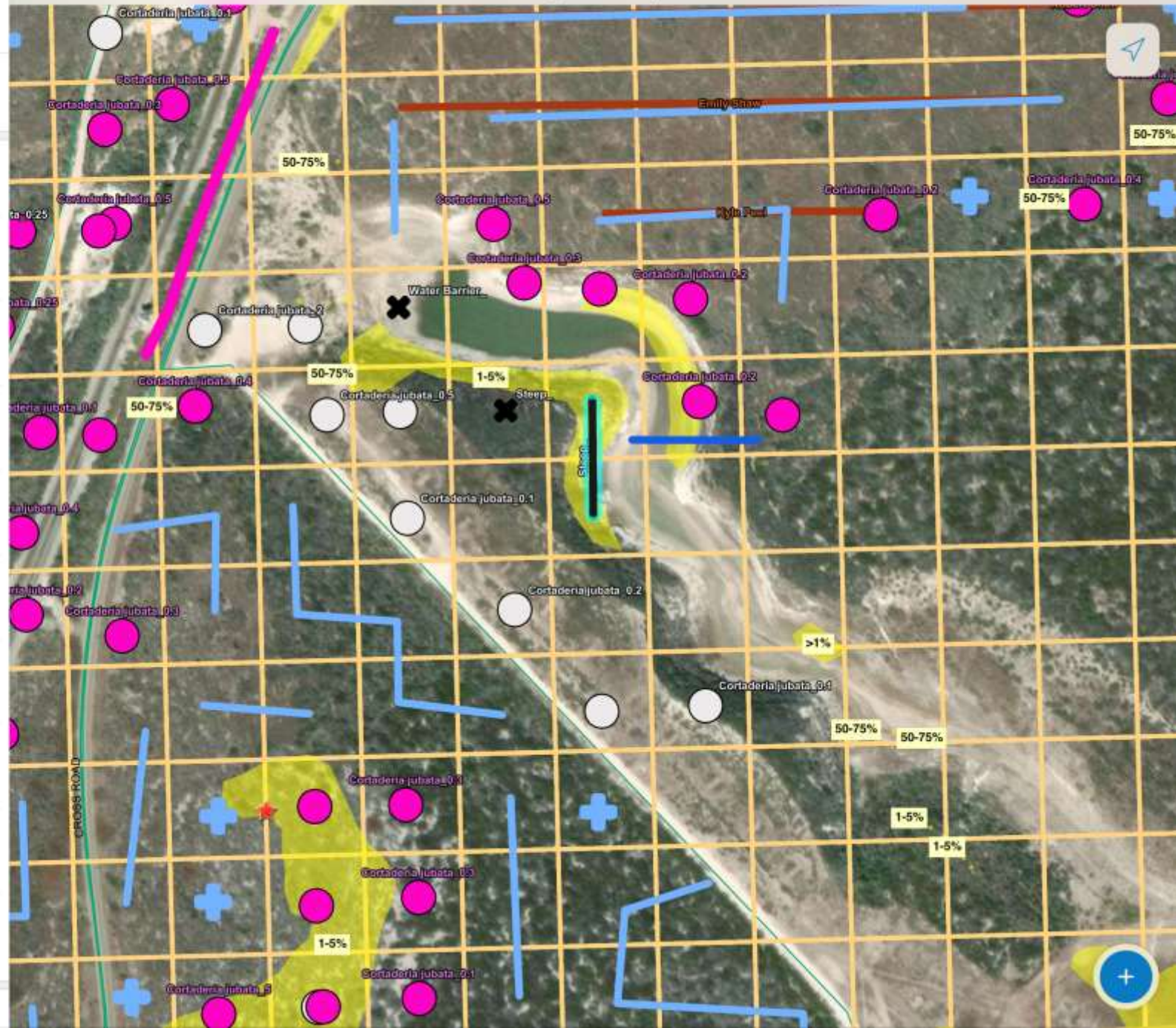
✖ Cut_Line

192 ml

1

Edit

GPS accuracy 32.8 ft · required 30 ft



Last But Not Least...

