



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield

**Georgia Mosquito Control Association
31st Annual Meeting**

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Winn Army Community Hospital
Fort Stewart GA**



UNCLASSIFIED



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



BRIEFING OUTLINE

PURPOSE: To provide information on Mosquito surveillance program at Ft Stewart/Hunter Army Airfield (HAAF).

1. Importance of Surveillance Program
2. Challenges at FT. Stewart/HAAF
3. Innovative Solutions
4. Upcoming features
5. Conclusion



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



IMPORTANCE OF SURVEILLANCE PROGRAM

- Eyes and ears for mosquito activities
 - Location
 - Density
 - Species
- Reliable information for control
 - Significance for control
 - Selecting proper control tactic
 - Improved communication
- Saves money
 - Cost-benefit analysis
 - Program evaluation



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



CHALLENGES AT FT. STEWART/ HAAF

- Surveillance sites
 - Large Installation property
 - Approximately 285,000 acres
 - Large wetland
 - Numerous potential breeding sites
 - Two installations
 - 30 miles separate two installations



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



CHALLENGES AT FT. STEWART/ HAAF (continued)

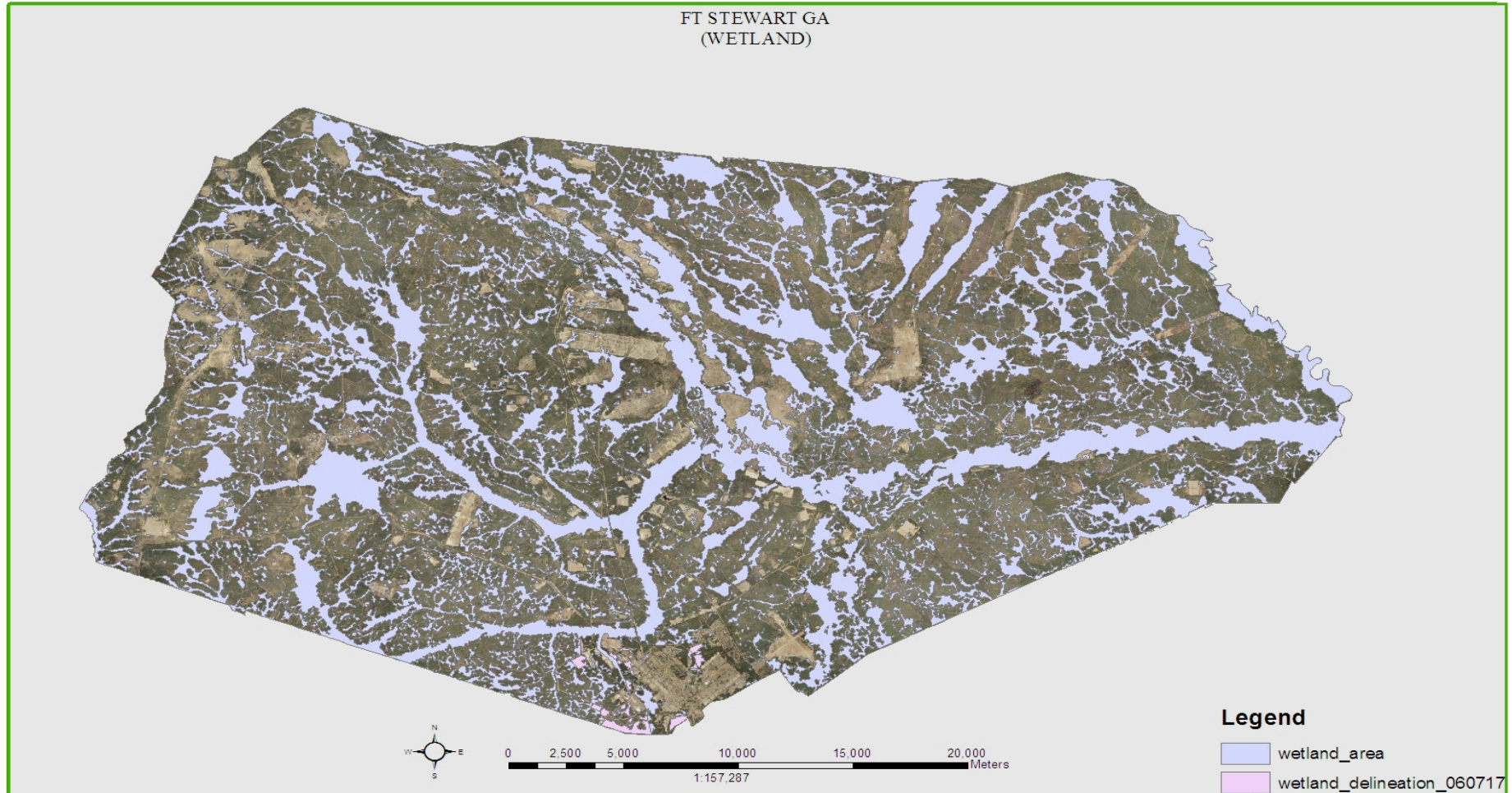




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CHALLENGES AT FT. STEWART/ HAAF (continued)





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CHALLENGES AT FT. STEWART/ HAAF (continued)

