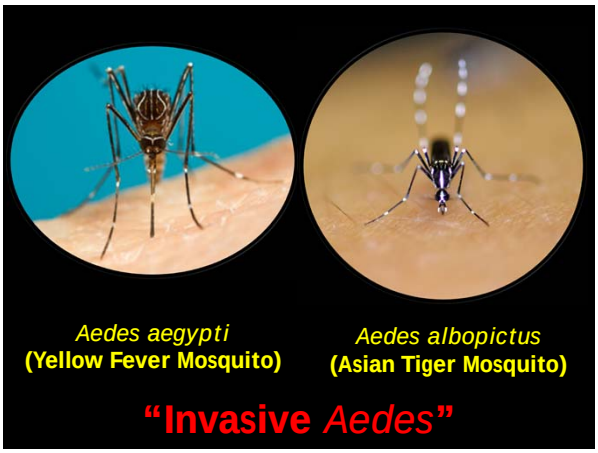
2016 Utah Zika Planning Summit "Vector Control"

Ary Faraji, PhD

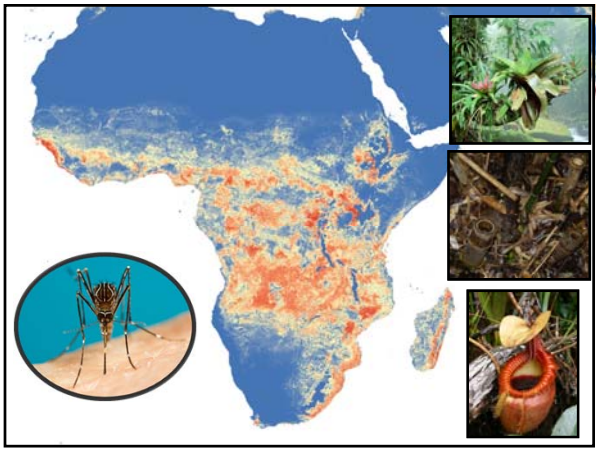
1 September 2016



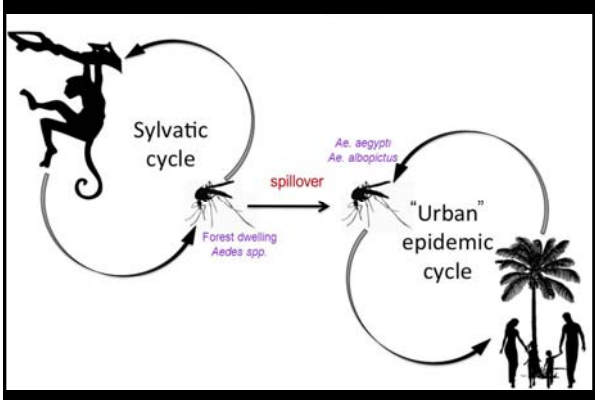
Aedes aegypti
(Yellow Fever Mosquito)

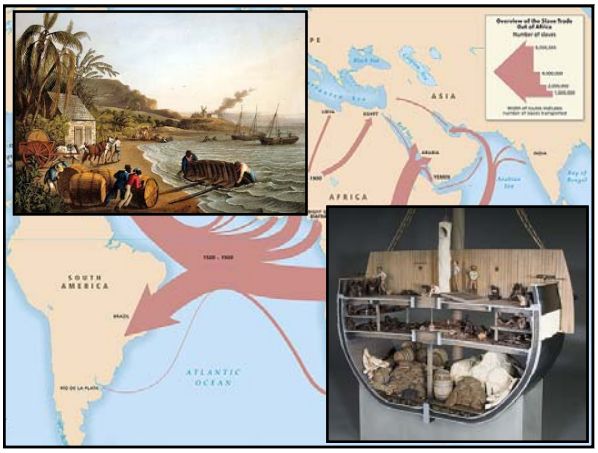
Aedes albopictus
(Asian Tiger Mosquito)

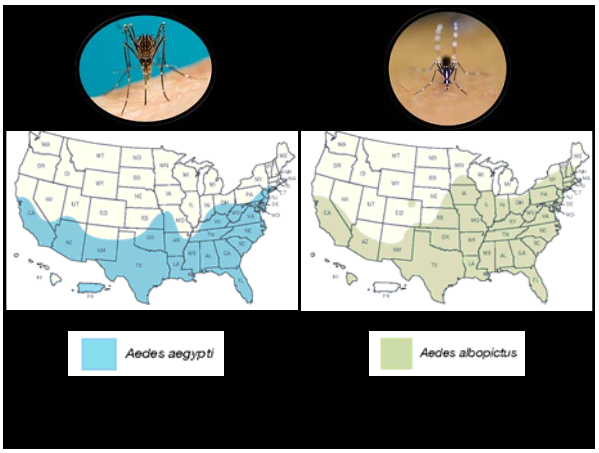
"Invasive *Aedes*"