 Note

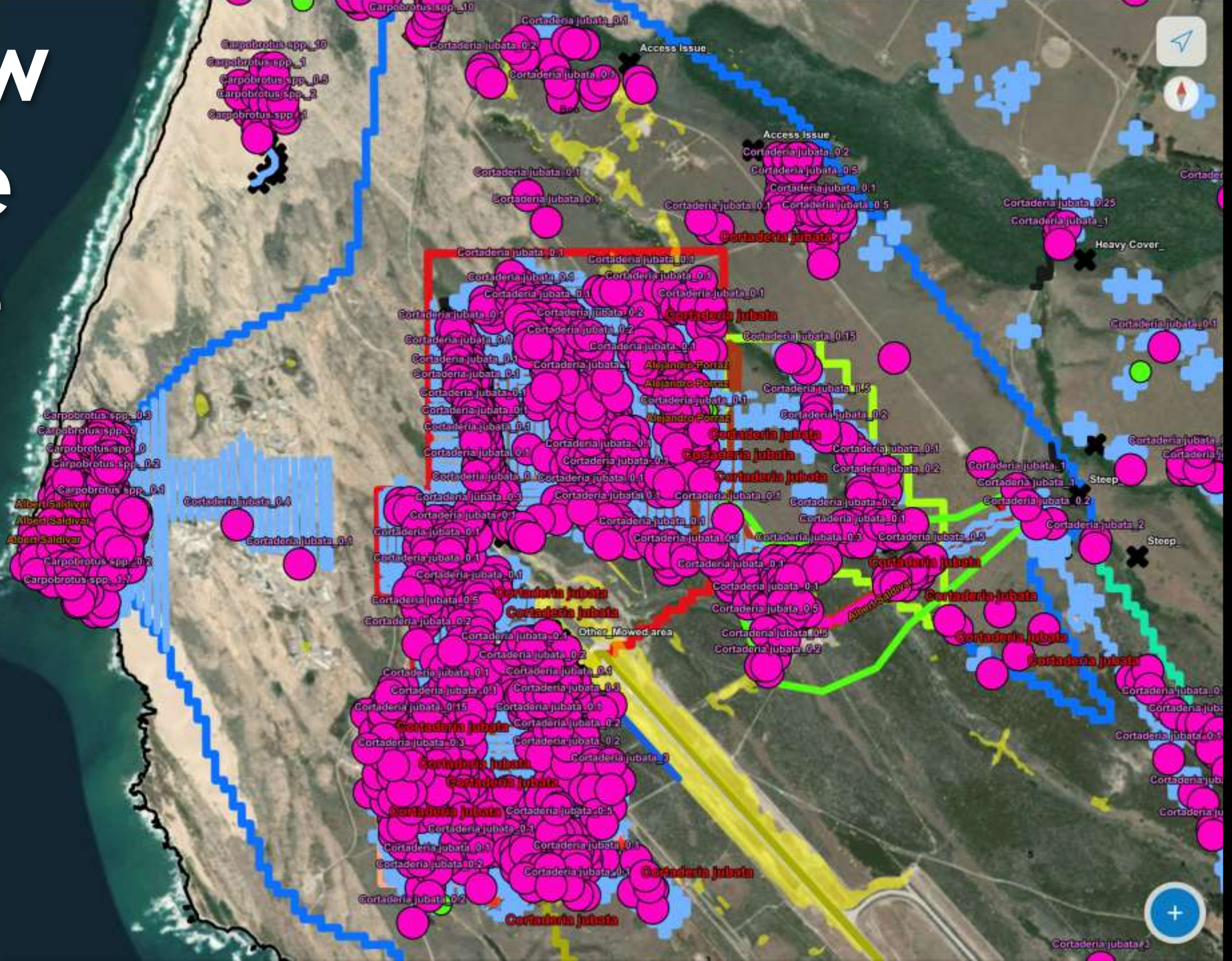
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CEIEA_ASSIGNMENT_PT

 CEIEA_Assignment_Pt

CEIEA_ASSIGNMENT -
CEIEA_ASSIGNMENT_POLY

 CEIEA_Assignment_Poly

So, how
do we
make
this



Look like this?