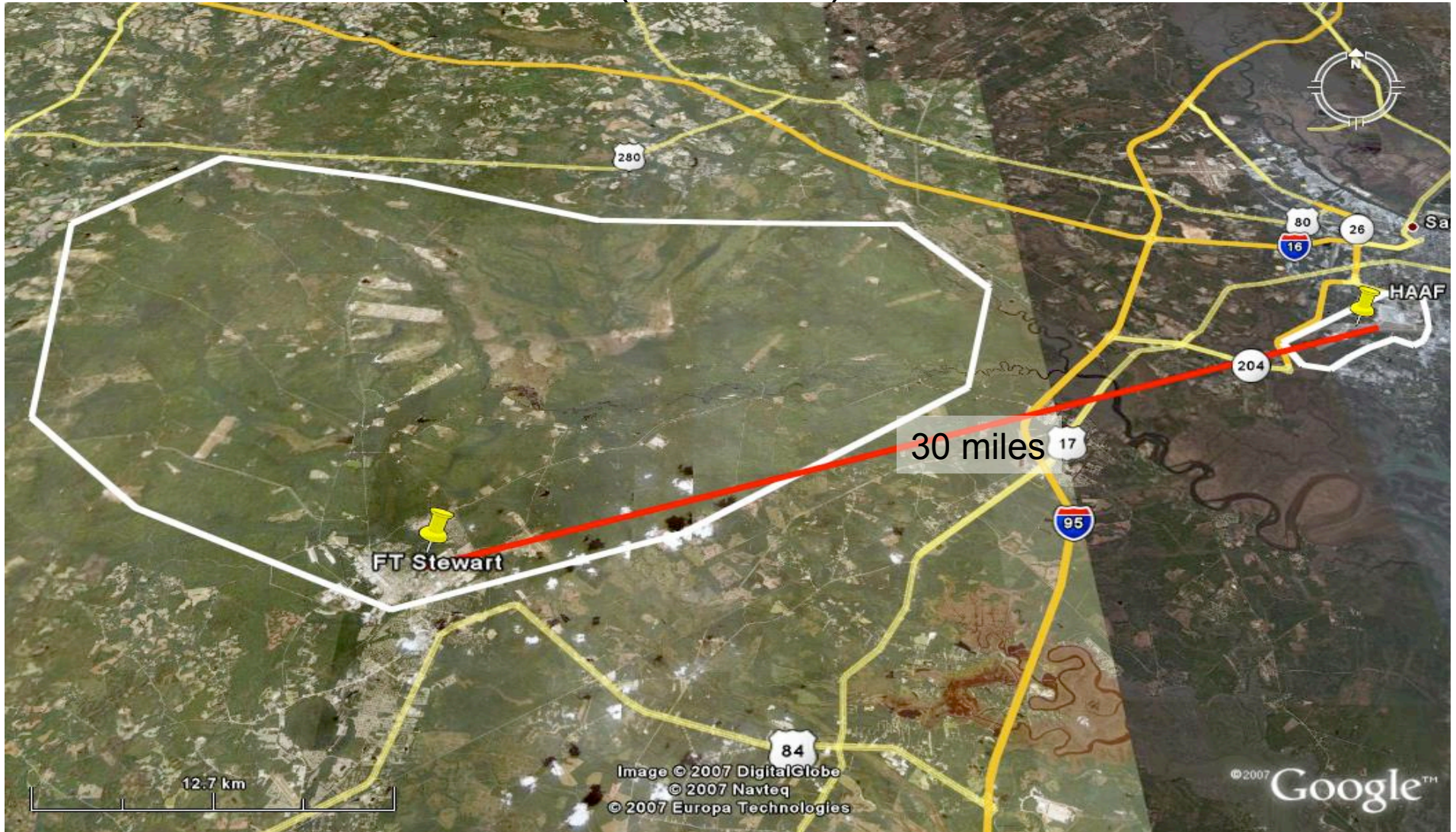
MOVIE



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



CHALLENGES AT FT. STEWART/ HAAF (continued)





Mosquito surveillance program at
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CHALLENGES AT FT. STEWART/ HAAF (continued)

- Information management
 - From survey sites
 - Georeferenced location
 - Site information
 - Specimens captured
 - Database required
 - Keep track of all information
 - Data presentation



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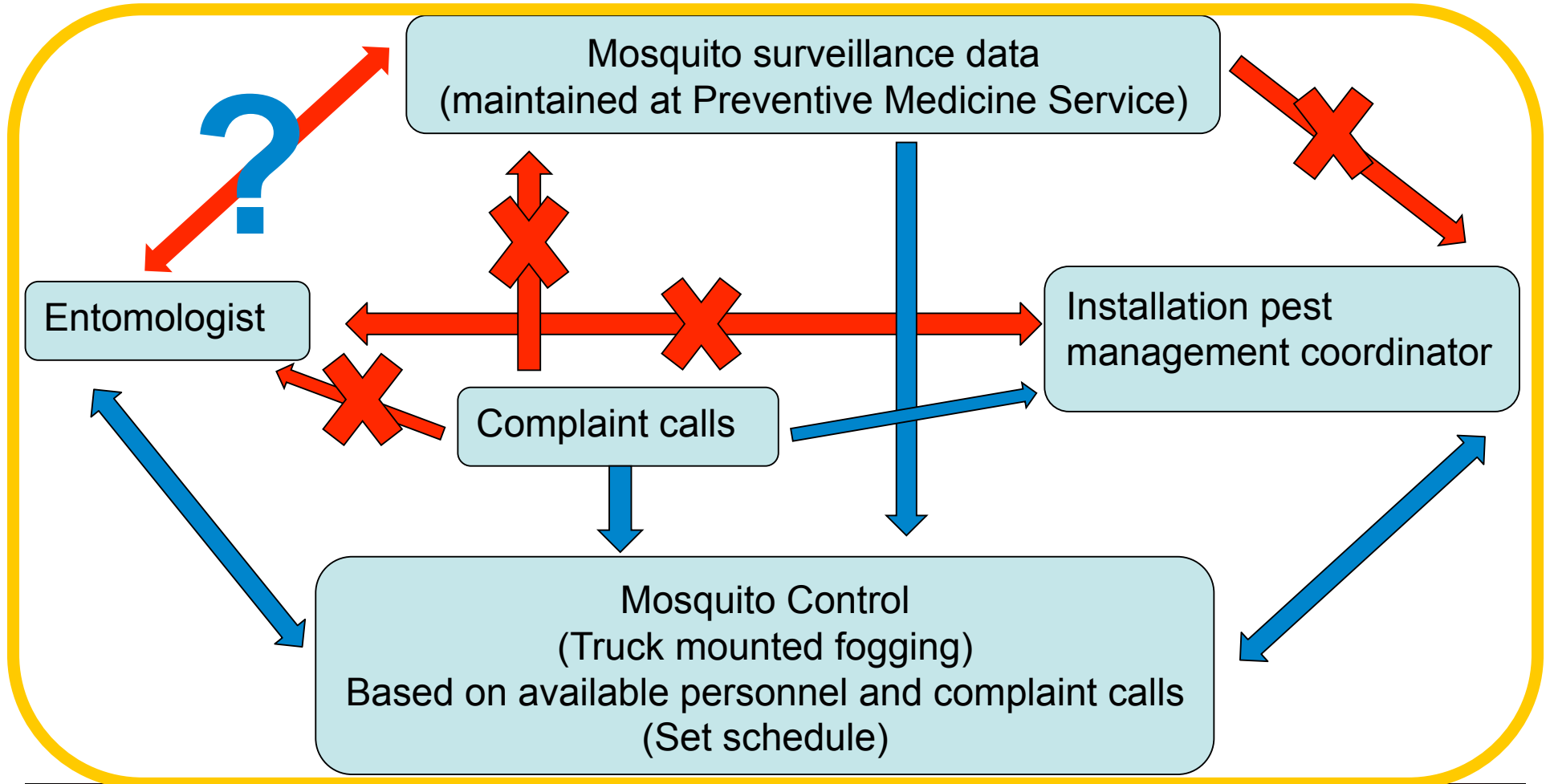
CHALLENGES AT FT. STEWART/ HAAF (continued)

