



Coachella Valley Mosquito and Vector Control District Mobile Application

Cary Roberts GIS Specialist, GISP



Edward Prendez, IT Analyst

Why did we need a mobile application cont. ?

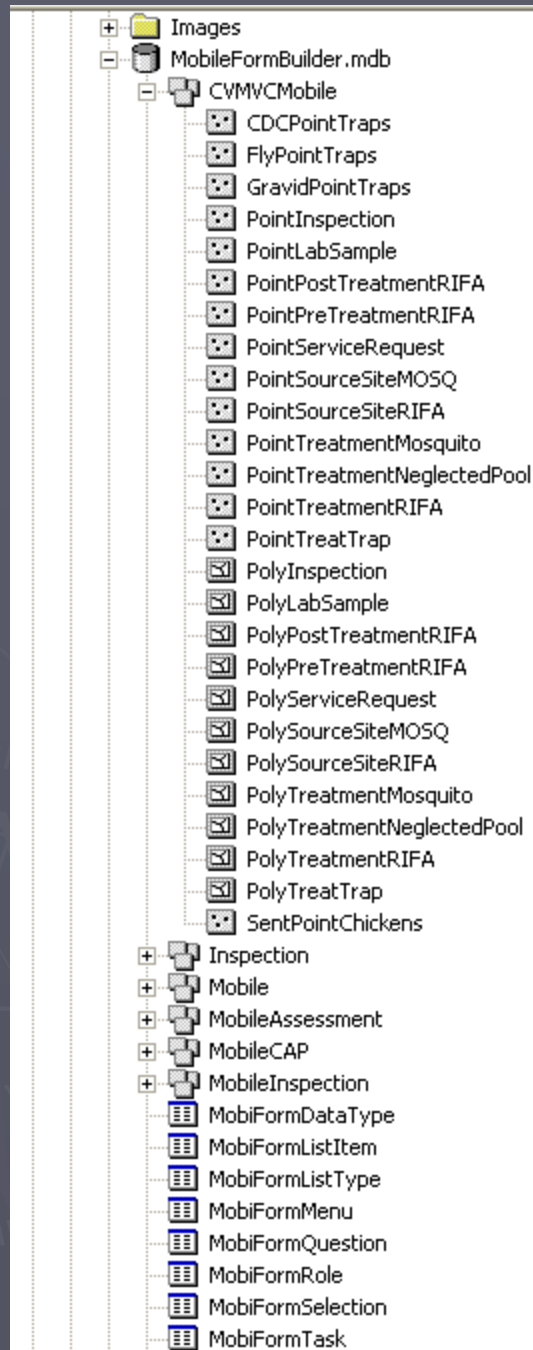
- Access treatment information in the field regardless of zone, city boundary or technician
- Develop a centralized repository for consistent data management
- Distribute employee knowledge across the organization
- Access, Sybase, Excel
- Redundant data entry
- Previous system not maintained
- Multiple databases in different formats

History Background

- Educate Board on the strengths of GIS
- Started talking about design in August 2008
- Purchased ArcGis Advanced Server 9.2
- First launch in February 2009 (testing)
- Loaded old database into mobile system for mosquito side of operations.
- Went paperless for mosquito in December 2009.
- Loaded all RIFA database into mobile system January 2010.
- Full production at present.

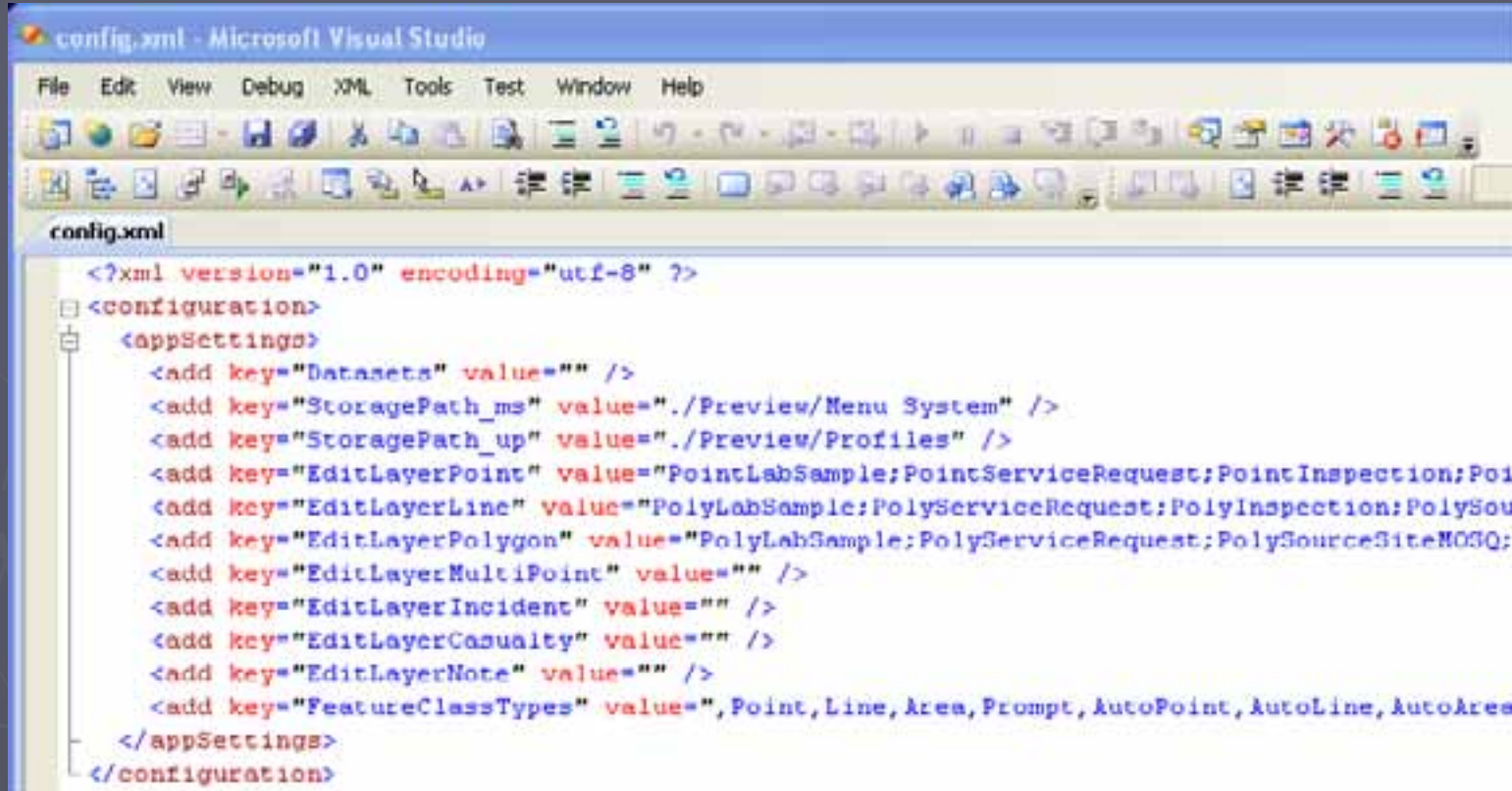
Parts of a Mobile Application

- Database to design forms
- Xml for configuration of settings and feature classes
- A form designer to put it all together
- A Mobile Storage and Delivery System
- You now have the field data now you need to report it.