Russian Knapweed Treatments 2016-2019

Percent Change in Finished Gallons
Decreasing Herbicide Increasing Herbicide

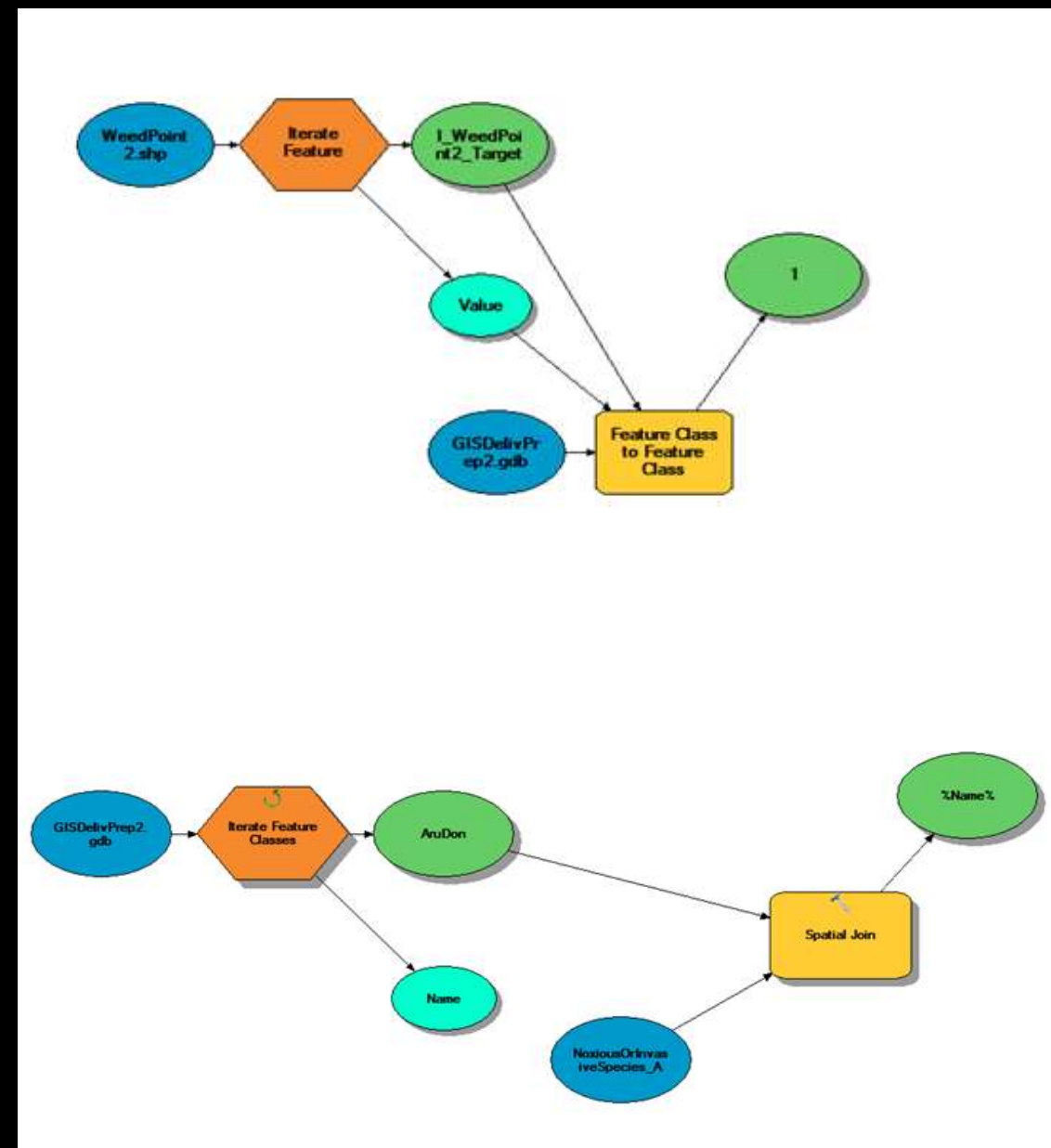
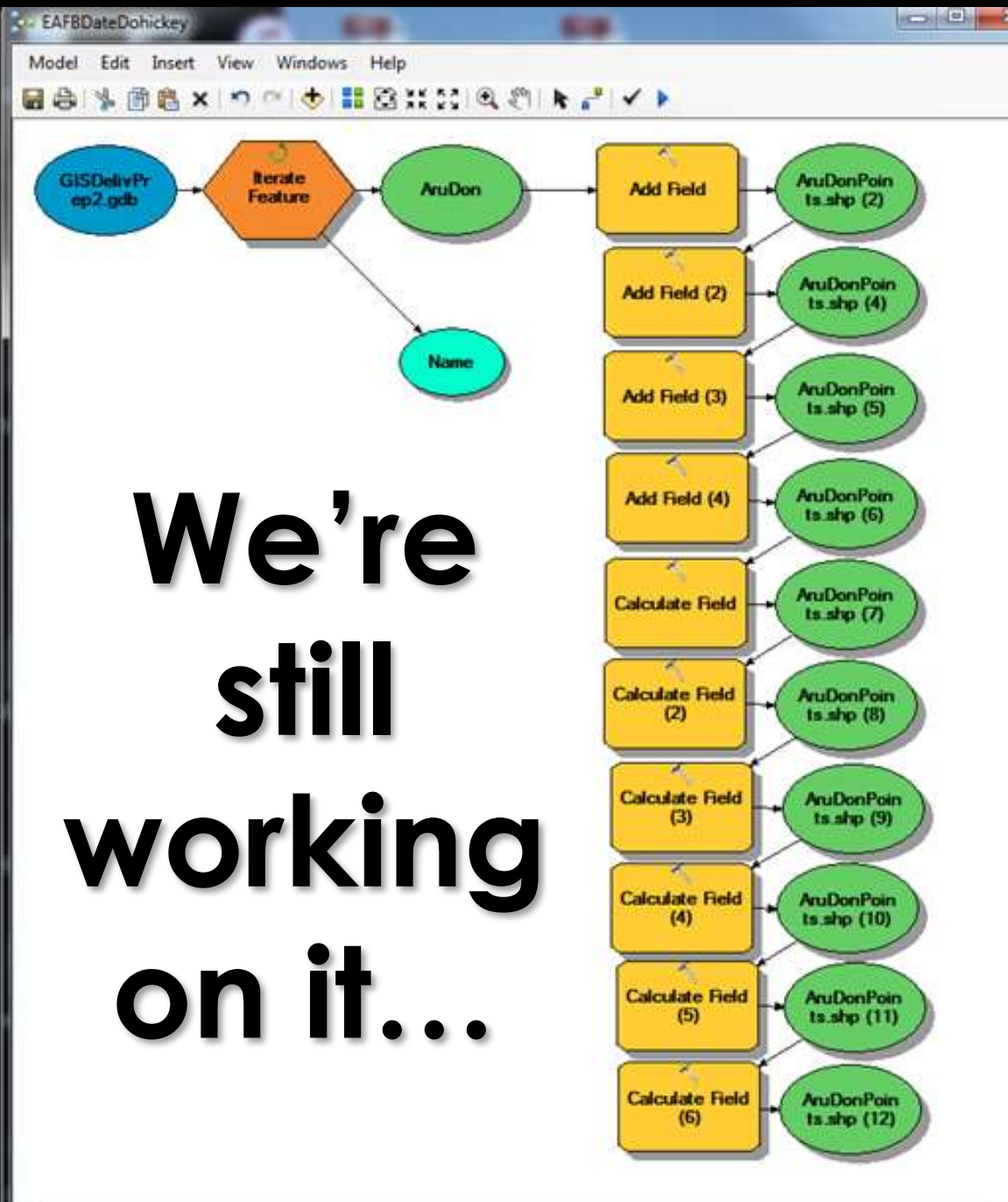
-100% -50% 0% +200% +400%

 First Treated in 2019

 Surveillance Cell



Percent Change in Finished Gallons Applied from Initial Treatment Year to 2019



ACKNOWLEDGEMENTS

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The Nature Conservancy

Giselle Block

National Wildlife Refuge System, Inventory and Monitoring Initiative

U.S. Fish and Wildlife Service, Pacific Southwest Region

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Vandenberg and Edwards AFB**