## 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



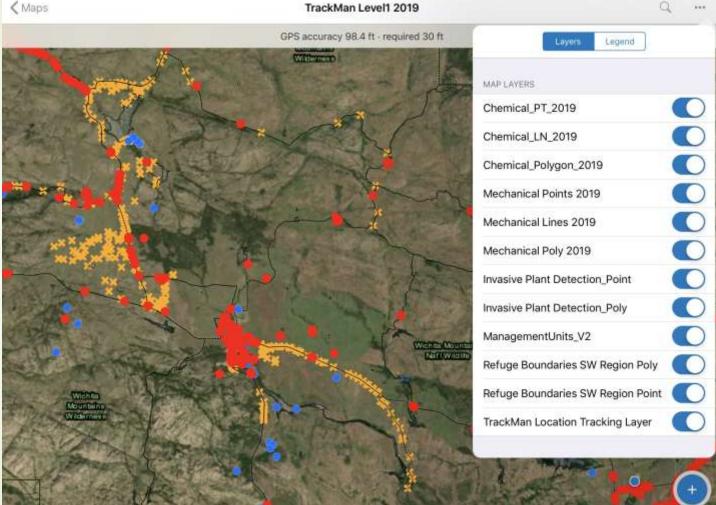


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TrackMan Level1 2019

Collector

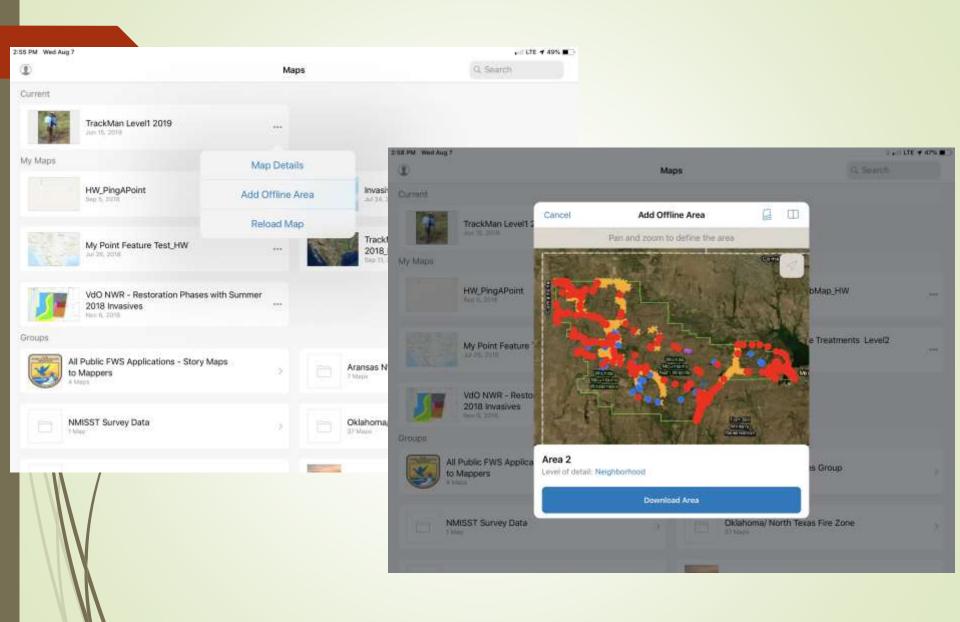
The app on mobile devices (iPhone, iPad) for collecting data in the field