➤ Feature Classes for Reference Build Menu System

Config.xml for Design





```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <appSettings>
    <add key="Datasets" value="" />
    <add key="StoragePath_ms" value="..\Preview\Menu System" />
    <add key="StoragePath_up" value="..\Preview\Profiles" />
    <add key="EditLayerPoint" value="PointLabSample;PointServiceRequest;PointInspection;Poi
    <add key="EditLayerLine" value="PolyLabSample;PolyServiceRequest;PolyInspection;PolySou
    <add key="EditLayerPolygon" value="PolyLabSample;PolyServiceRequest;PolySourceSiteMOSQ;
    <add key="EditLayerMultiPoint" value="" />
    <add key="EditLayerIncident" value="" />
    <add key="EditLayerCasualty" value="" />
    <add key="EditLayerNote" value="" />
    <add key="FeatureClassTypes" value="", Point, Line, Area, Prompt, AutoPoint, AutoLine, AutoArea
  </appSettings>
</configuration>
```


FORM BUILDER BUILDS QUESTIONS

Mobile Application Form Builder - Database: |DATADIRECTORY|MOBILEFORMBUILDER.MDB / Ver. 1.55

Save Data Mobile File Interface Refresh

Default Menu

Select a Task  or a Questionnaire from the Tree List below 

Copy Paste Delete

- BaseForms
- SessionStart
- SessionStart
- Tasks
 - Call Center Tasks
 - Field Supervisor (Mosquito)
 - Service Request
 - Mosquito Treatment
 - Source Site (Spot Treatment)
 - Source Site (Area)
 - Mosquito Inspection / No Breeding
 - Neglected Pool
 - Larvae Lab Sample
 - Field Supervisor (RIFA)
 - Field Technician (Mosquito)
 - Source Site (Spot Treatment)
 - Mosquito Treatment**
 - Larvae Lab Sample
 - Service Request
 - Source Site (Area)
 - Mosquito Inspection / No Breeding
 - Neglected Pool
 - Field Technician (RIFA)
 - Lab Technician

The "Mosquito Treatment" Form is currently selected.

Menu System Task Group "Tasks" Task Group List of Forms for "Field Technician (Mosquito)" Task List of Questions for "Mosquito Treatment" Form

Renumber Order

Questions for Selected Questionnaire Form

Question Settings				Feature Class Values			Sequence
Question	Form	Prompt	Hide	Feature Class Column Name			Screen Page No.
Help				Question Data Type	List Reference	Save List Value vs. D	Question No.
52973	Mosquito	TreatmentMosquitoID	<input type="checkbox"/>	TreatmentMosquitoID		<input type="checkbox"/>	1
			<input type="checkbox"/>	GUID		<input type="checkbox"/>	1
52980	Mosquito	TreatmentDate	<input type="checkbox"/>	TreatmentDate		<input type="checkbox"/>	1
			<input type="checkbox"/>	Time		<input type="checkbox"/>	2
52981	Mosquito	SourceSiteID	<input type="checkbox"/>	SourceSiteID		<input type="checkbox"/>	1
			<input type="checkbox"/>	Constant		<input type="checkbox"/>	3
52982	Mosquito	TreatmentBy	<input type="checkbox"/>	TreatmentBy		<input type="checkbox"/>	1
			<input type="checkbox"/>	Operator		<input type="checkbox"/>	4
52983	Mosquito	FieldTechnician	<input type="checkbox"/>	FieldTechnician		<input type="checkbox"/>	1
			<input type="checkbox"/>	User		<input type="checkbox"/>	5
52984	Mosquito	Date:	<input type="checkbox"/>	TreatmentDate		<input checked="" type="checkbox"/>	1
			<input type="checkbox"/>	Read-Only		<input checked="" type="checkbox"/>	11
52985	Mosquito	Tech:	<input type="checkbox"/>	FieldTechnician		<input type="checkbox"/>	1
			<input type="checkbox"/>	Read-Only		<input type="checkbox"/>	12
52986	Mosquito	--- Application Rate ---	<input type="checkbox"/>			<input type="checkbox"/>	1
			<input type="checkbox"/>	Section		<input type="checkbox"/>	30
52987	Mosquito	Chemical	<input type="checkbox"/>	Chemical		<input type="checkbox"/>	1
		DosageRange;MeasurementUnit	<input type="checkbox"/>	List	TreatmentMosq	<input checked="" type="checkbox"/>	31
52988	Mosquito	Unit	<input type="checkbox"/>	MeasurementUnit		<input type="checkbox"/>	1
		Dose;ChemicalAmount;TreatedArea;DosageRange	<input type="checkbox"/>	AreaUnit		<input checked="" type="checkbox"/>	32
52989	Mosquito	Treatment Area	<input type="checkbox"/>	TreatedArea		<input checked="" type="checkbox"/>	1
			<input type="checkbox"/>	Decimal		<input checked="" type="checkbox"/>	33
52990	Mosquito	Rate	<input type="checkbox"/>	DosageRange		<input type="checkbox"/>	1
			<input type="checkbox"/>	Range		<input type="checkbox"/>	34
52991	Mosquito	Selected Rate	<input type="checkbox"/>	Dose		<input checked="" type="checkbox"/>	1
			<input type="checkbox"/>	Decimal		<input checked="" type="checkbox"/>	35