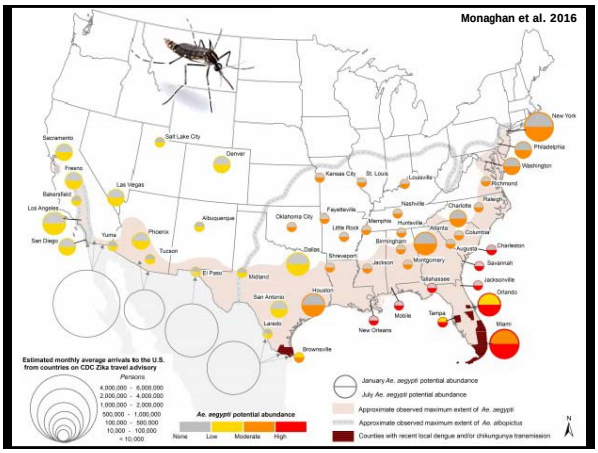


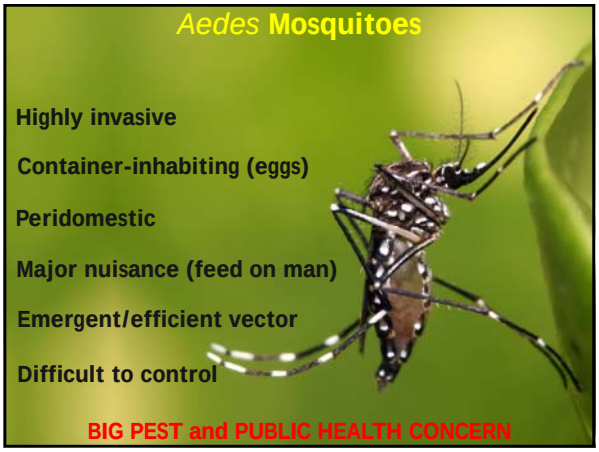
CHIKV, DEN, YF, ZIKV

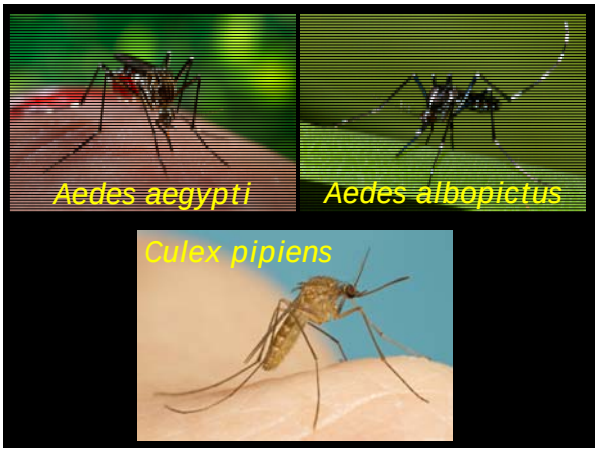


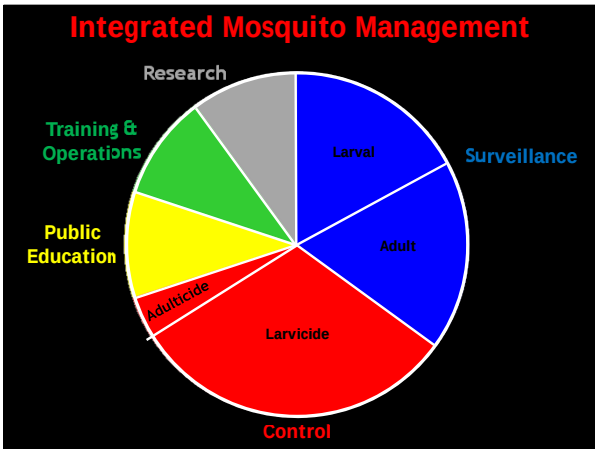



Aedes aegypti
Aedes albopictus

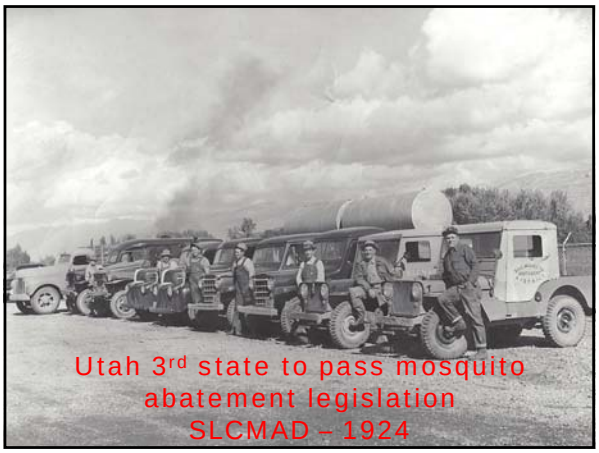

Monaghan et al. 2016


Aedes Mosquitoes
Highly invasive
Container-inhabiting (eggs)
Peridomestic
Major nuisance (feed on man)
Emergent/efficient vector
Difficult to control
BIG PEST and PUBLIC HEALTH CONCERN

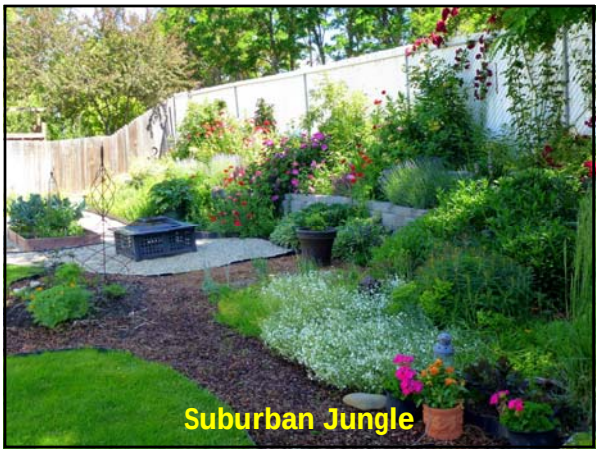

Aedes aegypti
Aedes albopictus
Culex pipiens


Integrated Mosquito Management
Research
Training & Operations
Surveillance
Public Education
Larval
Adult
Adulticide
Larvicide
Control


Mosquitoes REQUIRE water


Utah 3rd state to pass mosquito abatement legislation
SLCMAD – 1924

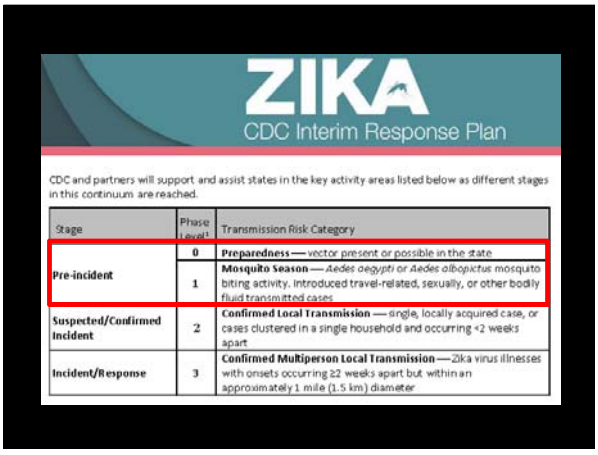

Urban Jungle


Suburban Jungle

Door-to-door Source Reduction

- Labor intensive
- Time consuming
- Demoralizing
- Access issues
- Recurring trash

Vector Control Guidelines



Stage	Phase Level	Transmission Risk Category
Pre-incident	0	**Preparedness** — vector present or possible in the state
	1	**Mosquito Season** — *Aedes aegypti* or *Aedes albopictus* mosquito biting activity. Introduced travel-related, sexually, or other bodily fluid transmitted cases
Suspected/Confirmed Incident	2	**Confirmed Local Transmission** — single, locally acquired case, or cases clustered in a single household and occurring <2 weeks apart
Incident/Response	3	**Confirmed Multiperson Local Transmission** — Zika virus illnesses with onsets occurring ≥2 weeks apart but within an approximately 1 mile (1.5 km) diameter

Phase 0
(Vector Present or Possible)

1. Action plan
2. High risk areas
3. COMMUNICATION
4. Resources & logistics
5. Community involvement

Phase 1
(Vector Biting or Virus Introduction)

1. Increased surveillance
2. Insecticide susceptibility
3. Community outreach
4. Larval control
5. Adult control

Utah Mosquito Control Needs

1. Traps (BGS/LOT…)
2. Predictive modeling
3. Public relations (Personal protection, source reduction, pesticide safety, vigilance…)
4. Insecticide monitoring
5. Enforcement
6. Collaborations (DOT, DPW, City, AmeriCorps…)
7. COMMUNICATION

Invasive *Aedes* training coming soon!