- Communication
 - Surveillance to control
 - Preventive Medicine service to pest management base operation
 - Entomologist to Installation pest management coordinator (IPMC)
 - Lack of communications
 - Surveillance report necessary
 - Within Preventive Medicine Service
 - Specialized personnel
 - Lack of continuity between personnel



CHALLENGES AT FT. STEWART/ HAAF (continued)

Communication chains within mosquito surveillance program in 2006





Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS

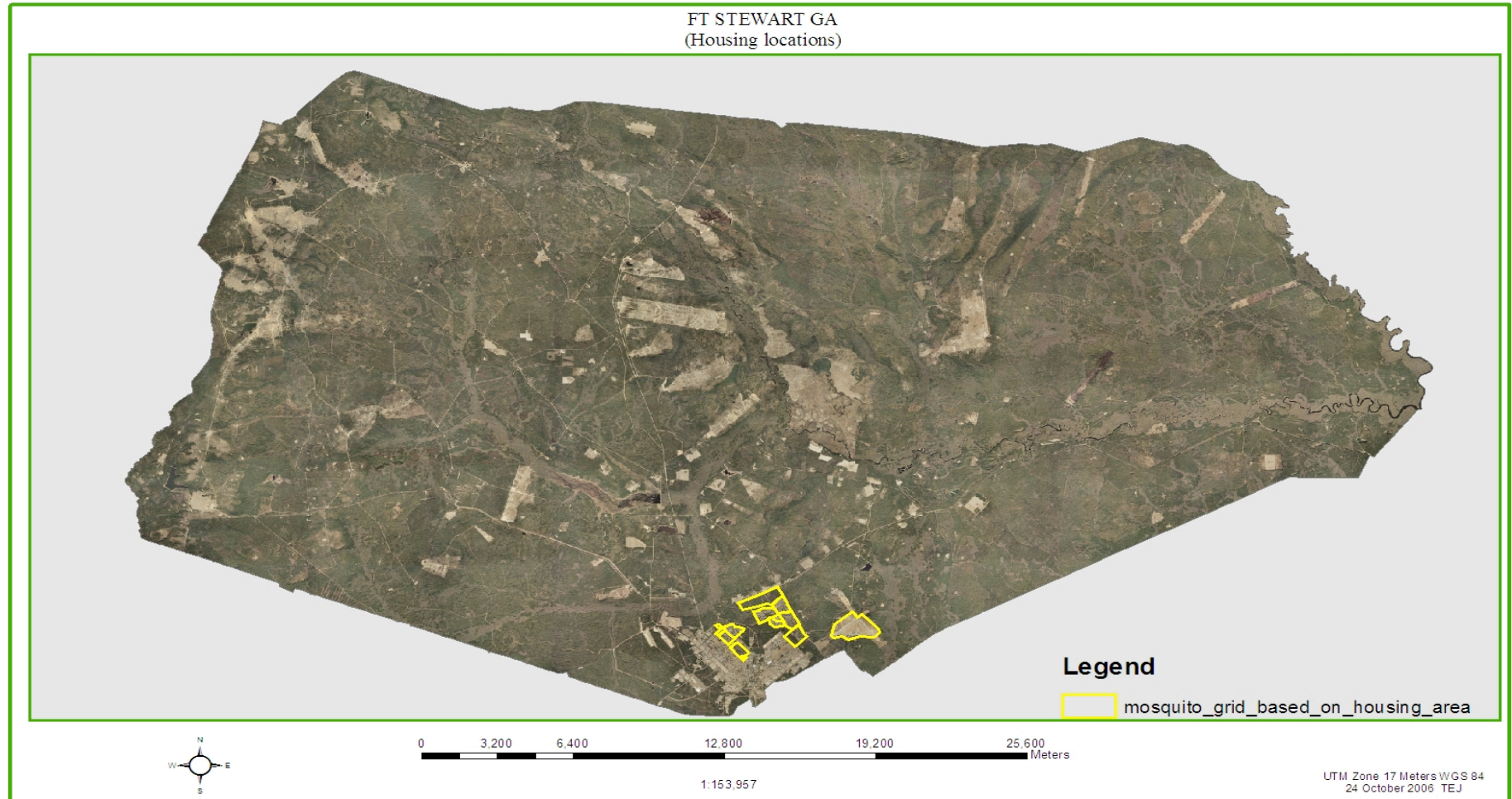
- Surveillance sites
 - Surveillance program concentrated on cantonment area
 - Seven semi permanent trap sites based on housing area
 - Four light trap Sites
 - Three Gravid Trap Sites
 - Focus on vector species
 - Culex quinquefasciatus -West Nile Virus Vector of region
 - Four pre-established trap locations outside of cantonment area
 - Per request
 - Quantify mosquito populations in untreated area
 - Large wetland
 - Trap placed on the wood lines and housing area
 - Two installations
 - Assistance from the local county mosquito control
 - Weekly report from Chatham County Mosquito Control



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INNOVATIVE SOLUTIONS (continued)





Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS (continued)



Housing Area



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS (continued)

