

# HLB DETECTION, DELIMITATION, AND TREE REMOVAL COSTS

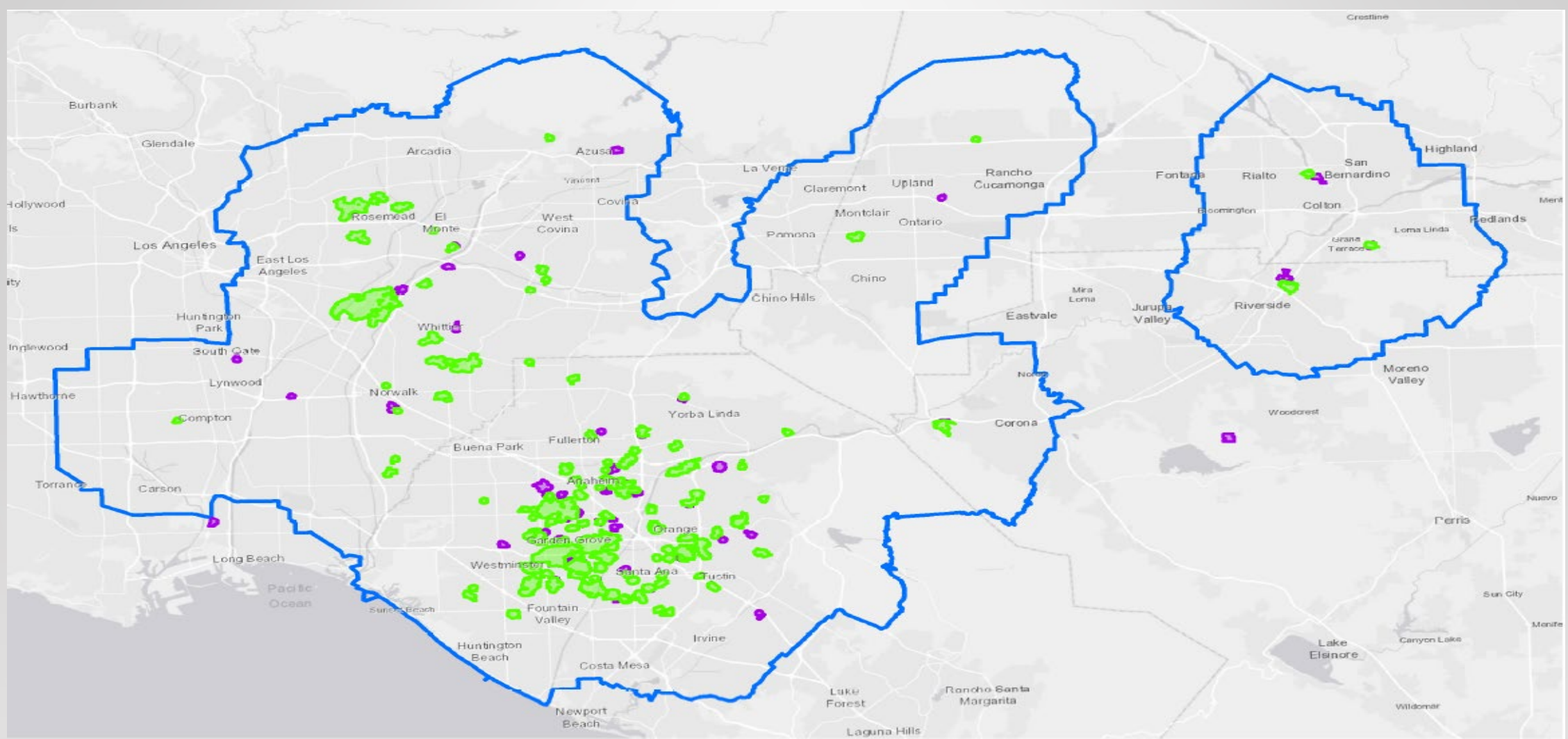
WEDNESDAY NOV 4, 2020

# SUMMARY OF ACTIVITIES

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


- Summer/Fall Areawide treatments have been completed in all the areas
  - The winter cycle will start in Mid Dec and continue till March
- Delimitation survey and treatments continues in different HLB areas
- Tree Removals are on schedule and only three outstanding properties for abatement
  - One in OC and two in LA
  - Removed 29 HLB+ trees in October (18 OC, 5 LA, 2 RIV., 4 SAN B.)
- Public meetings in LA for mid Nov and OC for end of Nov





