

Tres Rios

Vector Control Strategies



Where we started

A. Short-Term Evaluations

1. Develop alternatives to audio alarms at WWTP.
2. Conduct area-wide odor assessment and control study.
 - Identify causes of odors in the general area.
 - Evaluate improved odor control program at WWTP.
 - Evaluate odor control program for Plaintiffs' properties.
 - Evaluate odor control program for the Salt River downstream of the WWTP effluent discharge point.
3. Conduct an area-wide vector assessment and develop plan of an area-wide vector control program.
 - Coordinate with Maricopa County.
4. Develop a River Management Program.
 - Discussions with County, State and Federal agencies.
5. Investigate redirection of flow discharge further south from Plaintiffs' properties.
6. Investigate improved security and police protection in the area.
 - Sheriff's Office.
 - Maricopa County.
 - City of Avondale.
7. Develop plan to discourage illegal dumping in the area.
8. Perform a water quality assessment of private potable water supplies in the area.

B. Long-Term Evaluations

1. Evaluate the use of a Lined Channel.
 - In high land within public right-of-ways.
 - In the Salt River flood plain.
 - In conjunction with a constructed wetlands project.
2. Evaluate the use of the ANPP Pipeline.
3. Evaluate the feasibility of the Tres Rios (constructed wetlands) to replace swampy and insect breeding areas.
4. Evaluate the feasibility of rechannelization of flow in the Salt River.
5. Evaluate the feasibility of a Total Effluent Reuse Project.
6. Evaluate other possible alternatives under consideration by EPA, Bureau of Reclamation, etc.
7. Combination options of above.

•Brogden settlement

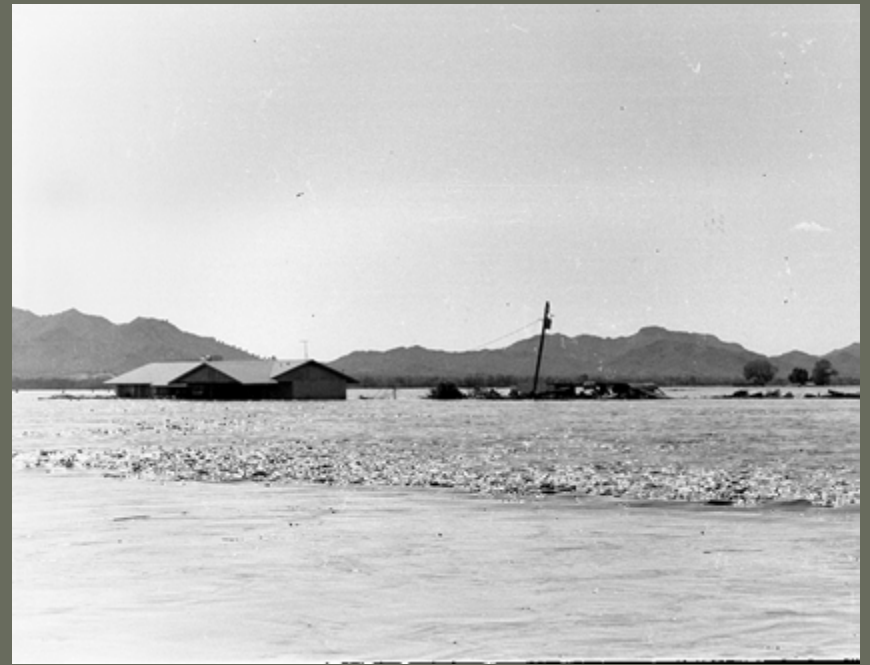
•#3

•New NPDES parameters

Got Mosquito's ?