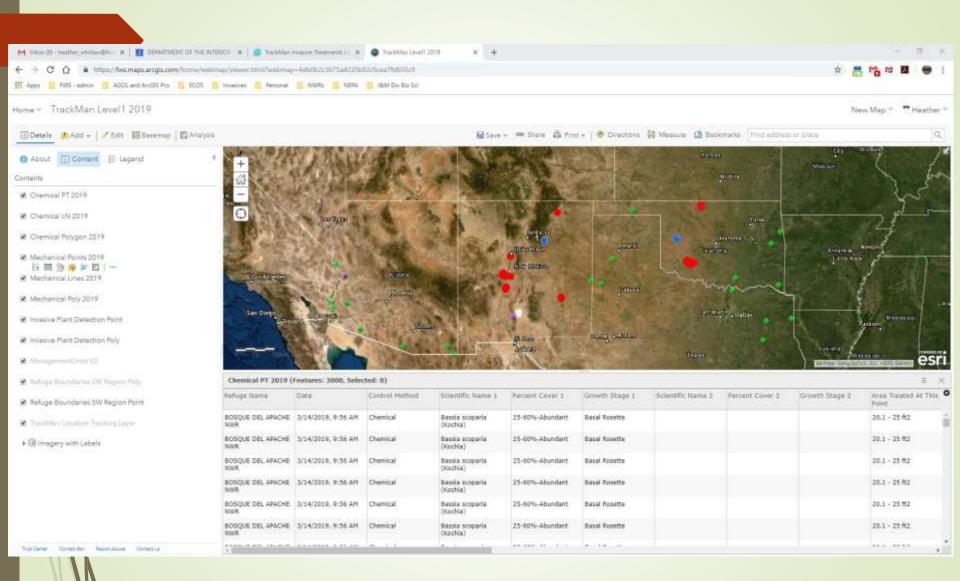






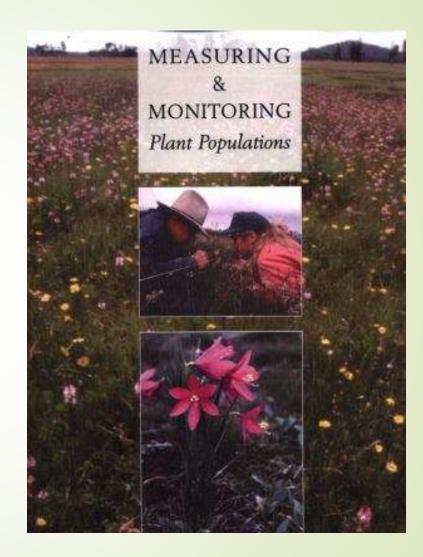
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183	Refuge Name MAXWELL NAME	72-19-22501-002	Product Name Escort IOF	Application Rate_Value	Ounces/Acre	Broadcast	ATWUTY/ORDY Soon	The second of th	Amount Applied Value	Amount Appress Units		Timi mu Miestone a	Shape_Area	Shape_Lengtl
104	MAXWELL NAME	R2-19-22581-002	Escort XP		Ounces/Acre	Broadcast	ATW/UTW/ORDV-Boom			Gallons	de perfection englishermen	Tank mu Milestone a.		461.106371
107	MAXWELL NWR	R2-19-22581-000	Escort AP		Ounces/Acre	Broadcast	ATV/VTV/ORLY-Boom			Gallons	A P. Language and Company of Arthresis	Tank mis Milestone a.		432,857166
188	MAXWELL NAVE		Escort XII			Broadcast				Gallons	\$990,452HBB51HBH1			293.352331
100	MAXWELL NUR	N2-19-225E1-002	Escort 10 <sup>3</sup>		Ounces/Acre	Emedical	ATV/UTV/OREN Beom			Gations	device representative and displacements to	Tank mis Milestone a.	1995,710958	
118	MAXWELL NAME	K2-19-22381-002	Escort XP		Ounces/Acre		ATV/UTV/ORUV-Beem				Province of the Party of the Pa	Tank mir with Milest	8461,734373	181,289212 341,191045
110	MAXWELL NWR	N2-19-22581-002 N2-19-22581-002	Escort IOF		Ounces/Acre Ounces/Acre	the transfer of the statement of the				Gellons Gellons	Terrestrial - granuland		5719.515154	
	MAXWELL NWR						ATV/UTV/OREN Been				I I VALUE OF THE STREET	Tank min with 5 cs/a		276.122093
127		R2-19-22581-002	Excel 30		Quitars/Arm		ATY/UTV/ORUN-Brom			Gallers	drive to harmon a financial contraction	Tank mar with 5 cu/a	NST3-410158	318.779706
292	MAXWELL TOWN	W2-19-225E1-009	Polani		% solution	Foliar	Sackpack .	Conservation Group		Dunos	Tenemnal - granuland		178998.358975	4043,776513
299	MAXWELL NWR.	R2-19-22581-003	Polaris		% solution	Foliar	Backpack	Conservation Group		Gallions		ACE, treated over sex.		1588,290452
	MAXWELL NWF	R2-19-22581-001	Garton 4 Ditra		Nathation	Cut Shimp	Other	Conservation Group		Dunces	the street of the street of the street of	ACE, Treated over 4 d.		188.854113
295	MAXWELL NAME	NJ-19-22581-002	Milestone Specially		% solution	Foliat	Backpack	Commission Group		Galleria	and the second second second second	ACE, Subtract 123 acr.		5422.047675
	MAXWELLNWE	R2-19-22381-003	Pelann		Solution	Foliar	Backparii	Contenuation Group		Dunces	Personal Incommentation of the	ACE treated over 3 d.,		3841,60000