## HLB Quarantine and Treatment Area

10/16/2020

-  HLB Quarantine Area
-  HLB Treatment Area
-  Mandatory
-  Non-mandatory

0 5 10 Miles

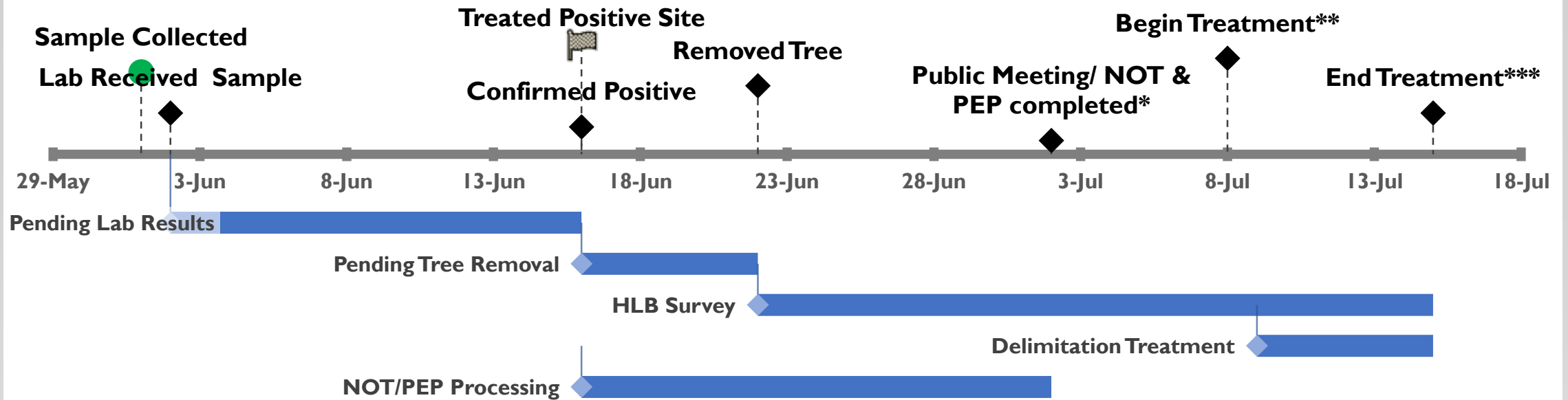


# COMPARING AREAS

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- Total AREA = 4,993 sq. miles
  - Total LA Metro area(LA, OC, Western Riv., and San Ber. Counties) approx. 4,850 sq. miles
  - City of Riverside area = 81 sq. miles
  - City of San Bernardino area = 62 sq. miles
- Total HLB Quarantine area = 1,415 sq. miles which is 28% of the total AREA
- Delimitation area treated (from inception till today) = approx. 80 sq. miles which is 5.7% of the total HLB quarantine area and 1.6% of the total AREA

# OPTIMUM TIMELINE HLB+



Date	# Days	Process Time	Label
1-Jun	Day 1	Start	Sample Collected
2-Jun	Day 2	1 Day	Lab Received Sample
16-Jun	Day 16	2 Weeks	Confirmed Positive
16-Jun	Day 16	Same Day	Treated Positive Site
22-Jun	Day 22	3 business days	Removed Tree
2-Jul	Day 36	2.5 Weeks	Public Meeting/ NOT & PEP completed*
8-Jul	Day 38	48 hrs	Begin Treatment**
15-Jul	Day 45	≈1 week	End Treatment***

\*: If positive tree does not expand quarantine

\*\* : notifications of treatments are delivered beginning day after public meeting for date 48hrs in future

\*\*\*:based on average number of properties in 250m residential buffer in OC/LA county (130 properties)