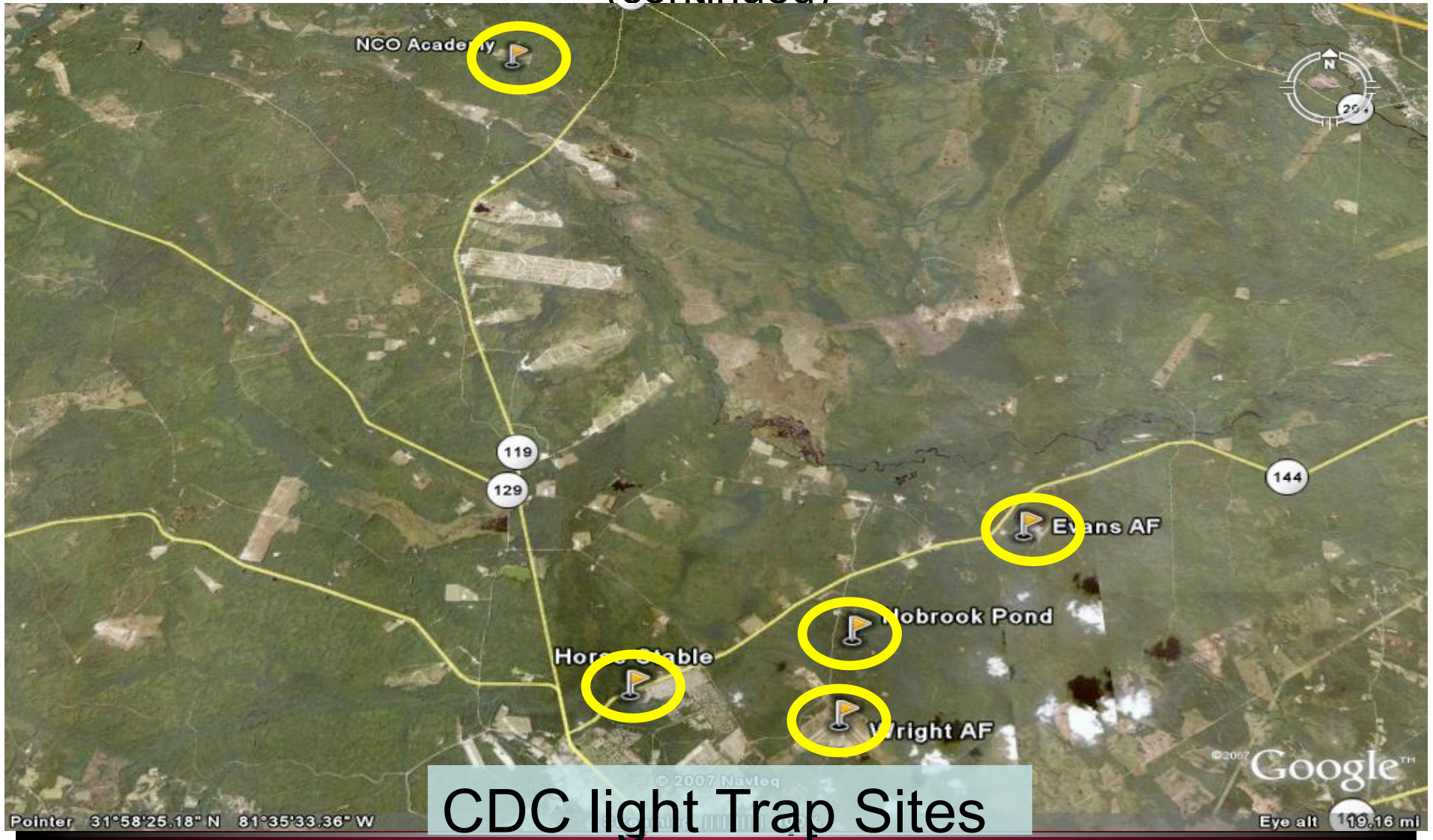




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INNOVATIVE SOLUTIONS (continued)





Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS (continued)

- Information management
 - From survey sites
 - Georeferenced locations using hand-held GPS and PDA
 - Site information captured and stored each season
 - Specimens information stored in digital library
 - Geographic Information System (GIS) program and Google Earth
 - Database required
 - Microsoft Access program aided Excel spread sheet
 - Data presented in weekly report



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS (continued)





Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



INNOVATIVE SOLUTIONS (continued)

Mosquito Form

Mosquito Type **Adult**

Rotation **Standard**

Location **[A7] French Rd. P.T Track** Grid: **MR 43024 27052** Installation: **FT STEWART** County: **Liberty**

Trap Date

- 18-Jun-07
- 19-Jun-07
- 25-Jun-07
- 26-Jun-07
- 02-Jul-07
- 03-Jul-07
- *

Trap Type: **GT** (Light Trap w/CO2 (LTC), Light Trap W/O CO2 (LTX), Gravid Trap (GT), Mosquito Magnet (MM), Other (O))

Collection Date: **03-Jul-07**

Trap Nights: **1**

Ship Date:

Results Date:

Collected By: **PFC Casarez, Adrianna**

Log No: **07-100**

Duration: **1.50**

Notes/Comments:

Species	# Fema	# Pos Wl	# Pos EE	# Pos Malari	# Pos Deng
* Aedes	23	0	0	0	0
Anopheles	0	0	0	0	0
Culex					
Culiceta					

Record: 1 of 1

Refresh Form

Menu

Locality information

Date, Method, Site information

Specimen information

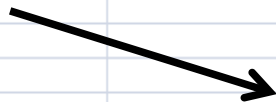


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INNOVATIVE SOLUTIONS (continued)