	LAS VEGAS NWT	R3-19-22563-001	Escort AP		Queen/Arre	Broadcast.	<null+< td=""><td>+fluit+</td><td></td><td>Geliums</td><td></td><td>Tunk mir seth Milest</td><td>1373,589844</td><td>155,199106</td></null+<>	+fluit+		Geliums		Tunk mir seth Milest	1373,589844	155,199106
	LAS VEGAS NWII	RQ-10-2258J-001	Except 10 <sup>1</sup>		Ources/Acre	Brindcett.	+26afi+	USFW1		Galleins	Terrestriel - gressland		1254.116406	140,235880
	LAS VEGAS NWR	KU-19-22562-001	Excert AD	1175	Quess/Arm	Emadcart	+Nuth	USPWS		Galterra	Terrestrial - granuland		1092.417969	111.007959
15	LAS VEGAS NAVE	WZ-19-22582-661	Except XIII		Ounces/Aste	Broadcast	+Null+	USFWS .		Galliers	Terrentnal - grantland		.974,53125	135,774811
10	LAS VEGAS NWE	f(2-19-22582-001	Excurt 101		Ourse/Acre	Broadcast	shiuts.	<hul><li>Hult-</li></hul>		Galleria	Terrestrial - uplands	Tank mis with Milest	1532,872656	218,98271
	LAS VEGAS NWR	R2 19 22582-001	Excert 109		Ounces/Acre	Broadcast	+Null+	shulls		Eations	Terrentinal - signancia	Tank mic with Milest	2901.011719	221.324223
	LAS VEGAS NWII	82-19-22982-001	Except XD		Current/Arm	Broadcast	«Null»	+Multi-		Galleria	Terrestrial - uplands	Tent mis with Milest.	982.136719	126,286402
19	LAS VEGAS NWE	R2-19-22502-001	Facest 109	2	Olancas/Acre	Smedcett.	=hizh-	+ Null+		Selions	Terrestrial - uplands	Tank mis with Milest.	1000.001568	174,996547
	LAS VEGAS NWR	R2-19-22542-001	Excert XP		Queen/Acre	Broadcast	+Null+	USPWS		Galteris	Tarrential - granifeed	Most with 7 uz/sc	16363.525125	384,994669
21	LAS VEGAS HWII	HJ-19-2258J-001	Escort 30	2	Ounces/Acre	Brindcart	+Null+	+tiult-		Galleria	Terrentinal - updanels	Tank mis with Milest	772,445313	100.959153
22	LAS VEGAS NIVE	R2-19-22582-001	Excert XP	.2	Guncas/Azre	Breadcast	+NAT+	«Null»	1	Galleria	Terrestrial - uplands	Tank mis with Milest	466,570313	81,002974
海	LAS VEGAS NAVE	H3-19-22582-001	Except XD	12	Queces/Acre	Broadcast	+Null+	+ Pásidi »	(1)	Gafferes	Terrestral - uplands	Tank mu with Milest	1216.492128	154,463401
26	LAS VEGAS NAVE	R2-19-22583-001	Escort 101	2	Queces/Acre	Broadcast	+Mult-	USFWS	5	Gellons	Tenestral – grassland	<null></null>	3073,929688	307,666154
27	LAS VEGAS NWR	82-19-22582-001	Except 10F	2.	Queren/Acre	Recordent	+Not+	«Null»		Geltons	Terrentrial - signanda	Tank mis with Milest	545.464144	91,361916