# HLB+ TREES

Year	Los Angeles	Orange	Riverside	San Bernardino	Total
2012	1				1
2015	10				10
2016	19				19
2017	119	147	3	0	269
2018	146	553	0	0	699
2019	150	585	19	2	756
2020	38	300	9	13	360
<b>Total</b>	<b>483</b>	<b>1,585</b>	<b>31</b>	<b>15</b>	<b>2,114</b>

# COST OF TREE REMOVAL- VENDOR

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- Trees are removed mostly by vendors
- Avg cost to completely remove and dispose a medium sized tree is \$520/tree in OC
- One CDFA staff accompany the vendor every time a tree is removed
- Salary of staff and cost of the rental vehicle plus gas



# HLB TREATMENTS –DELIMITATION AND AREAWIDE

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Year	Delim. Properties treated	Area Wide Properties Treated
2017 – 2018	34,286	16,289
2018 – 2019	24,668	7,258
2019 – 2020	15,039	9,748

# COST OF ACTIVITIES IN SOUTHERN DISTRICT

Activities	Expenditures Oct 1, 2019 thru Sept 30, 2020
Areawide Treatments	\$378,067
HLB Delimitation Survey	\$1,780,777
HLB Delim. Treatments and Tree Removals	\$3,148,341

**Bulk Citrus Enforcement**  
**July - August 2020**

County	NOVs			NOPAs		
	Grower	Transporter	Total	Grower	Transporter	Total
Riverside	0	4	4	0	0	0
San Diego	2	0	2	0	0	0
Tulare	0	37	37	0	26	26

# Santa Clara Treatment Project

Citrus Pest and Disease Prevention Committee  
Operations Subcommittee Meeting  
November 4, 2020



# Termination of Treatment: Factors

- Detections of adult ACP scattered over 10 or more sites in several delimitation trapping grids
- Detection of nymphs and/or eggs in three or more delimitation grids
- Cost of treatment relative to available funds





# Actions to Replace Treatment

- Delimitation trapping density reduced to 25 traps per square mile
- Collection of ACP at properties with large numbers of ACP
- ACP tested for HLB
- Biocontrol agents released as appropriate and available





# Regulatory Status

All nursery stock is treated and tagged

- 8 wholesale nurseries in Santa Clara county
- All under compliance and conducting 90-day treatments



# Regulatory Status (continued)

All fruit is cleaned free from stems and leaves and remains local

- 1 grower under compliance who donates fruit locally
- 2 fruit sellers under compliance who grow and sell locally





# Santa Clara Treatment Project

## Discussion

# Statewide GL Coordinator Update for the 11/4/20 Operations Meeting

## Staffing

The Riverside and San Diego GL positions have closed as of 9/23 and 9/16 respectively. As of 9/28, we still have no candidate for Riverside. I am pleased to announce that Sandra Zwaal had been selected as the GL San Diego County.

## Fresno County – Sylvie Robillard

Sylvie reports there are no psyllid finds in Fresno County. It is over two years since there has been a find in commercial citrus. At the direction of the SJV Task Force, Sylvie and the other Valley Liaisons, sent out a statement regarding the increase in psyllid activity in Kern County

## Northern Tulare County- Teri Blaser

There still have not been any trap or live finds of Asian citrus psyllid in Northern Tulare County. Teri, along with the other four grower liaisons in the Central Valley, distributed a letter that the ACP/HLB San Joaquin Valley Task Force composed outlining concerns regarding the alarming number of ACP trap finds in Kern County. The letter was sent to all contacts for each grower liaison. It has been at least two years since there has been a trap or live find in Northern Tulare County

## Southern Tulare County – Jessica Leslie

For the month of October 2020, there have been no new ACP finds in Southern Tulare County. The last ACP trap detection was back in the month of June and has been the only find so far in Southern Tulare County for 2020. There has not been any HLB trees found in SJV as of now. There has been a total of **2110** HLB confirmed trees within the entire state of California. All of those confirmed trees remain within LA, Riverside, San Bernardino, and Orange Counties. Jessica has continued to send out her monthly e-mail updates to all interested parties as well as reaching out to current and prospective PMA team leaders. If anyone who is not currently receiving her monthly e-mail updates is interested, please e-mail or call Jessica.