	A	B	C	D	E	F	G	H
	Laboratory Log No	Date	Collection Date	Location	Trap Type	Grid	Inspector	# Female
124	N/A	25-Jun-07	26-Jun-07	(A12) Southern Oak Housing	O	MR 44603 27717	Mr. Jelinek, Charles	0
125	07-094	25-Jun-07	26-Jun-07	(A13) Bryan Village North Community	O	MR 43951 29039	Mr. Jelinek, Charles	6
126	07-095	26-Jun-07	27-Jun-07	(A3) Woods Behind Vet Clinic	GT	MR 41724 24669	PFC Casarez, Adrianna	3
127	N/A	26-Jun-07	27-Jun-07	(A5) Liberty Wood Community	O	MR 42521 29071	Mr. Jelinek, Charles	0
128	07-096	26-Jun-07	27-Jun-07	(A7) French Rd. P.T Track	GT	MR 43024 27052	PFC Casarez, Adrianna	47
129	07-097	26-Jun-07	27-Jun-07	(A8) McFarland Rd. P.T Track	GT	MR 40310 26870	PFC Casarez, Adrianna	34
130	N/A	26-Jun-07	27-Jun-07	(A12) Southern Oak Housing	O	MR 44603 27717	Mr. Jelinek, Charles	0
131	07-098	26-Jun-07	27-Jun-07	(A13) Bryan Village North Community	O	MR 43951 29039	Mr. Jelinek, Charles	6
132	07-099	2-Jul-07	3-Jul-07	(A3) Woods Behind Vet Clinic	GT	MR 41724 24669	PFC Casarez, Adrianna	4
133	N/A	2-Jul-07	3-Jul-07	(A5) Liberty Wood Community	O	MR 42521 29071	Mr. Jelinek, Charles	0
134	07-100	2-Jul-07	3-Jul-07	(A7) French Rd. P.T Track	GT	MR 43024 27052	PFC Casarez, Adrianna	23
135	07-101	2-Jul-07	3-Jul-07	(A8) McFarland Rd. P.T Track	GT	MR 40310 26870	PFC Casarez, Adrianna	5
136	N/A	2-Jul-07	3-Jul-07	(A12) Southern Oak Housing	O	MR 44603 27717	Mr. Jelinek, Charles	0
137	07-102	2-Jul-07	3-Jul-07	(A13) Bryan Village North Community	O	MR 43951 29039	Mr. Jelinek, Charles	12
138	N/A	3-Jul-07	4-Jul-07	(A3) Woods Behind Vet Clinic	GT	MR 41724 24669	CPT Kim, Hee	0
139	N/A	3-Jul-07	4-Jul-07	(A5) Liberty Wood Community	O	MR 42521 29071	CPT Kim, Hee	0
140	07-103	3-Jul-07	4-Jul-07	(A7) French Rd. P.T Track	GT	MR 43024 27052	CPT Kim, Hee	3
141	07-104	3-Jul-07	4-Jul-07	(A8) McFarland Rd. P.T Track	GT	MR 40310 26870	CPT Kim, Hee	5
142	N/A	3-Jul-07	4-Jul-07	(A12) Southern Oak Housing	O	MR 44603 27717	CPT Kim, Hee	0
143	07-105	3-Jul-07	4-Jul-07	(A13) Bryan Village North Community	O	MR 43951 29039	CPT Kim, Hee	6
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All Information extracted from
Access database



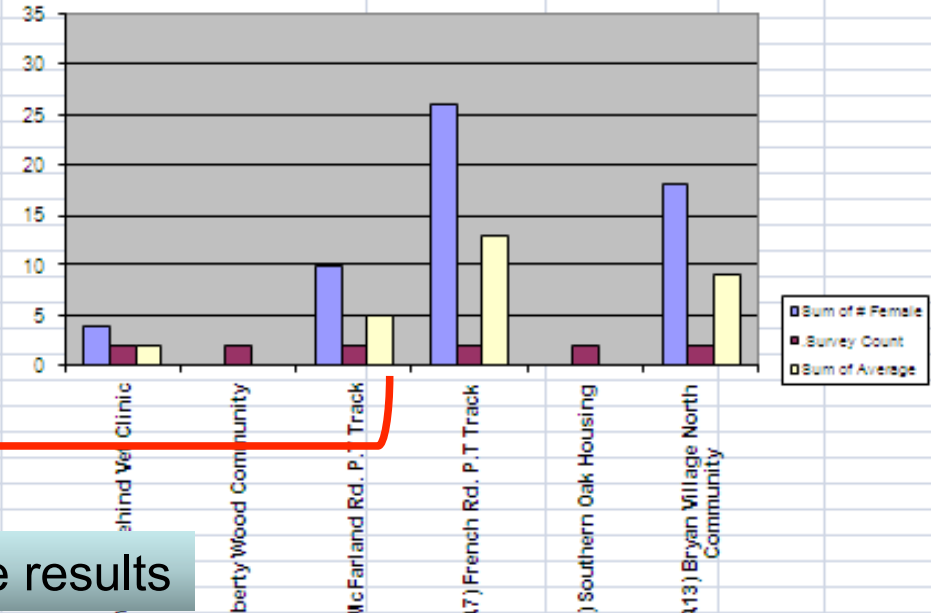
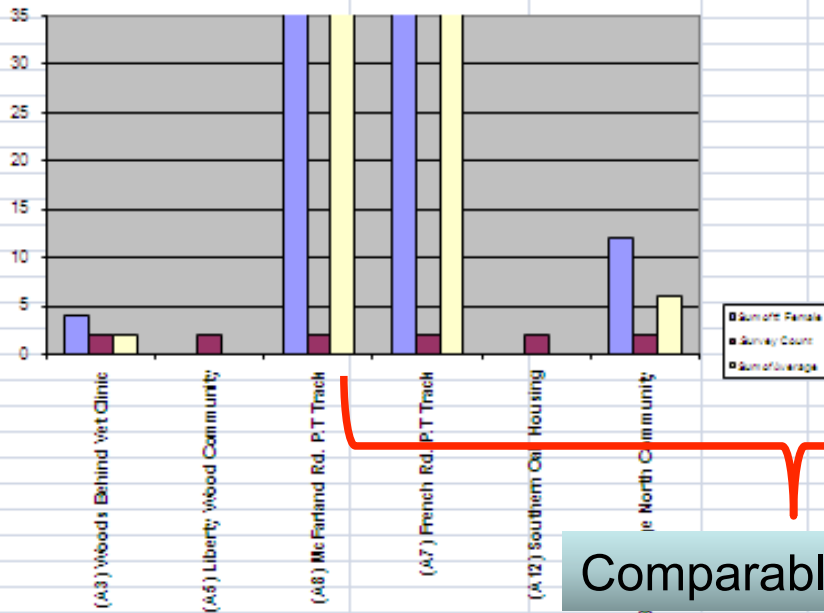
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INNOVATIVE SOLUTIONS (continued)