Mobile Device



Panasonic CF-30 Integrated Wireless Card/GPS ; Docking Station

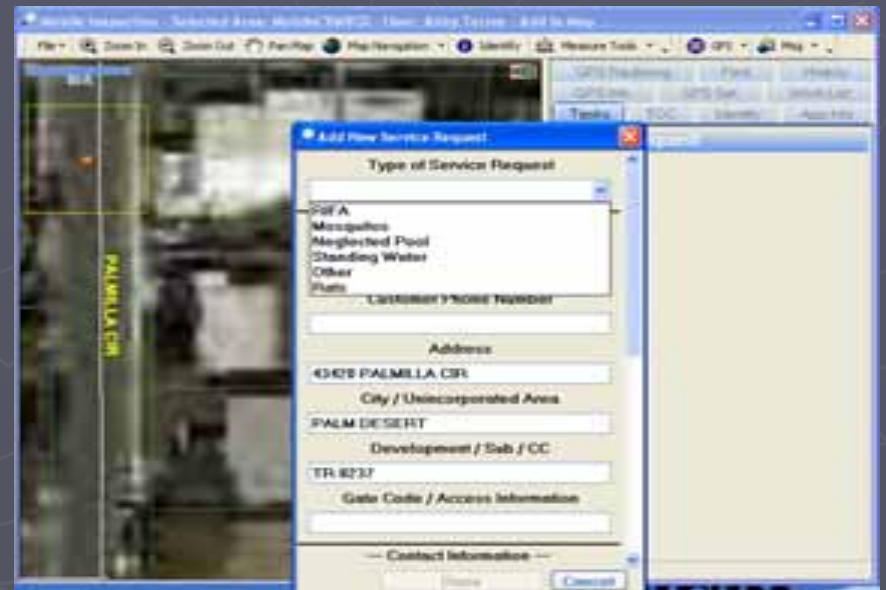
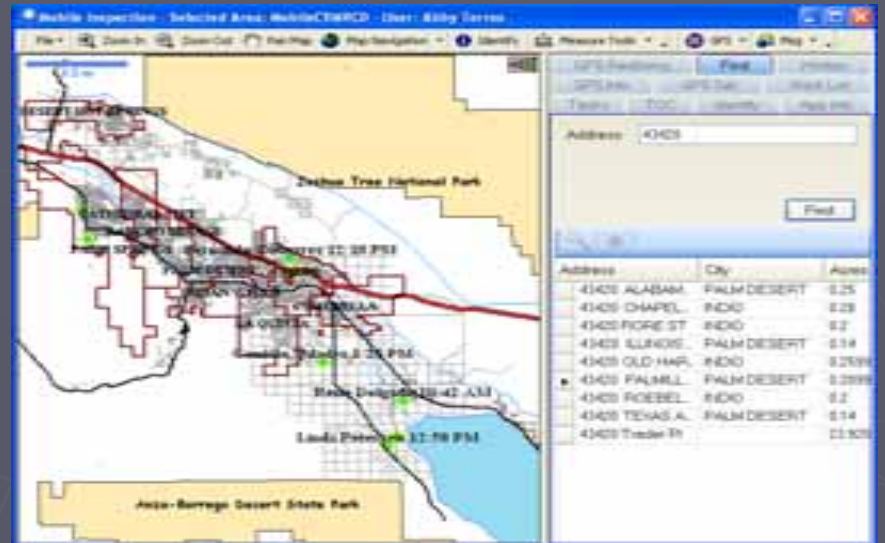
Roles Limit Visibility of Forms

The image displays two screenshots of the 'Mobile Inspection Login' dialog box. The top screenshot shows the 'Select Map Area' dropdown set to 'MobileCVMVCD' and the 'Select Your Role' dropdown open, listing roles: 'Call Center Operator' (highlighted), 'Lab Technician', 'Field Technician (RIFA)', 'Field Supervisor (RIFA)', 'Field Technician (Mosquito)', and 'Field Supervisor (Mosquito)'. The bottom screenshot shows the 'Select Map Area' dropdown set to 'MobileCVMVCD', the 'Select Your Role' dropdown set to 'Call Center Operator', and the 'Select Your User Name' dropdown open, listing 'Abby Torres'. Both screenshots have 'Done' and 'Cancel' buttons at the bottom.

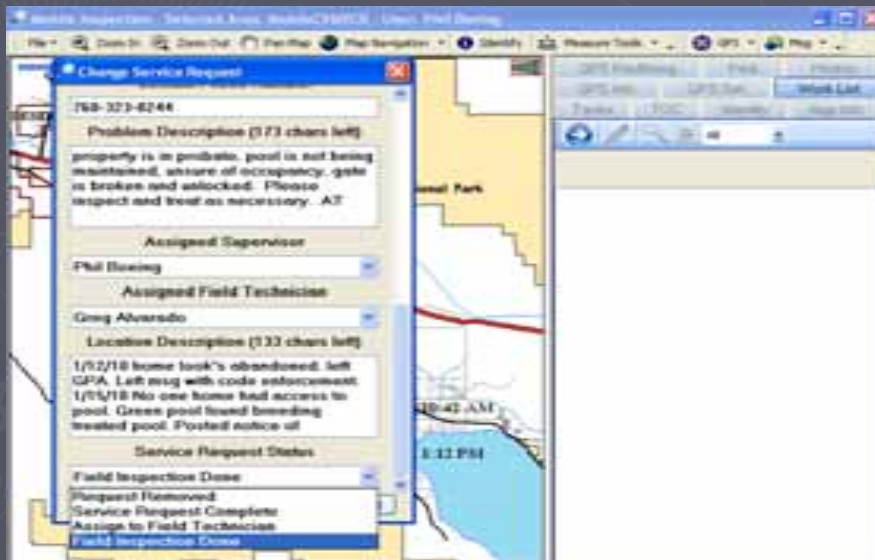
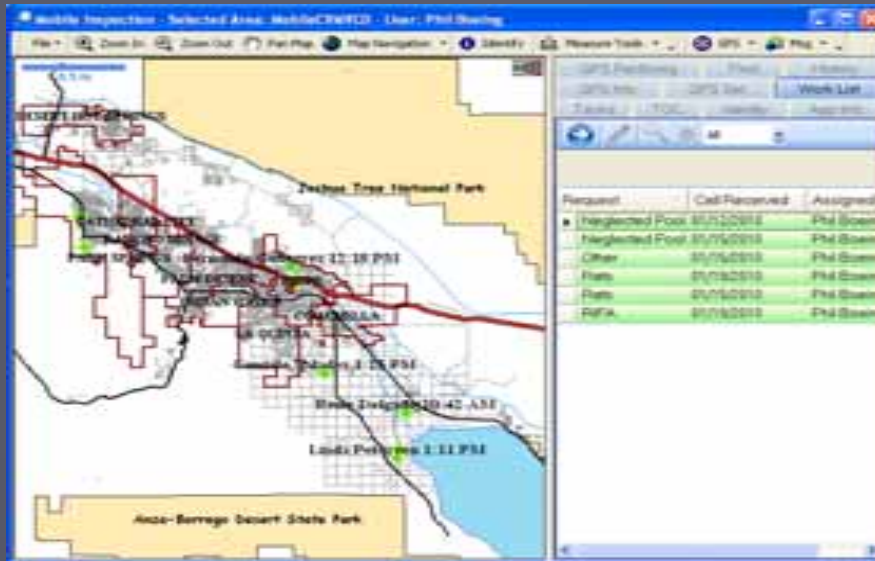
- The Call Center will only see forms for their particular role.
- The form for the Call Center is a Service Request form.
- Depending on type of call; will determine what Supervisor is chosen.