## Kern County – Judy Zaninovich

Judy reports there have been quite a few ACP detections since reported last month. The majority of the detections have been in residential properties or rural residential properties. The **37** detections were located in or near the cities of Arvin, Lamont, Maricopa, Mettler, and Bakersfield. Additionally, a breeding population of ACP was found during surveys by CDFA staff on a property with several citrus trees along Laval Road. CDFA has treated or in the process of treating all the find sites and adjacent properties. The remaining residential properties within the treatment area will be treated after the public meeting is held (virtually) on October 28<sup>th</sup>.

Also, Judy reports another **27** detections were found in commercial citrus orchards east and south of Bakersfield. Many of the detections were located in the area along Rancho Road south of



Sebastian – an area that has been a hotspot in the past. The remaining detections were found in the areas of Edison, Arvin, Mettler, and Maricopa. All of the growers within the 800-meter treatment areas were quickly notified and are cooperating in making the requested treatments. The protocol of two ACP-effective treatments for this area under eradication efforts was developed by the University of California.

So far in 2020, there have been a total of **74** ACP detections in Kern County which is the highest number of detections since 2017. Judy has been reminding growers that the program was successful in significantly dropping the ACP population in the past as long as the program is able to treat the residential citrus trees and growers also do their part. Additionally, CDFA made releases of Tamarixia near the residential areas near detections in Bakersfield and Arvin and are planning to make additional releases in other rural cities with detections.

As reported last month the Glassy-winged Sharpshooter Area-wide Management Program is currently working with citrus growers in the Highway 65 region for an area-wide treatment on approximately 15,000 acres for the pest. And this program will be also working with growers in the Edison/Arvin area for treatments in December. These treatments will also help in suppressing any un-detected ACP populations.

#### [San Luis Obispo County - Cressida Silver](#)

There have been no new ACP detections. There is concern about impacts of nearby cannabis grows on citrus management options and response to ACP in the future. Cressida sent her monthly email update to growers, PCAs, PCOs, packing house reps and other industry members, copying County, CDFA, and CPDPC members as well.

#### [Santa Barbara County - Cressida Silver](#)

The fall AWM treatment windows have ended for Santa Barbara County growers. Cressida is collecting PURs and other treatment information from the county and individual growers to determine participation percentages. Grower concerns continue regarding impact of nearby cannabis on citrus growers' ability to manage their orchards. Cressida sent her monthly email update to growers, PCAs, PCOs, packing house reps and other industry members, copying County, CDFA, and CPDPC members as well.

Cressida is organizing a general grower meeting via Zoom for November 6, with representatives from the CAC, CDFA and Dr. Rivera from UCR on the agenda.

#### [Ventura County - Sandra Zwaal and Cressida Silver](#)

The second fall ACP area-wide treatments are ongoing through mid-November. Both grower liaisons, Sandra, and Cressida, continue to encourage ACP areawide treatments by reminding growers and following up when there is no record of treatment. PURS and grove/grower information is routinely updated.

CRB is currently updating the Ventura Co. citrus layer. It is expected to be complete within a week. At the request of the citrus community, grower liaisons are coordinating a grower

meeting/webinar with CDFA to review the existing HLB quarantine regulations and protocols, discuss potential future regulations/protocols, and to answer questions.

The Ventura Co. Resource Conservation District (VCRCD) received grant funds for a pilot project offering to replace residential citrus with either native trees or an alternative fruit tree. The project is expected to begin in the next couple of weeks and will focus on residential citrus surrounding a couple of cooperating citrus groves in the Ojai Valley area.

### San Bernardino County – Sandra Zwaal

Two additional commercial groves, previously unknown, were found in the Rancho Cucamonga 5-mile HLB quarantine, bringing the total number of commercial citrus sites in the HLB quarantine to nine.

The second Fall ACP areawide treatment began October 15 and ends mid-November. Although finding PCOs willing to treat and manage citrus in this region has been a challenge, there is a new PCO working the groves in the county who has done a great job with scheduling treatments and communicating back to this region's grower liaison, Sandra. As a result, it is anticipated that ACP treatment cooperation and percentages slightly increase. To further increase treatment cooperation, the Ag Commissioner will be distributing letters to citrus growers encouraging treatment. Sandra will piggy-back those efforts with follow-up for untreated groves.

