

How Tracking Treatments is Supporting Success in the Field in the FWS Southwest Region

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2019 CAL-IPC Symposium

Plenary 2: Invasive Species Management at NWRS across the Western US



What is “Success in the Field”?

- Consistent and reliable data collection
- Ease of use – both in the field and back in the office
- Easy to learn and teach
- Worth our while to learn, “has value for the field to use”
- Helps us track our management actions – both in space and in time
- Centralized data storage
- Helps us collect attribute data associated with the treatment and its geometry
- Helps us with data management, and data archiving – including metadata
- Available to all ESRI users



Where we began

- Data was stored locally
- Limited availability of data
- Refuge Lands Geographic Information System



Collector for ArcGIS

Accurate Data Collection Made Easy

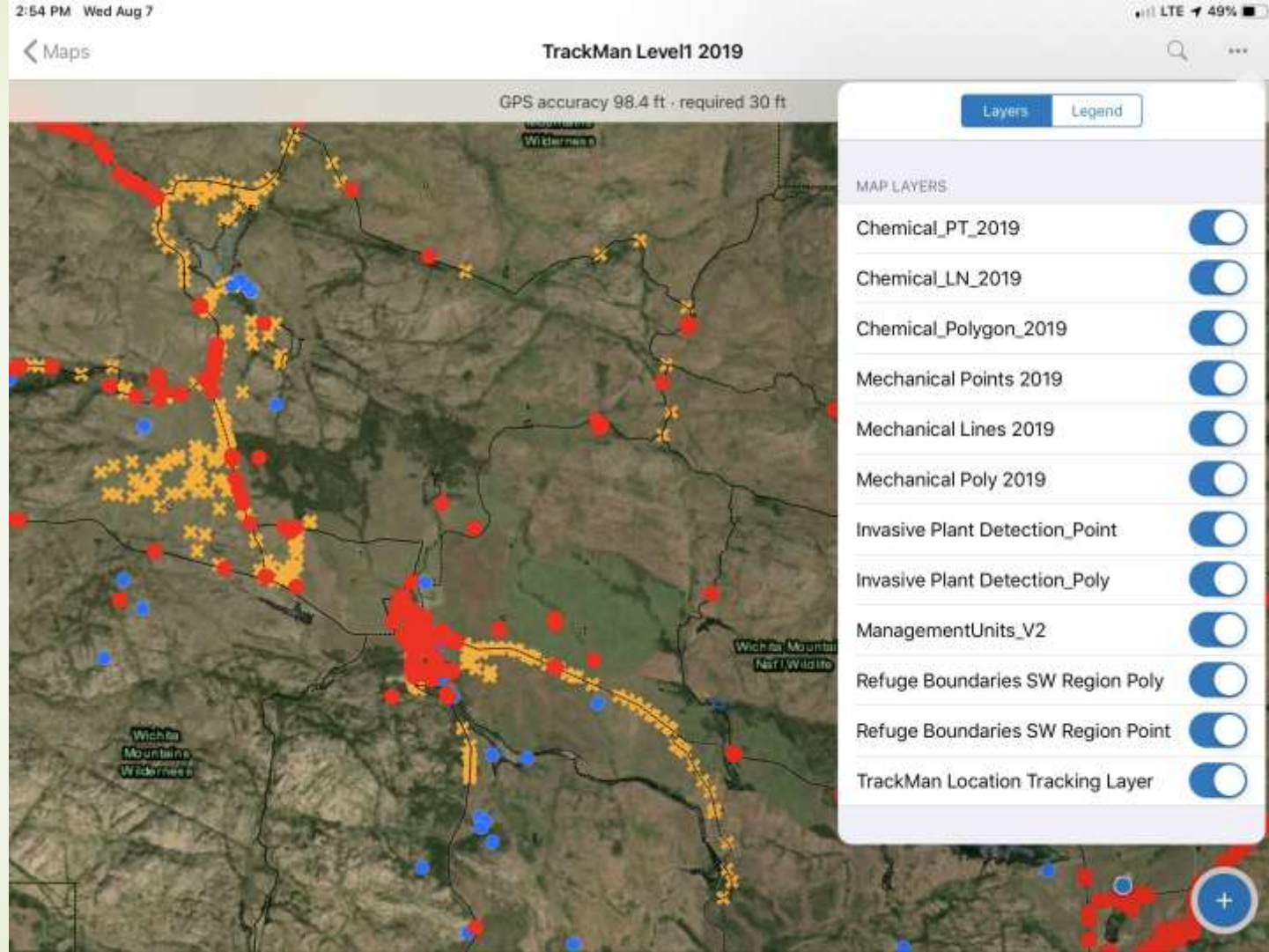
Get Started





Collector

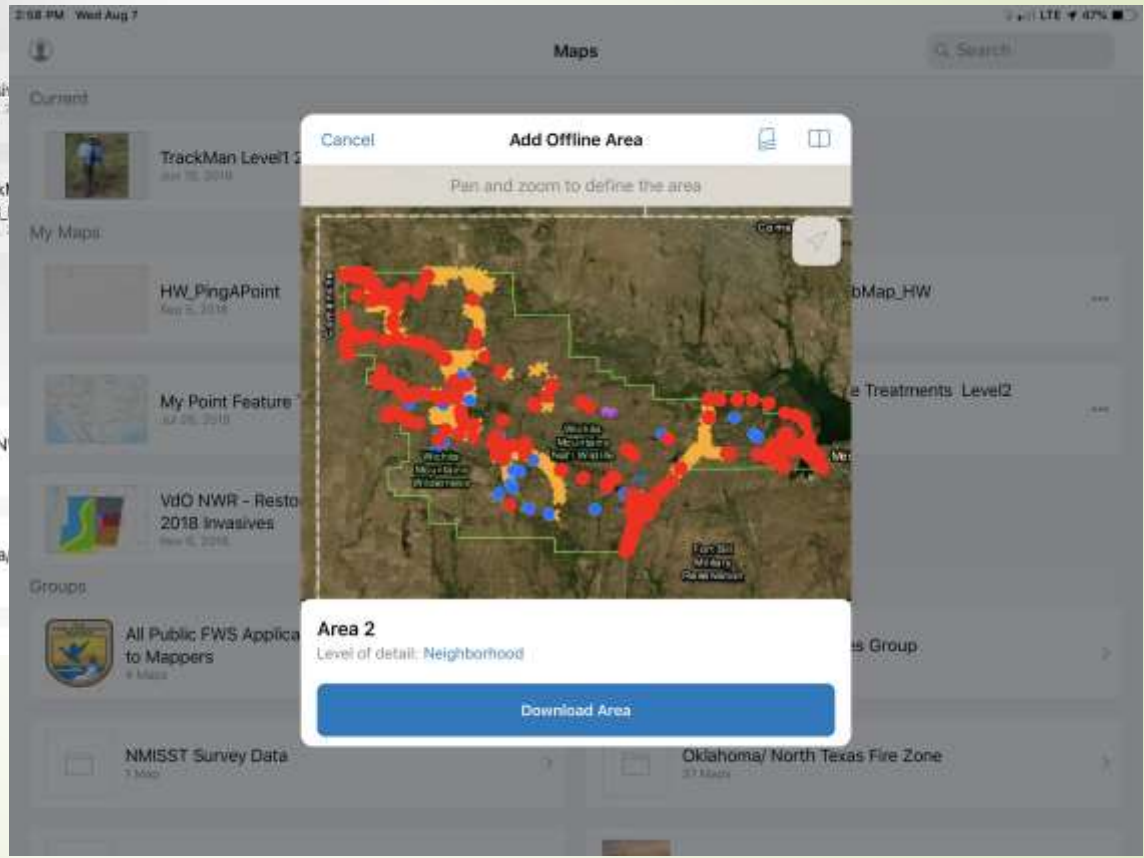
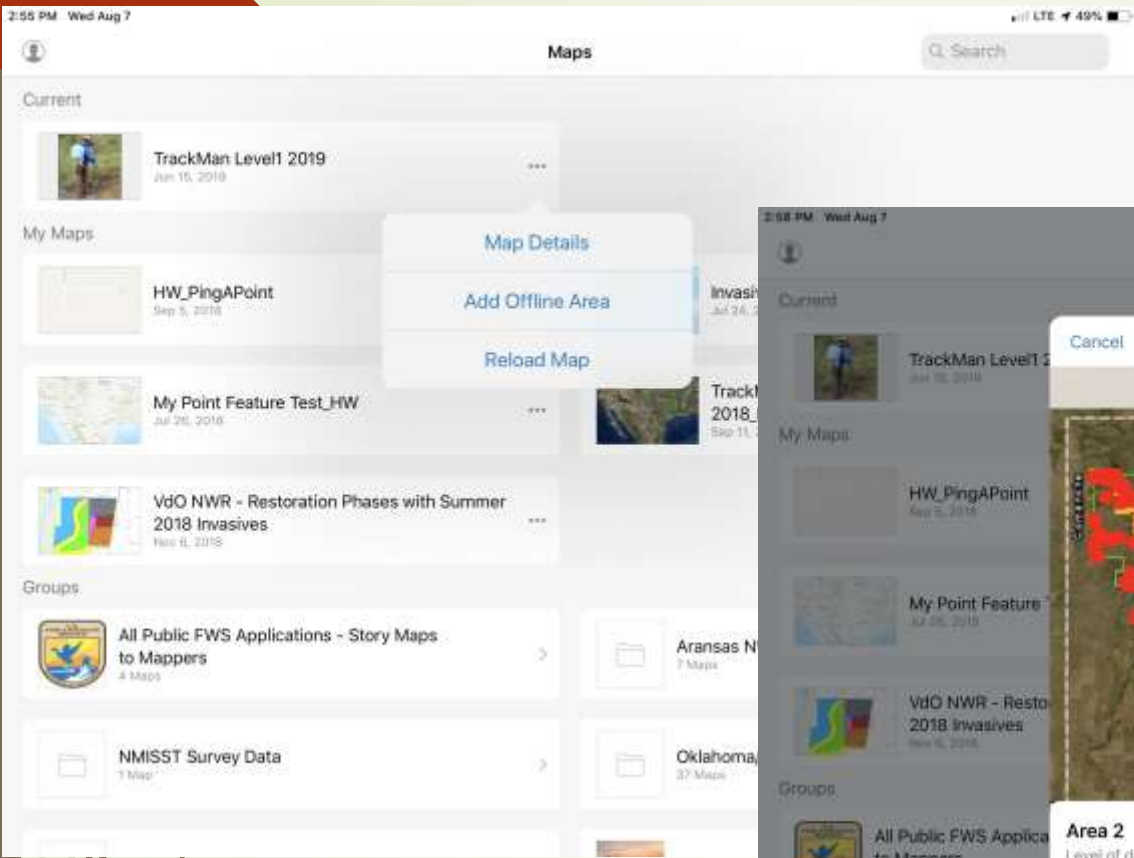
The app on mobile devices (iPhone, iPad) for collecting data in the field