Weekly Report

Last Week				This Week			
Location	# Female	.Survey Count	Average	Location	# Female	.Survey Count	Average
(A3) Woods Behind Vet Clinic	4	2	2.00	(A3) Woods Behind Vet Clinic	4	2	2.00
(A5) Liberty Wood Community	0	2	0.00	(A5) Liberty Wood Community	0	2	0.00
(A8) McFarland Rd. P.T Track	77	2	38.50	(A8) McFarland Rd. P.T Track	10	2	5.00
(A7) French Rd. P.T Track	77	2	38.50	(A7) French Rd. P.T Track	26	2	13.00
(A12) Southern Oak Housing	0	2	0.00	(A12) Southern Oak Housing	0	2	0.00
(A13) Bryan Village North Community	12	2	6.00	(A13) Bryan Village North Community	18	2	9.00
Grand Total	170	12	14.17	Grand Total	58	12	4.83



Comparable results

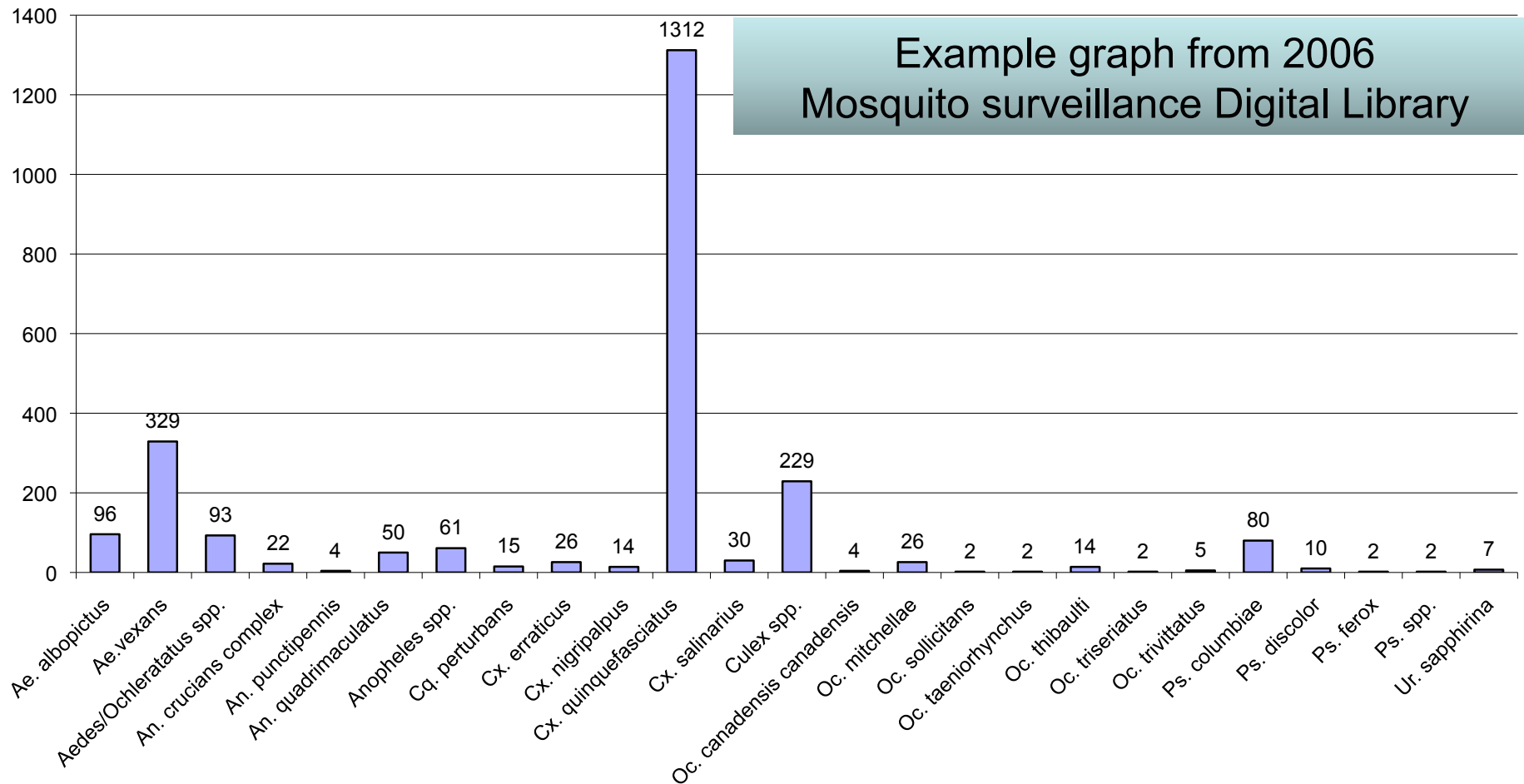


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INNOVATIVE SOLUTIONS (continued)