The task force recognizes that additional focus is needed on neglected and abandoned citrus. Tree removal programs such as the NRCS, RCD, and water district programs, are being researched to help incentivize growers with unmanaged groves. Sandra is collaborating with Farm Bureau, IERCD, Redlands Citrus Preservation Commission, and the Ag Commissioner's office to help find and/or create tree removal/replacement programs as a tool to encourage unmanaged tree removal.

The San Bernardino Task Force performed their first Zoom meeting that included CDFA guests, Keith Okasaki and Paul Figueroa, to review the new mitigation protocols that took effect August 4, 2020 and to review the buffer treatment zones. Sandra provided attendees with an update on local HLB numbers and quarantine zones and emphasized the importance of being diligent with their ACP areawide treatments.

### Riverside County – Vacant

*Coachella – Riverside County Citrus Pest Control District No. 2* – Thanks to Tim Hoesterey

Our Area-wide ACP treatment has finished, and the District manager is now focusing on issuing the growers their ACP reimbursements. Accurate percentages of the area-wide compliance will be calculated once the reimbursements are completed.

The District has also completed the treatment of non-production citrus trees at locations that have 25 or more trees. A total of 1,391 trees were treated with a speed sprayer at 13 different locations, and a total of 1,630 trees were treated with a hand sprayer at 17 different locations. The District also coordinated the injection of 2 small ranches with imidacloprid, sprayed 1 large flood irrigated ranch, and provided the material imidacloprid for just under 600 acres. The District is just starting its beneficial releases for ACP at locations with either less than 25 trees, or where the trees did not get treated.

Lastly the District will continue our intensive tree removal program of citrus trees that are in close proximity to commercial groves and are difficult and costly to treat. To date the District has removed 3,412 citrus trees at 48 different locations. A couple of locations are tentatively scheduled to have trees removed shortly.

#### Imperial County – Curtis Pate

No live or ACP trap detections have occurred this month.

Fall Imperial County AWT systemic applications and foliar treatments have been completed. Compliance was 100% for all zones with the exception of a misunderstanding in PCD protocol from CDFA guidelines that affected one growing zone. This misunderstanding has been addressed. In the future, a science-based exception will be made, or the treatments will be made in less than 3 weeks of each other.

The PCD, in cooperation with CDFA, continues to look for opportunities to use a more local approach to detection and control of ACP and HLB. They are coordinating trap placement driven by local knowledge of traffic patterns and higher risk areas but that may be expanded for additional opportunities.

Lemon harvest is ongoing

#### San Diego County – Sandra Zwaal

The new San Diego GL, Sandra Zwaal, is collaborating with the previous three GLs, the San Diego Ag Commissioner's office, and the CRB and reviewing the information provided by them, including the local citrus industry distribution list, the CRB citrus layer, and the grower list. She has also been provided access to the CAPS system to run pesticide use report (PUR) reports and is currently reviewing groves that have treated. A monthly San Diego Co. ACP/HLB update has been distributed to over 1000 contacts that included an introduction of herself and is encouraging citrus growers and supporting partners to reach out to discuss their situations or treatment protocols. Fortunately, the three previous GLs are still in citrus and have been very accessible, open with information, and available with their time. They have been providing Sandra with information and the progress that San Diego has made since the program began.

In preparation for HLB, the San Diego Ag Commissioner's office is finalizing their Quarantine Response Plan and will distribute when complete. A grower meeting/webinar is being coordinated for CDFA to review the existing HLB quarantine regulations and protocols, discuss

potential future regulations/protocols, and to answer questions. Psyllid management areas (PMAs) are in the process of being added to all commercial citrus in the San Diego county citrus layer. Reviewing smaller groups of groves will be helpful when coordinating and reviewing ACP area-wide treatments and other ACP or HLB activities.

## Neglected/Abandoned Groves

No changes reported by the CACs. The GLs continue to work with the growers and CAC staff to address any suspected abandoned groves. There may be an update in Tulare soon, as the CAC and GLs review the data.