OBJECTID	Refuge Name	PUP Number	Product Name	Application Rate Value	Application Rate Unit	Application Method	Applicator Equipment	Applicator Operator	Amount Applied Value	Amount Applied Units	Treatment Location T	Comments	Shape_Area	Shape_Length
103	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Broadcast	ATV/UTV/ORUV-Boom USFWS		145	Gallons	Terrestrial - grassland	Tank mix Milestone a...	48211.882813	1019.471462
104	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Broadcast	ATV/UTV/ORUV-Boom USFWS		68	Gallons	Terrestrial - grassland	Tank mix Milestone a...	15116.148438	461.100370
107	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Broadcast	ATV/UTV/ORUV-Boom USFWS		37	Gallons	Terrestrial - grassland	Tank mix Milestone a...	8895.144331	432.857160
108	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Broadcast	ATV/UTV/ORUV-Boom USFWS		22	Gallons	Terrestrial - grassland	Tank mix Milestone a...	6184.050781	293.352331
109	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Broadcast	ATV/UTV/ORUV-Boom USFWS		8	Gallons	Terrestrial - grassland	Tank mix with Milest...	1986.710838	183.289212
118	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		48	Gallons	Terrestrial - grassland	Tank mix with 5 oz/a...	8461.734175	341.101040
119	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		15	Gallons	Terrestrial - grassland	Tank mix with 5 oz/a...	5719.525156	276.122093
127	MAXWELL NWR	R2-19-22581-002	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		35	Gallons	Terrestrial - grassland	Tank mix with 5 oz/a...	8673.410158	338.779706
292	MAXWELL NWR	R2-19-22581-003	Pelaris	4	% solution	Foliar	Backpack	Conservation Group	864	Ounces	Terrestrial - grassland	ACE	178998.338375	494.770311
293	MAXWELL NWR	R2-19-22581-003	Pelaris	4	% solution	Foliar	Backpack	Conservation Group	18	Gallons	Terrestrial - grassland	ACE, treated over sea...	137045.878906	1588.262452
294	MAXWELL NWR	R2-19-22581-001	Gafor 4 Ultra	100	% solution	Cut Stump	Other	Conservation Group	18	Ounces	Terrestrial - grassland	ACE, Treated over 4 d...	6265.164063	388.054113
295	MAXWELL NWR	R2-19-22581-002	Milestone Specialty	4	% solution	Foliar	Backpack	Conservation Group	48	Gallons	Terrestrial - grassland	ACE, Subtract 123 ac...	2007945.90623	8422.047075
296	MAXWELL NWR	R2-19-22581-003	Pelaris	2	% solution	Foliar	Backpack	Conservation Group	1720	Ounces	Terrestrial - grassland	ACE treated over 3 d...	838550.370513	3948.603038
10	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.5	Ounces/Acre	Broadcast	<Null>	<Null>	12	Gallons	Terrestrial - uplands	Tank mix with Milest...	1373.588844	186.199106
13	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Broadcast	<Null>	USFWS	5	Gallons	Terrestrial - grassland	Mixed with 7 oz/ac...	1254.116406	140.233880
14	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Broadcast	<Null>	USFWS	5	Gallons	Terrestrial - grassland	Mixed with 7 oz/ac...	1092.417960	131.007999
15	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Broadcast	<Null>	USFWS	2	Gallons	Terrestrial - grassland	Mixed with 7 oz/ac...	974.53125	135.774811
16	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	7	Gallons	Terrestrial - uplands	Tank mix with Milest...	1532.872456	218.98271
17	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	8	Gallons	Terrestrial - uplands	Tank mix with Milest...	2901.011719	321.324023
18	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	7	Gallons	Terrestrial - uplands	Tank mix with Milest...	982.136719	126.286482
19	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	12	Gallons	Terrestrial - uplands	Tank mix with Milest...	1699.801353	174.986547
20	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Broadcast	<Null>	USFWS	38	Gallons	Terrestrial - grassland	Mixed with 7 oz/ac...	16363.528125	384.984689
21	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	4	Gallons	Terrestrial - uplands	Tank mix with Milest...	772.445313	108.959153
22	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	1	Gallons	Terrestrial - uplands	Tank mix with Milest...	448.530513	81.002974
25	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	7	Gallons	Terrestrial - uplands	Tank mix with Milest...	1216.492188	154.465403
26	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	5	Gallons	Terrestrial - grassland	<Null>	3073.629688	307.660154
27	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	5	Gallons	Terrestrial - uplands	Tank mix with Milest...	545.484344	81.301016
28	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	5	Gallons	Terrestrial - grassland	<Null>	3120.875	217.070800
29	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	1	Gallons	Terrestrial - grassland	<Null>	455.812968	87.759362
30	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	8	Gallons	Terrestrial - uplands	Tank mix with Milest...	1192.841426	148.702648
31	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	2	Gallons	Terrestrial - uplands	Tank mix with Milest...	632.753906	231.125133
32	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	<Null>	8	Gallons	Terrestrial - uplands	Tank mix with Milest...	1655.482188	213.509713
33	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	3	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	506.355488	173.403730
34	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	31	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	8914.441808	520.281277
35	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	6	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	1441.15623	167.183039
36	LAS VEGAS NWR	R2-19-22582-001	Escort XP	2	Ounces/Acre	Broadcast	<Null>	USFWS	19	Gallons	Terrestrial - grassland	<Null>	4057.9375	432.454942
77	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		35	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	6166.886779	342.364093
83	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		25	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	3407.082031	329.405550
89	LAS VEGAS NWR	R2-19-22582-001	Escort XP	1.8	Ounces/Acre	Ground Spot Treatment	ATV/UTV/ORUV-Boom USFWS		60	Gallons	Terrestrial - grassland	Tank mix with 7 oz/a...	8326.587858	378.440709
91	LAS VEGAS NWR	R2-19-22582-002	Milestone Specialty	4	% solution	Foliar	Backpack	Conservation Group	2	Gallons	Terrestrial - riparian dr...	<Null>	137744.23123	4679.670256