Service Requests

- Find: Will locate parcel
- The Mobile Unit will zoom to the location.
- The Service Request task form will be auto populated with location information.
- E-Mail address, Problem Description, Location Description,
- Assign to Supervisor



Supervisor Role



- Supervisor will receive Service Requests in work cue.
- Will distribute to technicians according to area.
- Status of Service Request, re-assign or dismiss.
- Both coming and going.
- Held in database for reports.

Technician Service Request

- Location marked by green outline.
- Technician reads problem from Service Request to determine course of action.

The screenshot displays a mobile application interface for 'Mobile Inspection'. The main window shows a satellite map with a green rectangular outline highlighting a specific location. The map is labeled with 'BUCKBOARD LN' and 'EL SOMBRERO LN'. A sidebar on the right contains a 'Change Service Request' form. The form has a title bar and a close button. It includes a dropdown menu for 'Type of Service Request' with 'Mosquitos' selected. Below this are sections for 'Customer Information', 'Address', and 'Contact Information'. The 'Customer Information' section includes fields for 'Customer' (GARY NICHOLAS ELTAGONDE) and 'Customer Phone Number'. The 'Address' section includes fields for 'Address' (67646 EL SOMBRERO LN), 'City / Unincorporated Area' (DSRT HOT SPG), 'Development / Sub / CC' (B BAR H RANCH ESTATES 3), and 'Gate Code / Access Information'. The 'Contact Information' section is partially visible. At the bottom of the form are 'Done' and 'Cancel' buttons.

Mobile Inspection - Selected Area: MobileCVMCD - User: Greg Alvarado - Zoom out

File • Zoom In Zoom Out Pan Map Map Navigation

BUCKBOARD LN

EL SOMBRERO LN

Change Service Request

Type of Service Request
Mosquitos

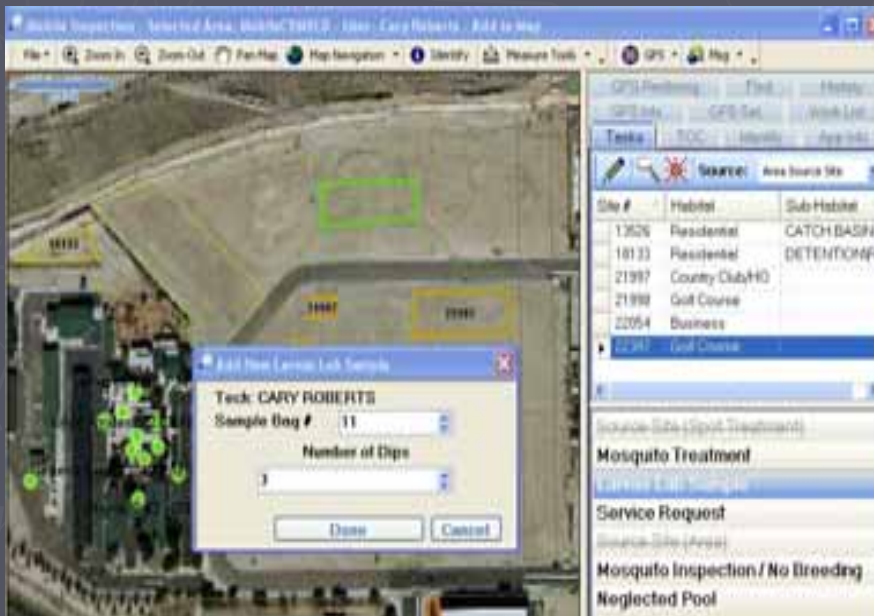
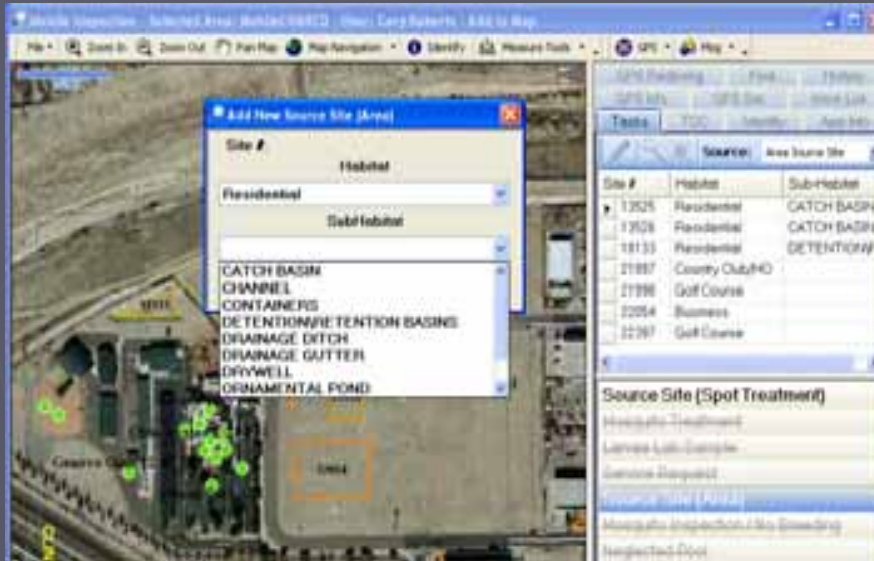
— Customer Information —
Customer
GARY NICHOLAS ELTAGONDE
Customer Phone Number

Address
67646 EL SOMBRERO LN
City / Unincorporated Area
DSRT HOT SPG
Development / Sub / CC
B BAR H RANCH ESTATES 3
Gate Code / Access Information

— Contact Information —

Done Cancel

Treatment



- Can create either a point source or area source.
- Technician selects Habitat and Sub-Habitats.
- System creates new record. Select record and perform treatment or Larvae Sample.
- Notice forms become active once record is created.

Application Form

- The area is automatically calculated (sq ft, acreage).
- Depending on chemical choice and min max range, amount is calculated for you.
- Resolution Description to record action taken.

The screenshot displays the 'Mobile Inspection' software interface. A central dialog box titled 'Add New Mosquito Treatment' is open, showing the following details:

- Date: 1/19/2010 2:24:50 PM
- Tech: CARY ROBERTS
- Chemical: BVA 2 Larvicide Oil
- Unit: gal/acre
- Treatment Area: 0.369 acre
- Selected Rate: 3 gal
- ChemicalAmount: 1.107 gal
- ResolutionDescription: (empty field)

Buttons for 'Done' and 'Cancel' are at the bottom of the dialog. The background shows a map with a yellow highlighted area and a table of site data on the right.