County	BOS Sup (Y/N)	Co Coun Sup (Y/N)	#Groves Report'd	#Groves Confrmd N/A	Total Acs (100 trees/ac) Confrmd	#owners contactd	#1st Letrs	#2nd Letrs	#3rd Letrs	#Heard	Hears won	#Hears lost	Groves Remvd	Total Acres Remvd	#Groves Rem'd	Acres Rem'd	#Groves Pndg	Total Acres Pndg			
Fresno																					
Kern	Y	Y	3	1	60.36	1											1	60.36			
Madera																					
SLO	Y	Y																			
Tulare	Y	Y	88	88	1148	88	44			1	1	0	66	908	9	79	13	161			
<b>Subtotal</b>			<b>91</b>	<b>89</b>	<b>1208.36</b>	<b>89</b>	<b>44</b>			<b>1</b>	<b>1</b>	<b>0</b>	<b>66</b>	<b>908</b>	<b>9</b>	<b>79</b>	<b>14</b>	<b>221.36</b>			
Imperial	Y	Y	1	1	6	1							1	6							
LA																					
OC																					
Coachella			48	48	34.12	48							48	34.12					Coachella is a PCD in Riverside		
Riverside	Y	Y	92		264.81	43	43	43	11				22				35				
San Brdo																					
SD	Y	Y	108	61	1693	61	39	28	24				37	774		71	919				
Sta Barb																					
Ventura	Y	Y																			
<b>Subtotal</b>			<b>108</b>	<b>110</b>	<b>1997.93</b>	<b>153</b>	<b>82</b>	<b>71</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>108</b>	<b>814.1</b>	<b>0</b>	<b>71</b>	<b>954</b>	<b>0</b>			
<b>Total</b>			<b>340</b>	<b>199</b>	<b>3206.29</b>	<b>242</b>	<b>126</b>	<b>71</b>	<b>35</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>174</b>	<b>1722</b>	<b>9</b>	<b>150</b>	<b>968</b>	<b>221.36</b>			





# ACP DETECTOR CANINES

HLB/MAC FUNDED RESEARCH PROJECT

Presentation for CPDPC Operations Committee Meeting

November 4, 2020

WHERE MAN'S BEST FRIEND FINDS IT!

PEST CONTROL – AGRICULTURE – FOOD SAFETY



# ACP Detector Canines

**HLB/MAC has decided to transfer ownership of Tango, Eureka, & Encore to Canine Detection Services**



**TANGO**  
English Springer  
Spaniel



**EUREKA**  
Silver Labrador  
Retriever



**ENCORE**  
Black Labrador  
Retriever



**SALLY**  
Mixed Breed



**TIMBER**  
Black Labrador  
Retriever



**HUNTER**  
German  
Shorthair Pointer



# Two Dogs, Two Days In Bakersfield

## No Training Aids Allowed On This Trip



ENCORE  
Black Labrador  
Retriever



SALLY  
Mixed Breed

## We Learned

- Encore can effectively search with dogs aggressively barking at her through their kennel. Sally cannot.
- Sally can effectively search with chained or kenneled passive dogs in the yard.
- Both can work around sheep, chickens & cats.
- Noted decrease in drive (search motivation) midday without training aids. This can result in missing ACP.
- Dogs alerted on populations CDFA already knew about and received reward



# Working With CDFA In Kern County

**CDFA and County Ag  
Commissioner Staff Present**



**2 Days**

- Residences Inspected- 12
- October 15 – 5 hours 10 min
- October 16 – 4 hours
  - Required to work in presence of CDFA staff. Mgr. came from Fresno.
  - Much time spent traveling, explaining and strategizing.
- Total Citrus Trees Inspected – 68
- K9 Alerts on 6 Trees
- K9 Inspection Time/tree: 0:38



# Trap Find Site #1

## Sally Alerting on Trap Find Tree



## Duration of Verification?



## Results

- “Non-Productive Alerts”
  - Canine indicates presence of ACP odor
  - No live ACP found
  - Is dog wrong?
- Encore Alerted 15-20 feet down wind from this tree.
- No access to citrus in back yard- 20 feet away



## Trap Find Site # 2

- Both dogs cleared small trees with previous trap find.
- Rural residence with few trees in yard.
- Only almonds and open land around.