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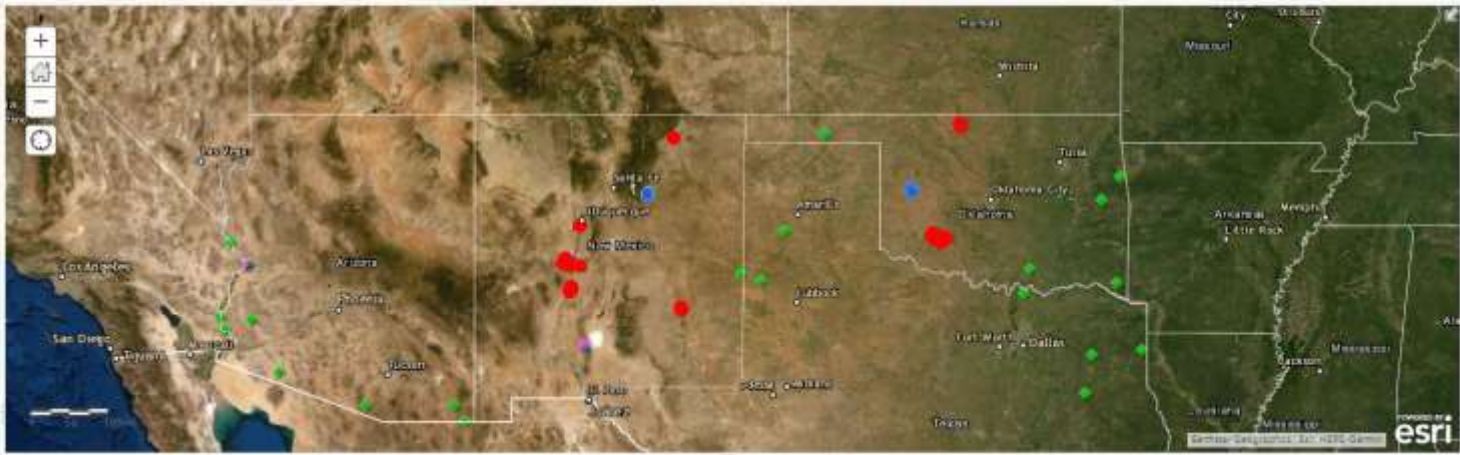