Mosquito Species Comparisons 2006





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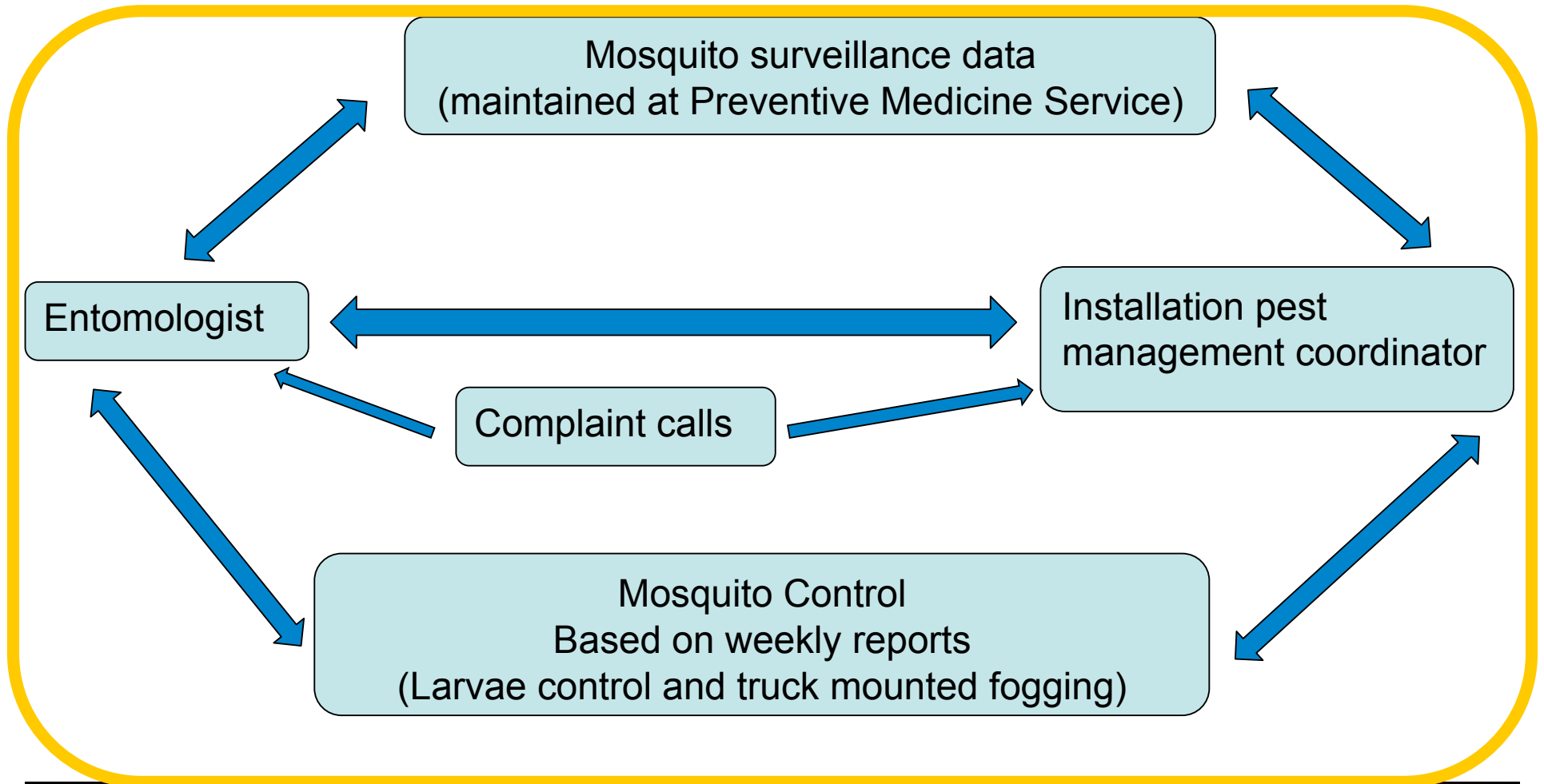
INNOVATIVE SOLUTIONS (continued)

- Communication
 - Surveillance to control
 - Preventive Medicine service to pest management base operation
 - Advisory role
 - Eyes and ears
 - Improved communications
 - Weekly report to IPMC
 - Semi-annual, pre-post mosquito season meetings



CHALLENGES AT FT. STEWART/ HAAF (continued)

Communication chains within mosquito surveillance program in 2007





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INNOVATIVE SOLUTIONS (continued)

- Communication
 - Within Preventive Medicine Service
 - All Environmental Health Section personnel trained
 - Seasonal digital and hard copy surveillance information



Mosquito surveillance program at Ft Stewart/Hunter Army Airfield



UPCOMING FEATURES

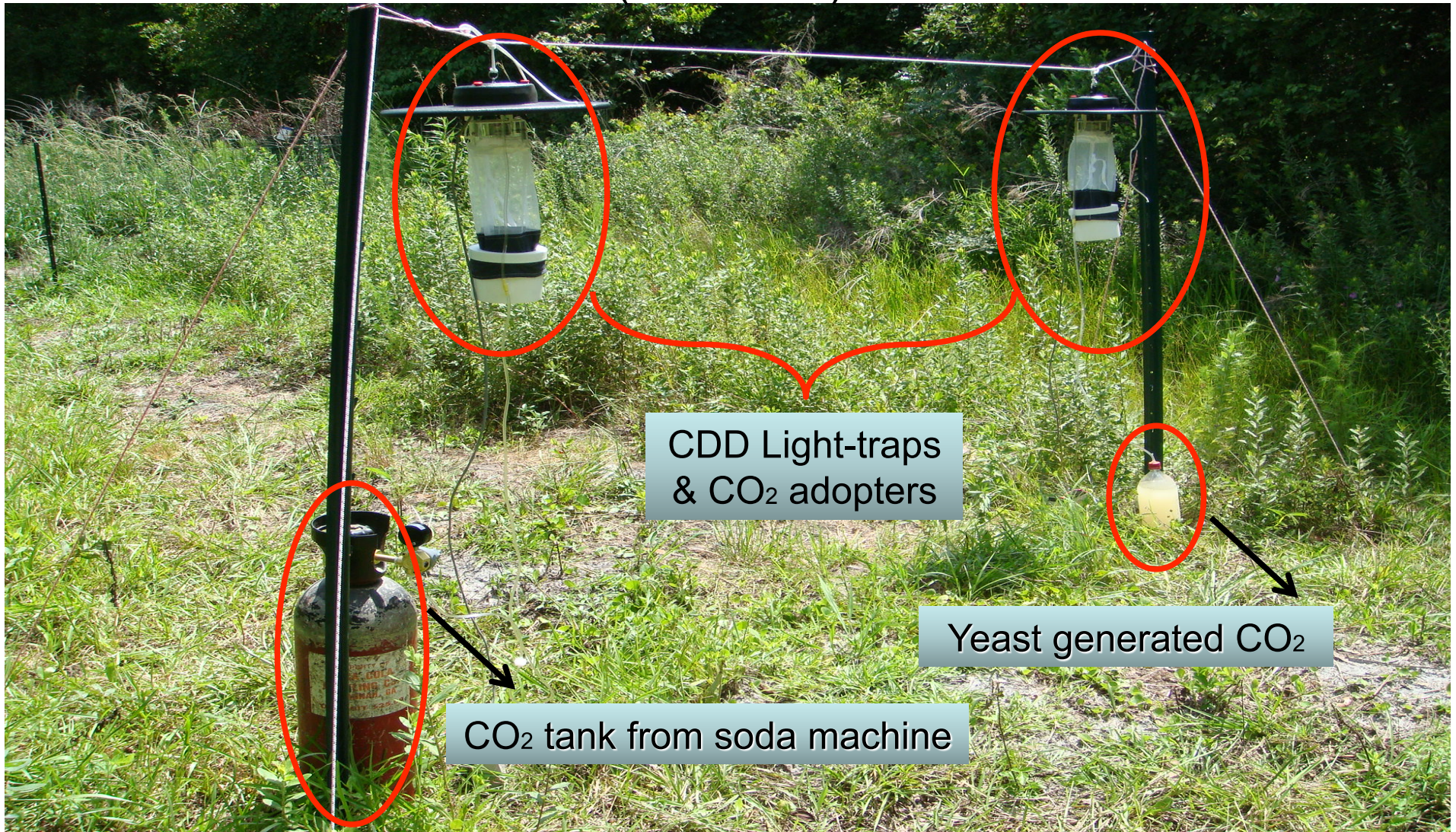
- Modular Database
 - User friendly
 - Generalized format to fit most installations
- New Trapping methods
 - Alternative CO₂ sources
 - Yeast generated
 - Fountain drink CO₂ tank
 - Paint ball CO₂
 - Comparison studies must be conducted
- Management tactics focusing larvae control
 - Operator friendly
 - Cost-benefit



