

Operational Larviciding

A 30 Year Transition to Improve Efficiency and Efficacy
By: Zane McCallister

- Hello... My name is Zane and I ran a larvicide program



- Elements of a larvicide program:
 - Preemptive action based on:
 - Boots on the ground
 - Juvenile Mosquito Data collection
 - Water knowledge
 - Contentious applications
 - Reporting



A brief History of the GRMCD

1982



2015



- 1982
 - Concerned citizens establish a special taxing district for mosquito control in an eight square mile bedroom community next to the Colorado River.
 - Enlist the help of a professor from the local college
 - Establish a mission statement:

“The mission of the MCD is to suppress mosquito populations in an environmentally responsible manner. To monitor both larval and adult mosquito populations, organize the population statistics, evaluate organizational efforts, and to plan subsequent control strategies.”

- The professor was my father
- The garage was my house

1982





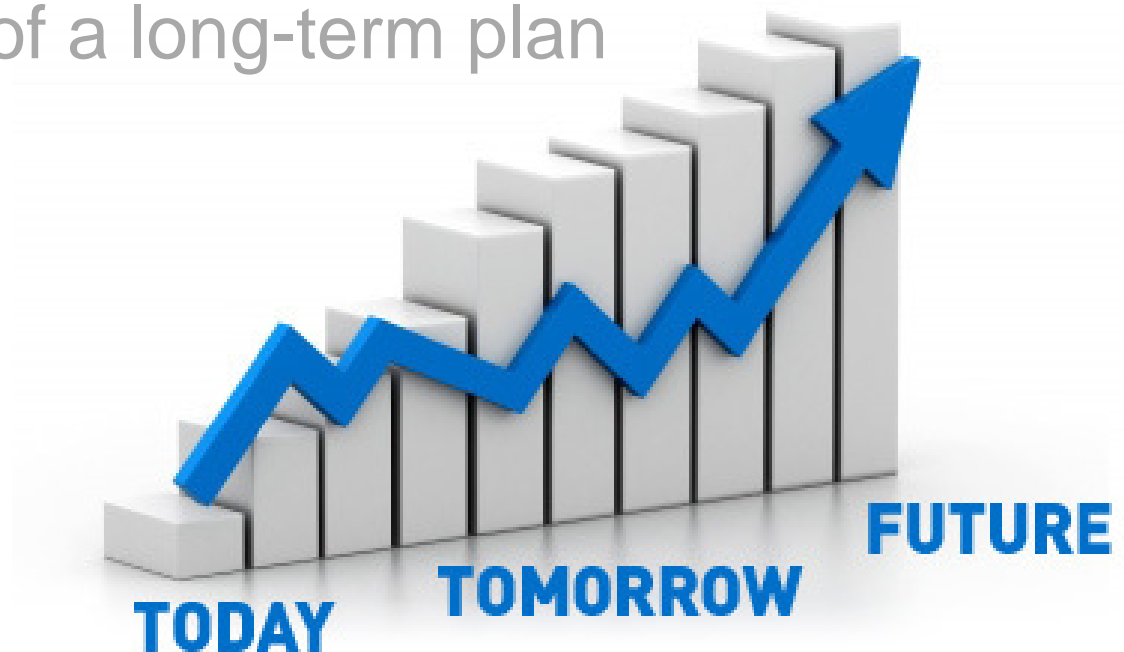
Pros

- Public perception
- Efficiency
- Effectiveness
- Environmental impact
- Resistance management

Cons

- Public perception
- Cost
- Water
- Requires institutional knowledge
- Pesticide

- Larvicide Buy In
- Deal with the “cons”
- Development of a long-term plan



- A battle on four fronts
 - Public Perception
 - Money
 - Access
 - Knowledge



The Battle Over Public Perception





- Classroom visits that focused on curriculum
- Outdoor festivals
- Sporting events
- Service groups
- Home owner associations
- Targeted programs
- College classes
- Scout troops
- Open houses
- Public hearings

Who's going to pay Cost



- People rarely vote for increased taxes in western Colorado



NO

1998

- 85% in favor
- From 8 to 27 square miles
- Revenue from \$45,000 to \$125,000

2004

- 54% in favor
- From 27 to 75 square miles
- Revenue from \$125,000 to \$850,000

2012

- 72% in favor
- From 75 to 148 square miles
- Revenue from \$850,000 to \$2,400,000

- As the program began to focus on the water, many issues arose:
 - Access
 - Unpredictability
 - Moving Target
 - Man made
 - Non Targets



- MCD's have no authority
- Code enforcement does not extend to mosquito related sanitation issues
- US private Property rights...



“Be extremely subtle even to the point of *formlessness*. Thereby you can be the director of the opponent's fate.”

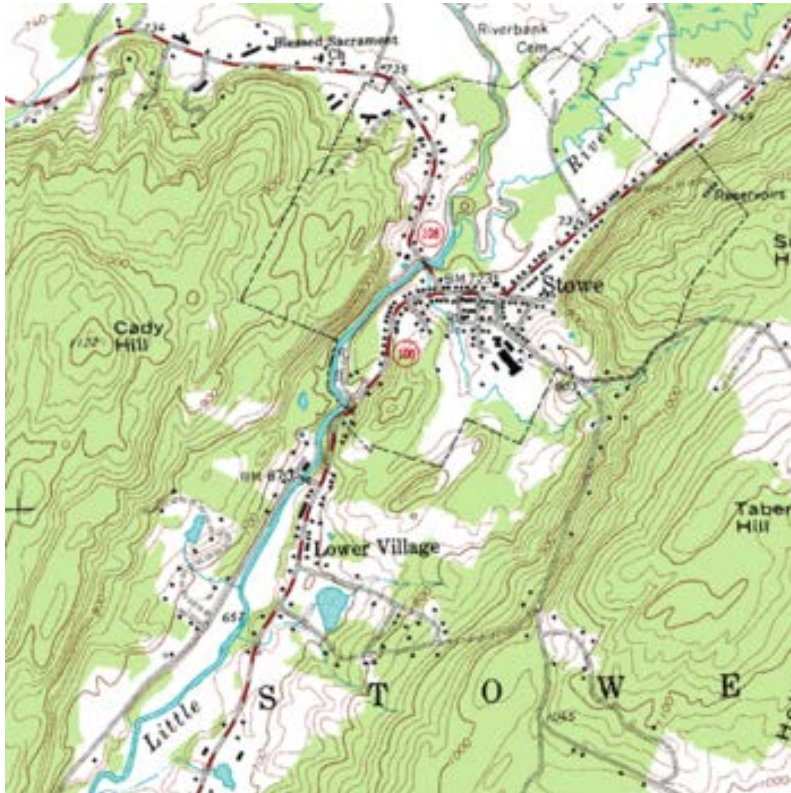
- The MCD had to adapt to the changes in the environment:
 - Weather related
 - Irrigation
 - Political winds



- The MCD became a water entity
 - Partner with university extension on water programs.
 - Small Acreage Irrigation Audit
 - Worked with US Fish and Wildlife on regular basis.
 - Federal lands
 - Established scholarships for students that were interested in water issues.
 - Interns
 - Continue to drive public perception of water based mosquito control.
 - Government meetings



- Limited resources early on meant that a few people had to know everything.
- How do we capture the knowledge and pass it along?



- Topographical maps and a wheel



“Mapping is not a luxury for a larviciding program. It is a necessity.”

Zane McCallister

- The Chasm Calamity



- The Field of Death





- A larvicide program is built on
 - Public Education
 - Managing costs
 - Understanding water
 - Data collection and recall aka mapping
 - Selection of proper larvicide