28	LAS VOGAS NAVE	82-19-22582-001	Excert 10)	32	Ounces/Acre	Broadcast	=hut-	USFWS.	3	Gallerie	Terrestrial - gransland	*Mall*	3120.875	217,070988
29	LAS VEGAS NIVE	82-19-22582-001	Elecort IO	- 2	Gunces/Acre	Broadcast	ethyle	USPWS	1	Salione	Terrestriel - grantlend	«Null»	455,917969	87,759362
30	LAS VIGAS HWE	R2-19-22982-001	Excert IO	- 2	Quees/Asse	Broadcast	<null+< td=""><td>+fiult&gt;</td><td>1.0</td><td>Geborc</td><td>Terrestruit - uptands</td><td>Tank mir with Milest</td><td>1152,941406</td><td>145,703649</td></null+<>	+fiult>	1.0	Geborc	Terrestruit - uptands	Tank mir with Milest	1152,941406	145,703649
n ·	LAS VEGAS NWE	R2-19-22982-001	Excert 101	2	Outces/Acre	Broadcast	<66/01	-tiult-	2	Galteria	Terrestruit - uplands	Tank mis with Milest	632.753900	2012500
32	LAS VEGAS NAVE	RU-19-22982-001	Excert AP		Ounces/Aure	Broadcast	170,001	+ Multi-		Gallons	Terrestrial - uplands	Tank mis with Milest	1655,492188	211.509718
33	LAS VIGAS NAVE	H2-19-22582-000	Escort 309	1.0	Ounces/Acre	Broadcast	+Null+	LISEWS.		Callons	Terrestrial - granuland	Tank marwith 7 sp/a	500,715469	711.403730
34	LAS VEGAS MWE.	R2-19-22582-001	Escort Idl	- 1	Ounces/Acre	Broadcast	~16/E>	LISPWS	31	Gellons	Tenestrial – grassland	Tank mix with Table.	3974,441406	520,290,07
15.	LAS VIGAS NATI	62-19-22562-000	Escort 101		Ounces/Acre	Broadcast	+56/8+	LISPWS.		Gallons	Terrestrial - granifand	Tank mir with 7 cc/s.	1401.15623	167.103039
36.	LAS VEGAS NAVE	R2-19-22562-001	Escort 301		Ounces/Acre	Broadcast	-hut-	USFW5	19	Gallore	Terrestrial - grussland	«Null»	4057,9375	412,454942
77	LAS VEGAS NWE	R2-19-22582-000	Escort IOP	18	Ounces/Acre	Ground Spot Treatmen	ATVISTW/ORUV-Boom	USEWS	35	Gallone	Terrestrol - grantland	Tank mix with 7 od/s.	8188.886719	343,366061
10	LAS VEGAS NAVE	82-19-22562-001	Escort 101	1.0	Ounces/Acre	Ground Spot Treatment	ATV/UTV/OBUV-Boom	USFW5	25	Gallons	Terrestrul - grassland		3407.062031	129,455150
100	LAS VEGAS NWE	82-19-22582-001	Escort 107		Ounces/Acre	Ground Spot Treatmen	ATV/UTV/GRUV-Boom	USPWS		Gallons	Terrestrial - grassland	Tank ma with Tag/a.	8328.397858	376,446709
91	LAS VEGAS NWE	R2-19-22582-002	Milestone Specialty		% solution	Foliar	Backpack	Conservation Group		Gallons	Terrestrial - reparien id		137794.25125	4679,670266





#### The future of TrackMan

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



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