Site #	Habitat	Sub-Habitat
13526	Residential	CATCH BASIN
18133	Residential	DETENTION/FE
21997	Country Club/HO	
21990	Golf Course	
22054	Business	
22397	Golf Course	

Below the table, there are sections for 'Source Site (Spot Treatment)' and 'Source Site (Area)', with 'Mosquito Treatment' and 'Mosquito Inspection / No Breeding Neglected Pool' listed as options.

More Than One Choice

The image displays two screenshots of a GIS application interface. The top screenshot shows the 'Add New Registered Pool' form, which includes fields for Date, Tech, Application Rate, Fish Count, Status/Condition, Action, Mosquito Fish, Not Action, Treatment Area, and Selected Rate. The bottom screenshot shows the 'Add New Mosquito Inspection / No Breeding' form, which includes fields for Date, Tech, Inspection Result, Fish Present, and No Breeding Found. Both forms are overlaid on a map showing a residential area with a pool. A sidebar on the right of each screenshot lists various site types and actions, including 'Mosquito Treatment', 'Larvae Lab Sample', 'Service Request', and 'Mosquito Inspection / No Breeding'.

Add New Registered Pool

Date: 1/18/2018 2:34:52 PM
Tech: CARY ROBERTS

Application Rate
Fish Count
Status/Condition
Action
Mosquito Fish
Not Action
Treatment Area
Selected Rate

Add New Mosquito Inspection / No Breeding

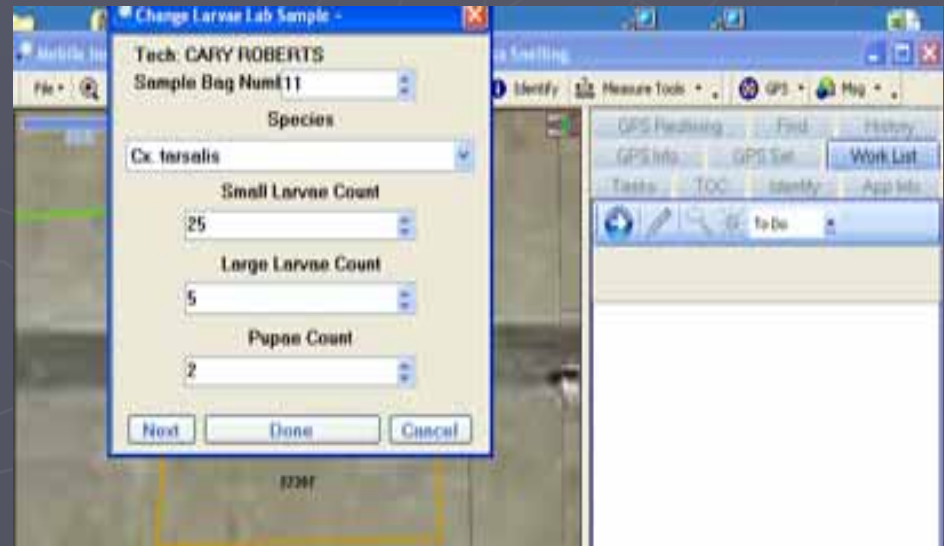
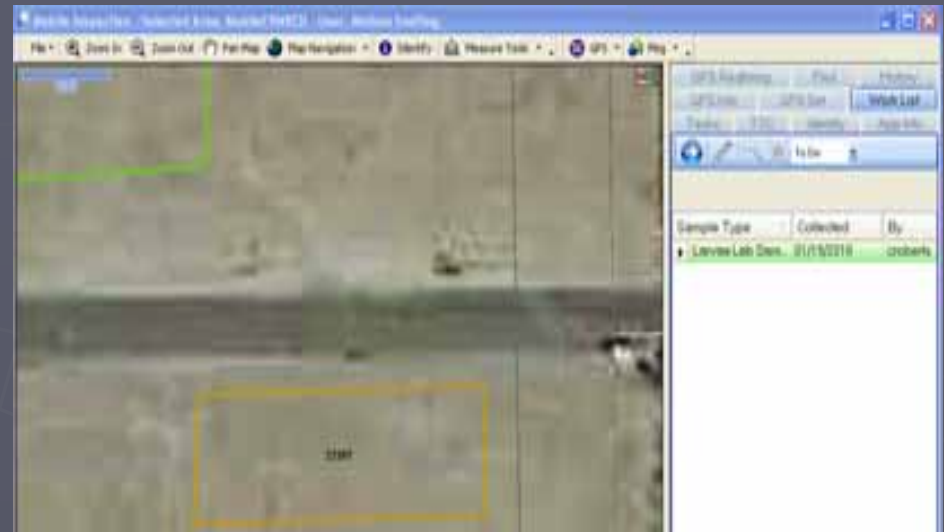
Date: 1/18/2018 2:37:31 PM
Tech: CARY ROBERTS

Inspection Result
Fish Present
No Breeding Found


- If Source Site is Neglected Pool use Pool Form to record activity. Chemical List same as Mosquito Treatment.
- If just Inspecting use the Inspection form and record comments.

Larvae Lab Sample

- Lab Technician analyzes field sample.
- Lab Technician sees work cue of Lab Samples in the field tied to a location.
- Performs inspection and records sample, can record more than one species per site.



History in the Field



- Technician can see if any previous treatments have been performed at this location.
- Can open old treatment and see amounts or larvae counts.

- Technician can see if any previous treatments have been performed at this location.
- Can open old treatment and see amounts or larvae counts.

RIFA Workflow

- RIFA (Red Imported Fire Ant) has the same workflow; Service Request; Supervisor; Technician, Treatment; Back to Supervisor.
- The Pre and Post Treatment forms are the same.
- Chemicals are different than mosquito treatments.



Daily Reports

Coachella Valley Mosquito and Vector Control District
40400 Tanager Place, Indio, California, 92201

DAILY MOSQUITO ACTIVITY REPORT

From: 4/1/2010 To: 4/30/2010 Today's Date: 5/10/2010

Date	Amount	Weight	Fl Oz 2-Gal	Acres Fl	Acres
4/1/2010					
Fernando Guberez					
Alfroid XR Briquets	10033	3.00	WPT	0.00000	sqft 0.007
BVA 2 Larvicide Oil	10033	0.02	GAL	0.01580	sqft 0.005
Geneva Ginn					
BVA 2 Larvicide Oil	669	1.00	GAL	1.00000	acres 0.000
Patrick Miller					
Agnique MMF	1917	0.00	GAL	0.00092	sqft 0.005
	9456	0.01	GAL	0.01294	sqft 0.014
	1920	0.00	GAL	0.00092	sqft 0.005
Alfroid Briquets	10035	1.00	WPT	0.00000	sqft 0.002

Enter Values

Enter StartDate: [2010-04-01] StartDate

Please enter Date in format "yyyy-mm-dd".