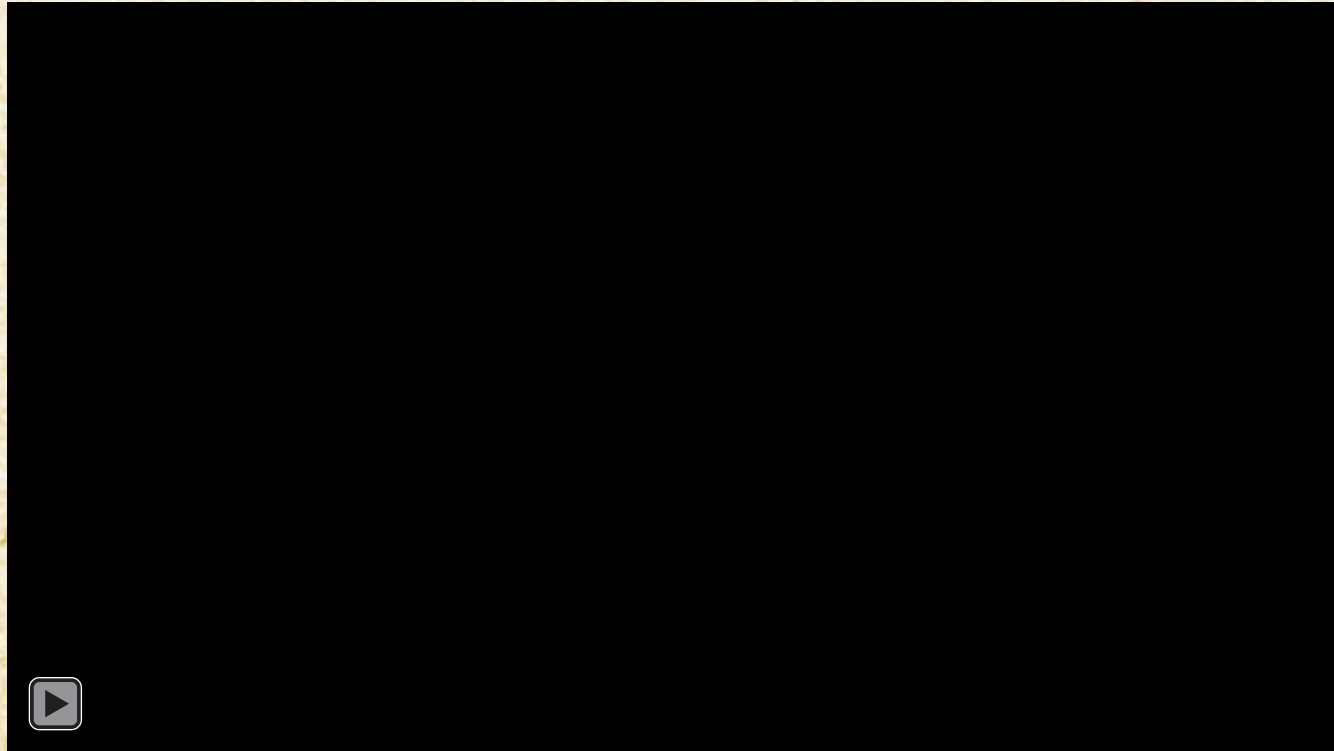
# Trap Find Site # 3

- Rural residence with 13 citrus trees.
  - One tree in front yard which was the trap find tree.
  - Twelve citrus trees in back yard among many other trees.
- Two non-productive alerts on back yard trees.
- The method of visual inspection after K9 alerts and time frame needs to be developed.
- Problem experienced with ant bites on K9's foot.
  - After washing and treating the sting with alcohol, she went back to finish the job.