Flood Conveyance



Flood damage in the late 70's

OC-Water Quality

- Maintain constant outfall rate
- Stabilize water to a natural state
- Convey water to downstream users



Vector production ground zero



Habitat



Ecosynthesis

Conditions and History



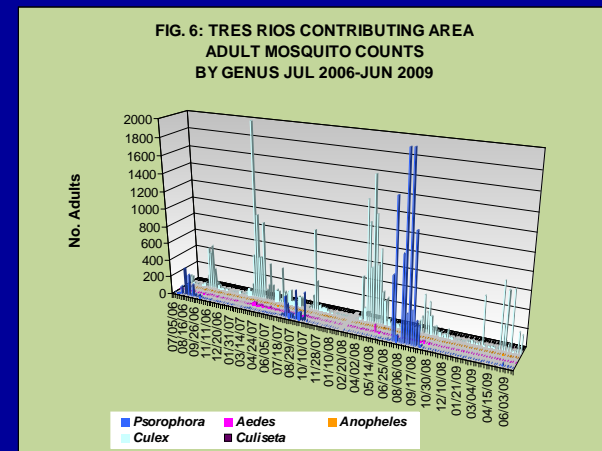
- High CO₂ production
- High light signature
- Heavy agricultural surroundings
- Abundant water sources



Team Tres Rios



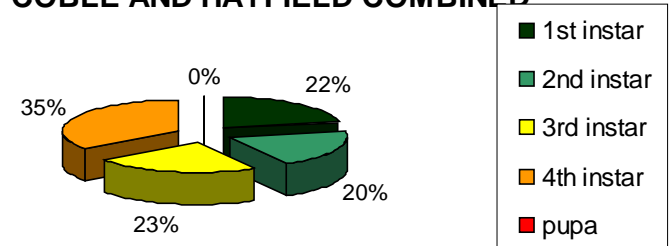
Tools of The Trade

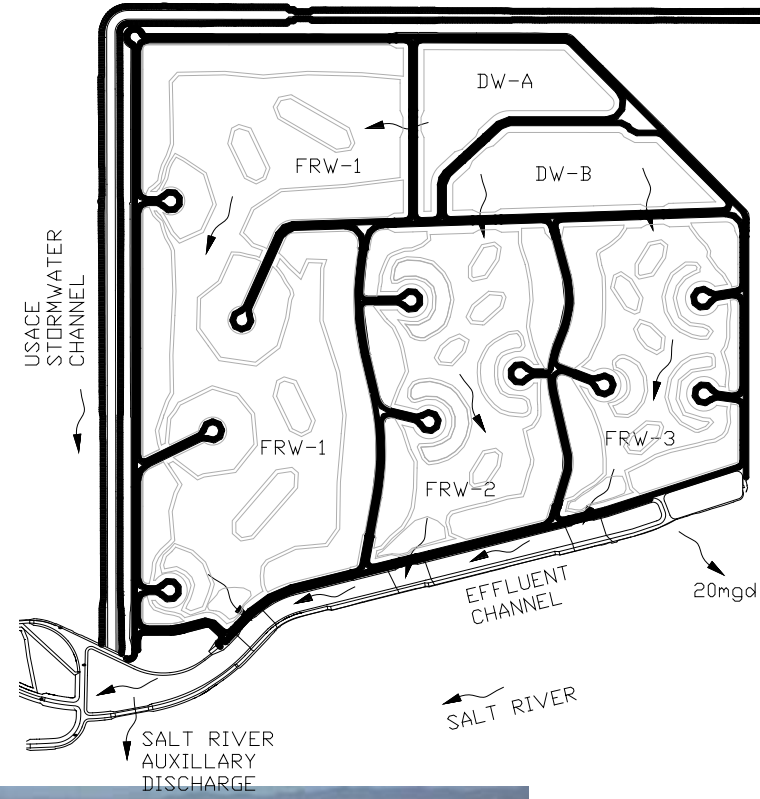
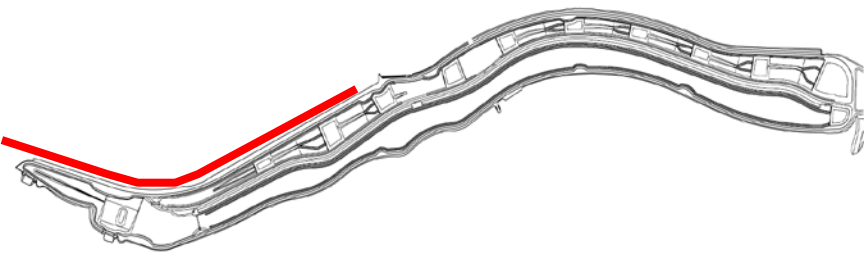