Enter EndDate: [2010-04-30] EndDate

Please enter Date in format "yyyy-mm-dd".

[OK] [Cancel]

- Built in to Arc Gis; Reports for daily mosquito use with calendar range selection parameter.

Service Request Reports



Coachella Valley Mosquito and Vector Control District
40-420 Trader Place, Indio, California, 92201

1/1/2010 - 1/31/2009

COMPLETED SERVICE REQUESTS BY CITY REPORT

RANCHO MIRAGE

DATE	ContactName	ServiceRequestType	FieldTechnician	PROBLEM DESCRIPTION	RESOLUTION DESCRIPTION
02/02/2010	Denny Evans	Rats	Erica From	Would like a rat inspection at Space #140 inside Blue Skies Village Mobile Home Park. Please call him to schedule an appt. Would like exclusion tips and brochure. AT	

COACHELLA

DATE	ContactName	ServiceRequestType	FieldTechnician	PROBLEM DESCRIPTION	RESOLUTION DESCRIPTION
01/11/2010	SAME	RIFA	Lee Ernst	Fire Ants by green iron fence as walking into the retention basin. This is a common area. ip	

INDIO

DATE	ContactName	ServiceRequestType	FieldTechnician	PROBLEM DESCRIPTION	RESOLUTION DESCRIPTION
02/01/2010	Lana Collins	Rife	Fernando Fregoso	Seeing possible RIFA in the grass area by plants, please inspect front and back yards. Please go before 2pm. SCHEDULED FOR: 02/02/10	

LA QUINTA

DATE	ContactName	ServiceRequestType	FieldTechnician	PROBLEM DESCRIPTION	RESOLUTION DESCRIPTION
02/01/2010	Chris Mooney	Rife	Fernando Fregoso	Husband got bit while opening water meter, please inspect front and back yards. SCHEDULED FOR 02/01/10. AT	
01/19/2010	Myma - Trilogy HOA	Neglected Pool	Victor Scrima	House is vacant, pool is not being maintained, side gate is open.	
01/19/2010	Mima - Trilogy HOA	Neglected Pool	Victor Scrima	house is vacant, pool is not being maintained. Unsure about access. Please inspect and treat.	

PALM DESERT

DATE	ContactName	ServiceRequestType	FieldTechnician	PROBLEM DESCRIPTION	RESOLUTION DESCRIPTION
------	-------------	--------------------	-----------------	---------------------	------------------------

Monthly Reports

- Grouped by different categories produce efficient reports.

STATE OF CALIFORNIA						
Monthly Summary Pesticide Use Report						
OPERATOR (FIRM NAME)		ADDRESS	CITY	ZIP CODE	PHONE NUMBER	
Coachella Valley Mosquito and Vector Control District		43-420 Trader Place	Indio	92201	(760) 342-8287	
OPERATOR PERMIT NUMBER	LICENSE NUMBER	COUNTY WHERE APPLIED	COUNTY NUMBER	MONTH/YEAR OF USE		TOTAL NUMBER OF APPLICATIONS
33-69-0307000		Riverside	33	4/1/2010	4/30/2010	
A	B	C	D	E	F	G
MANUFACTURER AND NAME OF PRODUCT APPLIED	SF CALIFORNIA REGISTRATION NUMBER FROM LABEL INCLUDING ALPHA CODE	TOTAL PRODUCT USED	NUMBER OF APPLICATIONS	CODE	COMMODITY OR SITE TREATED	ACRES/AMTS TREATED
Agnique MMF	53283-28-AA	49.78 gal.	171	50		52.14
Altosid Briquets	2724-375-ZA	330.00 unit	139	50		0.74
Altosid Liquid	2724-392-ZA	1.69 gal.	25	50		63.74
Altosid Pellets	2724-448-ZA	931.71 lb.	63	50		97.16
Altosid XR Briquets	2724-421-ZA	829.02 unit	332	50		1,001.86
Aquaprene	75318-10-AA	98.90 units	5	50		5.14
BVA 2 Larvicide Oil	70589-1	165.59 gal.	392	50		56.72
Vectobar 12AS	73049-38-AA	2.98 gal.	9	50		28.10
Vectobar G	73049-10-AA	48.68 lb.	5	50		4.40
Vectobar WDG	73049-56	9.51 lb.	3	50		15.76
Vectolex CO	73049-20-AA	119.51 lb.	15	50		6.73
Vectolex WDG	73049-67-AA	23.47 lb.	7	50		16.41
Vectolex WSP	73049-20-AA	24.00 units	16	50		0.03
Advion	352-627-AA	440.41 lb.	122	50		292.27
Distance	1021-1728-AA-59638	473.10 lb.	18	50		305.73
Extinguish	2724-498-AA	53.60 lb.	1	50		35.73
TOTAL NUMBER OF APPLICATIONS			1323			

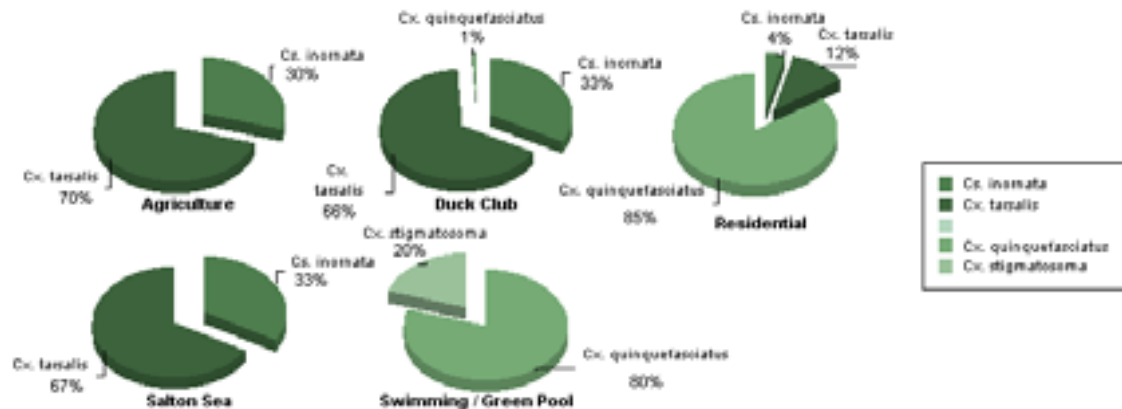
Habitat Report



Coachella Valley Mosquito and Vector Control District
40-420 Trader Place, Indio, California, 92201