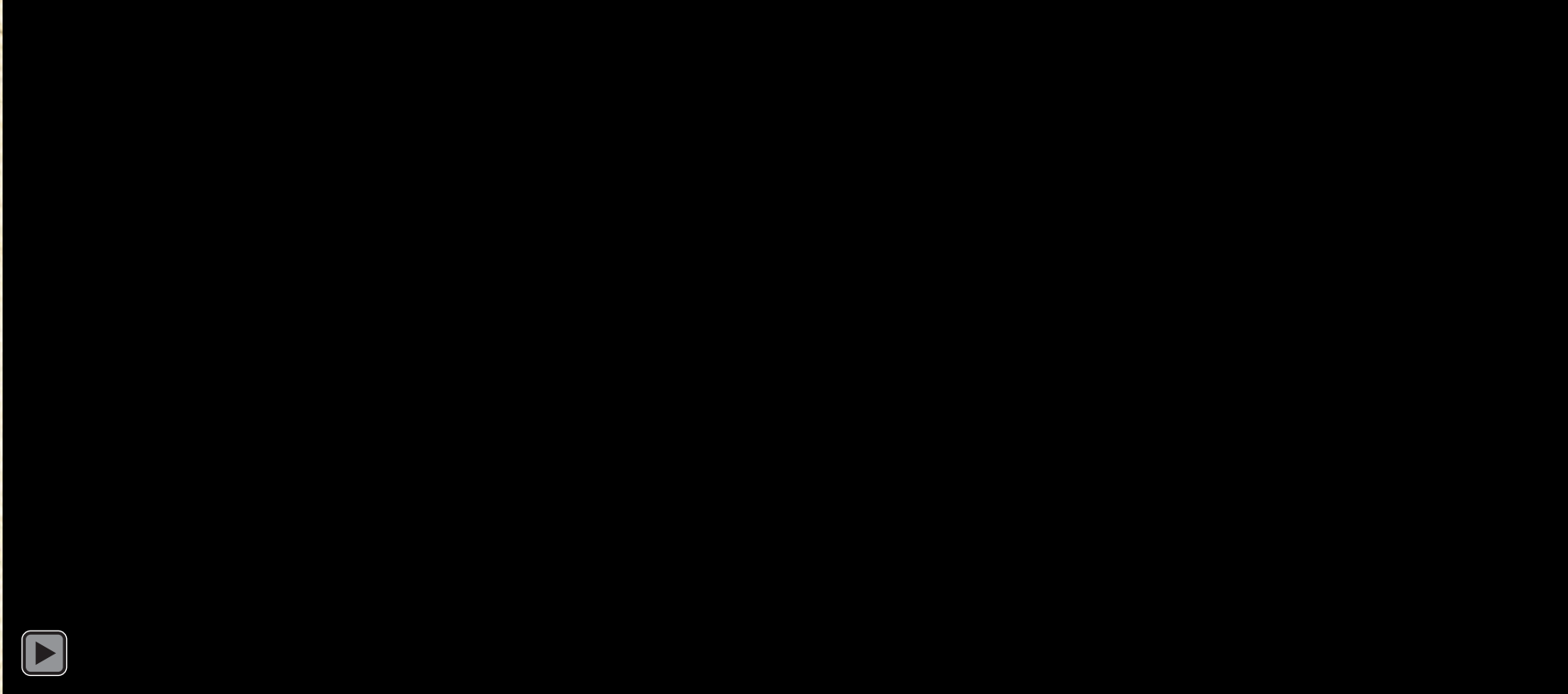
# Trap Find Site # 4

- Both dogs had “Productive Alerts” at different small trees with verified ACP nymphs in low numbers.
- Handler unaware of confirmed trees.
- There was one additional alert on a tree near this tree which was “Non-Productive” meaning we could not find live ACP. It was a large tree.





## 8 Adjacent or Random Residence Inspected



- The dogs cleared 39 Trees on 8 additional properties.
- We allow the K9s to search non-citrus trees, but we don't direct them to cover all the trees. This is done to conserve the dogs "nose time".



# The Future

- Scheduled to work with CDFA again November 3, 4, and 5.
- Current plan is to work with the CDFA treatment staff.
- Meeting to be scheduled with Victoria, Lisa and Jennifer (CDFA Staff Overseeing the K9 trial) to discuss learnings and strategize best ways to utilize the dogs.
- Currently there is no contract between CDFA and Canine Detection Services.
- Expenses for trip in October were covered with HLB/MAC grant funding.
- Permit has been issued by CDFA to use dead ACP in vials as a pseudo-scent in Kern county. Other pseudo scents need to be developed.
- As of November 1 we are a commercial enterprise looking for work!