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UPCOMING FEATURES (continued)



CDD Light-traps
& CO₂ adopters

Yeast generated CO₂

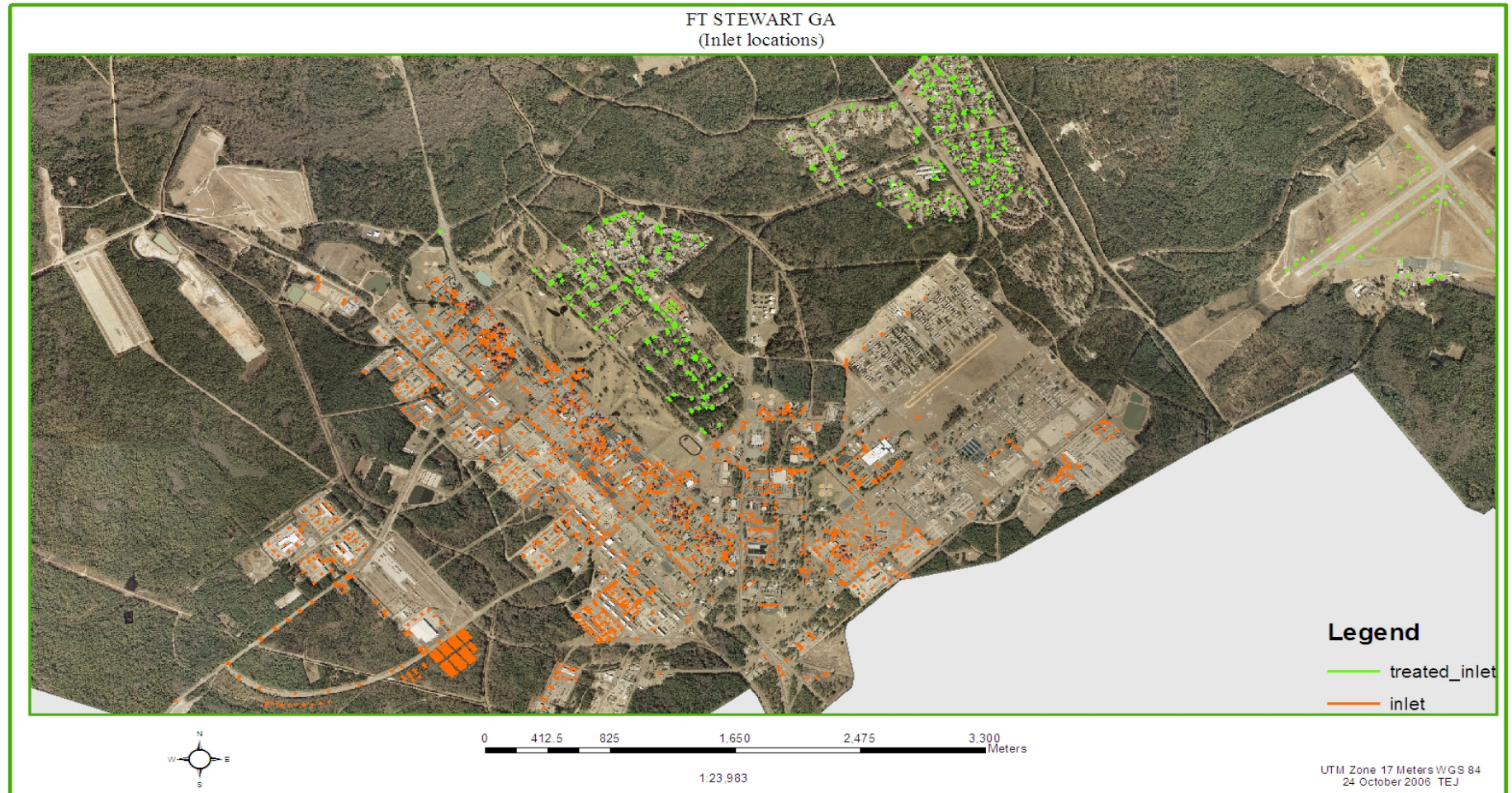
CO₂ tank from soda machine



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UPCOMING FEATURES (continued)





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CONCLUSION

- Mosquito surveillance program provides vital information
 - Guide for mosquito control
 - Pest management evaluation
 - Trend
- Preventive medicine and mosquito surveillance program
 - Preventive medicine service responsibility
 - Recommendations based on quantitative data
 - Proper record keepings
- Mosquito surveillance program and new technologies
 - Integrate new technologies
 - Self evaluation for improvement



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Acknowledgement

- FT STEWART/ HAAF
 - Winn Army Community Hospital Command
 - Department of Preventive Medicine
 - Directorate of Public Work
 - Chatham County Mosquito Control
- US Army Center for Health Promotion and Preventive Medicine
 - USACHPPM-SOUTH
 - MAJ Anthony Schuster
 - Mr. Dennis Kuhr
 - Mr. John Schenck
 - Ms. Christin Cobb
 - USACHPPM-APG
 - Mr. Brian Zeichner



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Questions ?