LARVAE SAMPLES BY HABITAT DATA
AS OF 3/1/2010 TO 3/31/2010

MOSQUITO SPECIES BY HABITAT



AGRICULTURE

CITRUS

SITE	DATE	BAG	DPS	SPECIES	SMALL	LARGE	PUPAE	FieldTechnician
1,197	03/03/2010	2	12	Cx. tarsalis	22	17	0	Rene Delgado
1,197	03/03/2010	2	12	Cs. inornata	19	5	0	Rene Delgado

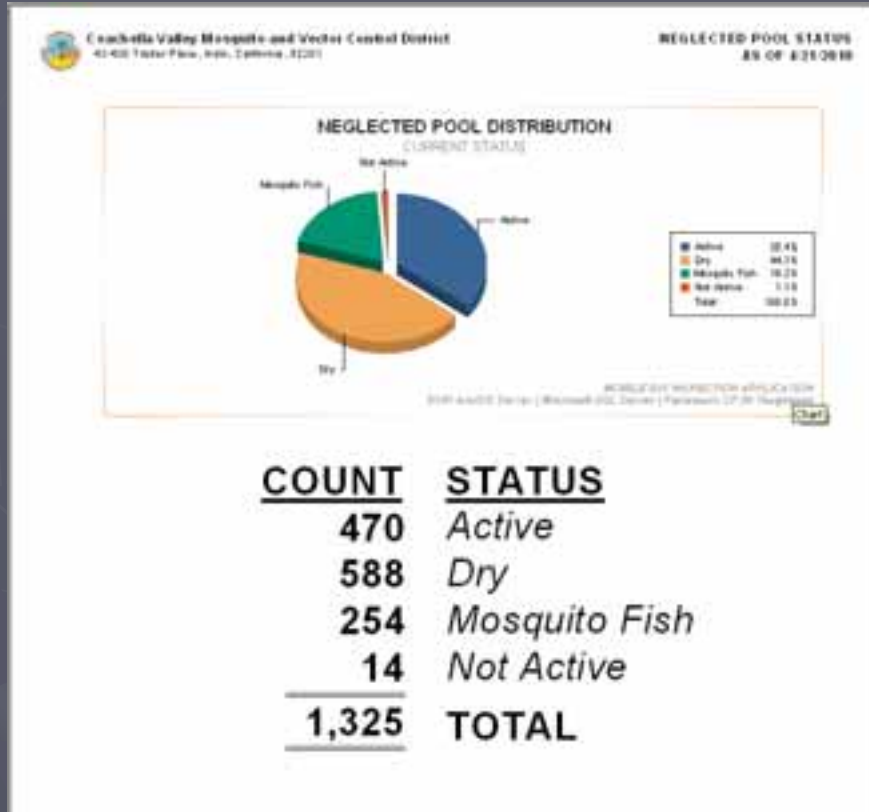
DESERT FLOODING

SITE	DATE	BAG	DPS	SPECIES	SMALL	LARGE	PUPAE	FieldTechnician
4,313	03/03/2010	1	10	Cx. tarsalis	37	4	13	Gonzalo Valadez
262	03/03/2010	3	10	Cx. tarsalis	16	31	0	Rene Delgado
262	03/03/2010	3	10	Cs. inornata	3	4	6	Rene Delgado
3,717	03/03/2010	10	10	Cx. tarsalis	42	81	0	Gonzalo Valadez
3,717	03/03/2010	10	10	Cs. inornata	14	0	0	Gonzalo Valadez
4,511	03/04/2010	5	10	Cx. tarsalis	126	96	15	Hal Miller
4,511	03/04/2010	5	10	Cs. inornata	10	6	1	Hal Miller
4,340	03/09/2010	7	2	Cx. tarsalis	1	1	11	Rene Delgado
4,511	03/16/2010	4	15	Cx. tarsalis	22	71	0	Miguel Vargas
4,511	03/16/2010	4	15	Cs. inornata	5	39	0	Miguel Vargas
4,509	03/17/2010	3	15	Cx. tarsalis	247	13	2	Gonzalo Valadez
4,549	03/29/2010	2	20	Cx. tarsalis	29	11	0	Gonzalo Valadez
4,476	03/30/2010	26	10	Cx. tarsalis	234	726	131	Linda Petersen

DRAINAGE DITCH

SITE	DATE	BAG	DPS	SPECIES	SMALL	LARGE	PUPAE	FieldTechnician
1,517	03/01/2010	9	10	Cx. tarsalis	20	117	11	Gonzalo Valadez
4,501	03/01/2010	12	8	Cx. tarsalis	63	24	1	Hal Miller
4,501	03/01/2010	12	8	Cs. inornata	0	1	1	Hal Miller
4,493	03/09/2010	4	10	Cx. tarsalis	35	27	0	Rene Delgado
29	03/30/2010	24	15	Cx. tarsalis	3	12	1	Linda Petersen

Pool Report



- Same selection criteria as Mosquito Daily and Monthly Reports.
- Easier to plant fish and maintain then historical methods.
- What about the cities wanting our information?

Status of Each City



Coachella Valley Mosquito and Vector Control District
43-420 Trader Place, Indio, California, 92201