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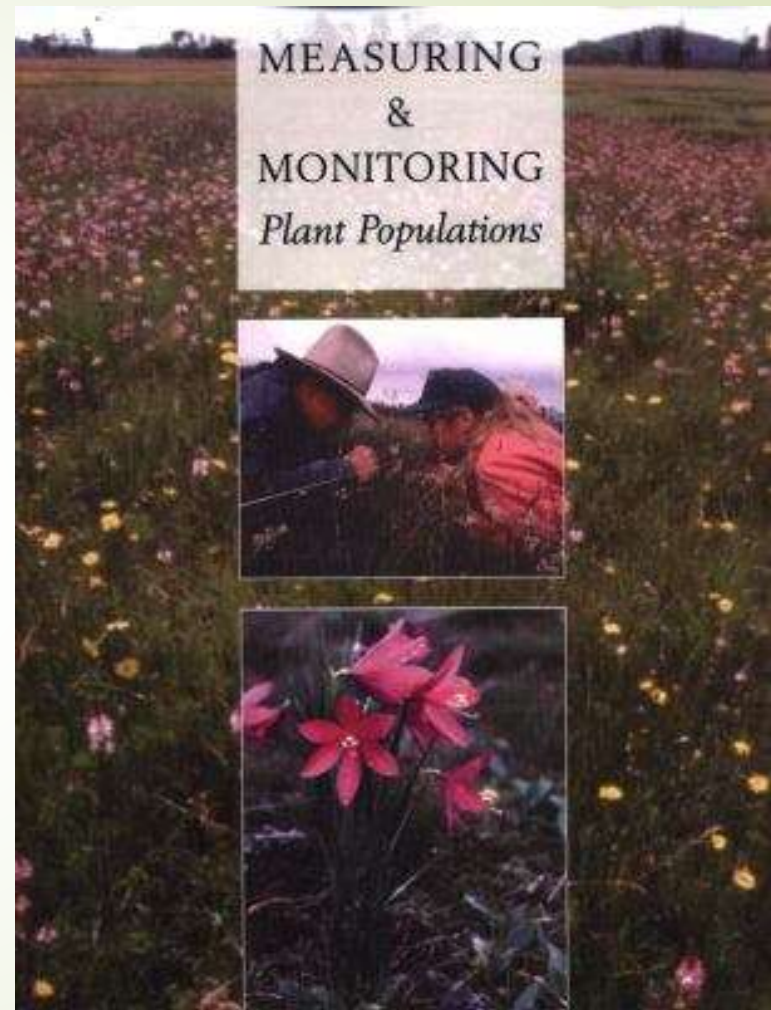


Chemical PT 2019 (Features: 3000, Selected: 0)

Refuge Name	Date	Control Method	Scientific Name 1	Percent Cover 1	Growth Stage 1	Scientific Name 2	Percent Cover 2	Growth Stage 2	Area Treated At This Point
BOSQUE DEL APACHE NWR	3/14/2019, 9:56 AM	Chemical	Bassia scoparia (Kochia)	25-60%-Abundant	Basal Rosette				20.1 - 25 ft2
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The future of TrackMan

- Include inventory and monitoring?
- Adaptable to changing needs of the user





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