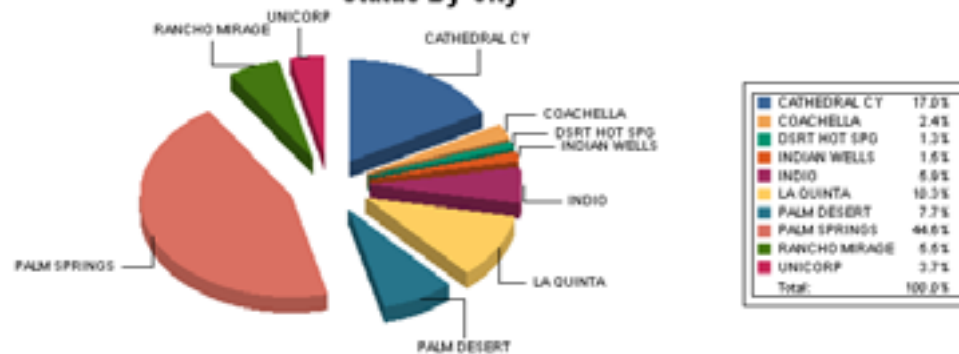
5/10/2010

NEGLECTED POOL STATUS BY CITY

From 1/1/2010 To 5/10/201

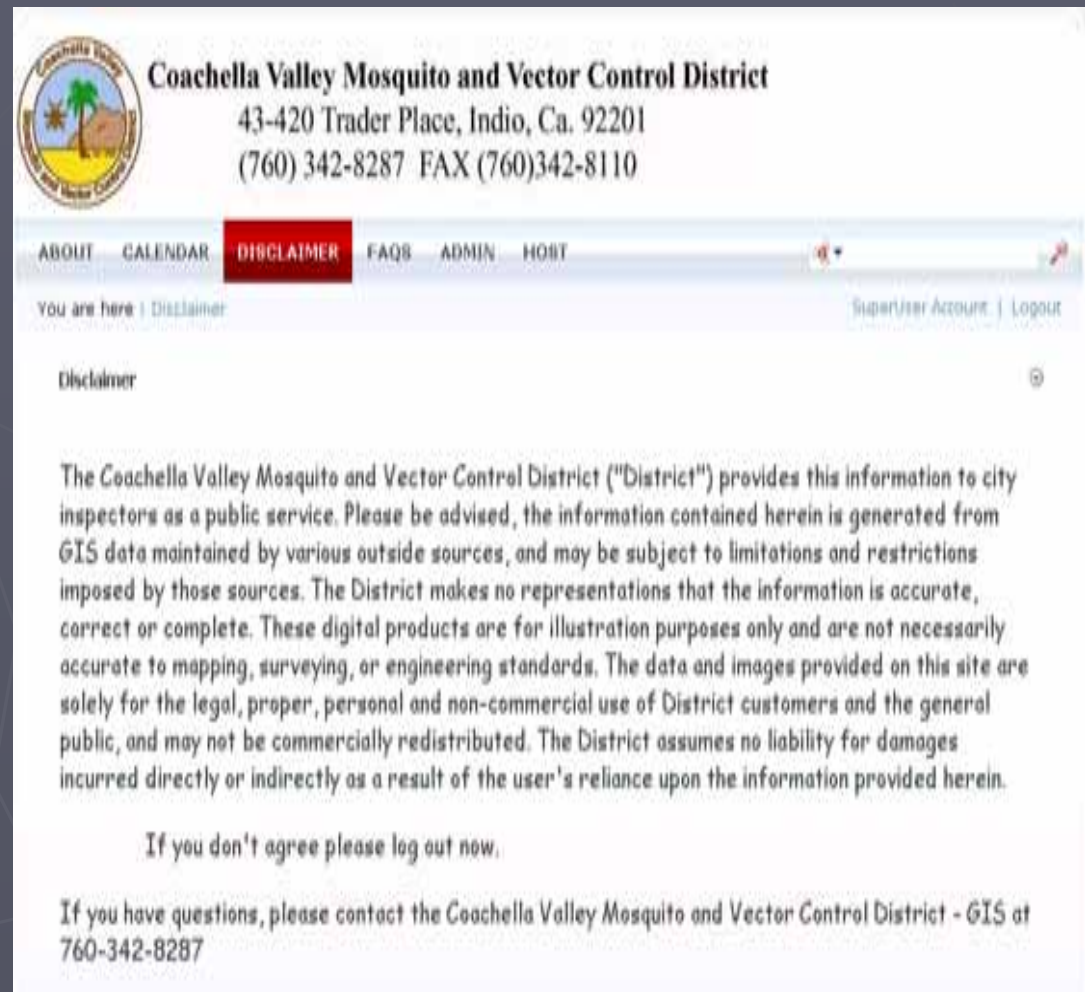
	ACTIVE	DRY	MOSQUITO FISH	NOT ACTIVE	Total
CATHEDRAL CY	52.00	20.00	10.00	10.00	92.00
COACHELLA	1.00	7.00	0.00	5.00	13.00
DSRT HOT SPG	3.00	0.00	3.00	1.00	7.00
INDIAN WELLS	2.00	3.00	0.00	3.00	8.00
INDIO	13.00	4.00	11.00	4.00	32.00
LA QUINTA	16.00	5.00	31.00	4.00	56.00
PALM DESERT	19.00	11.00	2.00	10.00	42.00
PALM SPRINGS	126.00	56.00	36.00	24.00	242.00
RANCHO MIRAGE	24.00	4.00	2.00	0.00	30.00
UNICORP	8.00	4.00	4.00	4.00	20.00
Total	264.00	114.00	99.00	65.00	542.00

Status By City



Mobile Portal

- With the mobile came a GIS portal for download of Menu updates and mobile caches.
- Why not use it for download of shape files for city inspectors?



Shape Files of Valley Cities



Coachella Valley Mosquito and Vector Control District
43-420 Trader Place, Indio, Ca. 92201
(760) 342-8287 FAX (760)342-8110

ABOUT CALENDAR DISCLAIMER FAQS ADMIN HOST

You are here: Download SuperUser Account | Logout

Welcome to CVMVCD Mobile Inspection Application Website

New Sight of Neglected Pools now data is being processed in the field by technicians.

Download Page: CVMVCD Registered Users: Please Read FAQS

Title	Description	Category	Modified Date	Size	Download	Created By
Menu System	New Menu System (Homeowner)	Menu System	1/15/2010	10.16 KB	Download	SuperUser Account
La Quinta	Point Shapefile		1/19/2010	14.74 KB	Download	SuperUser Account
Palm Desert	Point Shapefile		1/19/2010	11.50 KB	Download	SuperUser Account
Rancho Mirage	Point Shapefile		1/19/2010	8.92 KB	Download	SuperUser Account
Palm Springs	Point Shapefile		1/19/2010	17.35 KB	Download	SuperUser Account
Coachella	Point Shapefile		1/19/2010	5.51 KB	Download	SuperUser Account
Cathedral City	Point Shapefile		1/19/2010	15.12 KB	Download	SuperUser Account
Desert Hot Springs	Point Shapefile		1/19/2010	11.17 KB	Download	SuperUser Account
Indio	Point Shapefile		1/19/2010	18.58 KB	Download	SuperUser Account
Indian Wells	Point Shapefile		1/19/2010	4.99 KB	Download	SuperUser Account

- Now we can coordinate our activities with the respective cities and save on costs.
- No GIS, open XXX.DBF with EXCEL.

Thank You

<http://gisportal.cvmvcd.org/portal/>
For download of shape files.

Questions?

Cary Roberts, GISP
croberts@cvmvcd.org

Edward Prendez, IT Analyst
eprendez@cvmvcd.org



1-760-342-8287
Coachella Valley Mosquito
and Vector Control District
43420 Trader Pl Indio, Ca 92201