Larvae counts/ adult I.D./Arbivirous screening



FIG. 9 TRES RIOS LARVAE LIFE STAGE PROPORTIONS COBLE AND HAYFIELD COMBINED





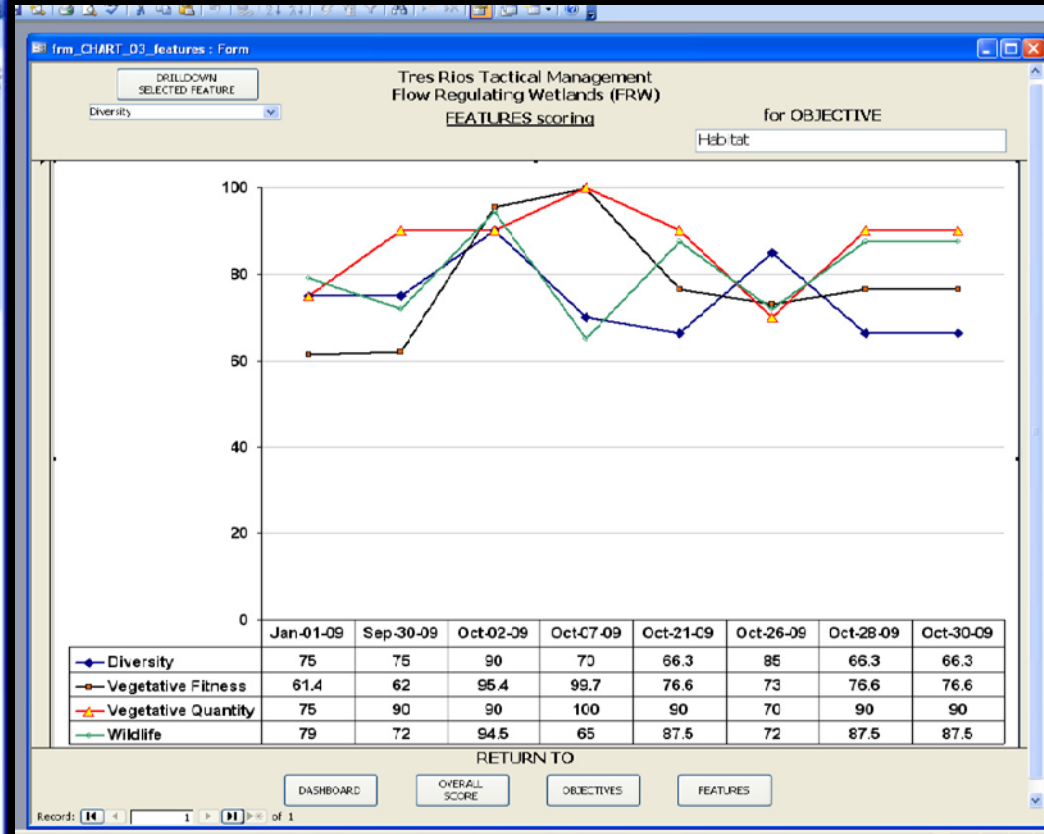
- Design
- Design
- Design



Qualitative/Quantitative

Microsoft Excel - Tres Rios FRW Assessment.xls

Wetland Objectives, Wetland Features, Wetland Values, Wetland Status



Integrated Pest Management

Food Chain



Vegetation Management



Targeted pesticide application



- Targeted pest specific
- Application time sensitive
- Application frequency
- Application method sensitive
- Catch all kill all, will get you nowhere

Control Agents





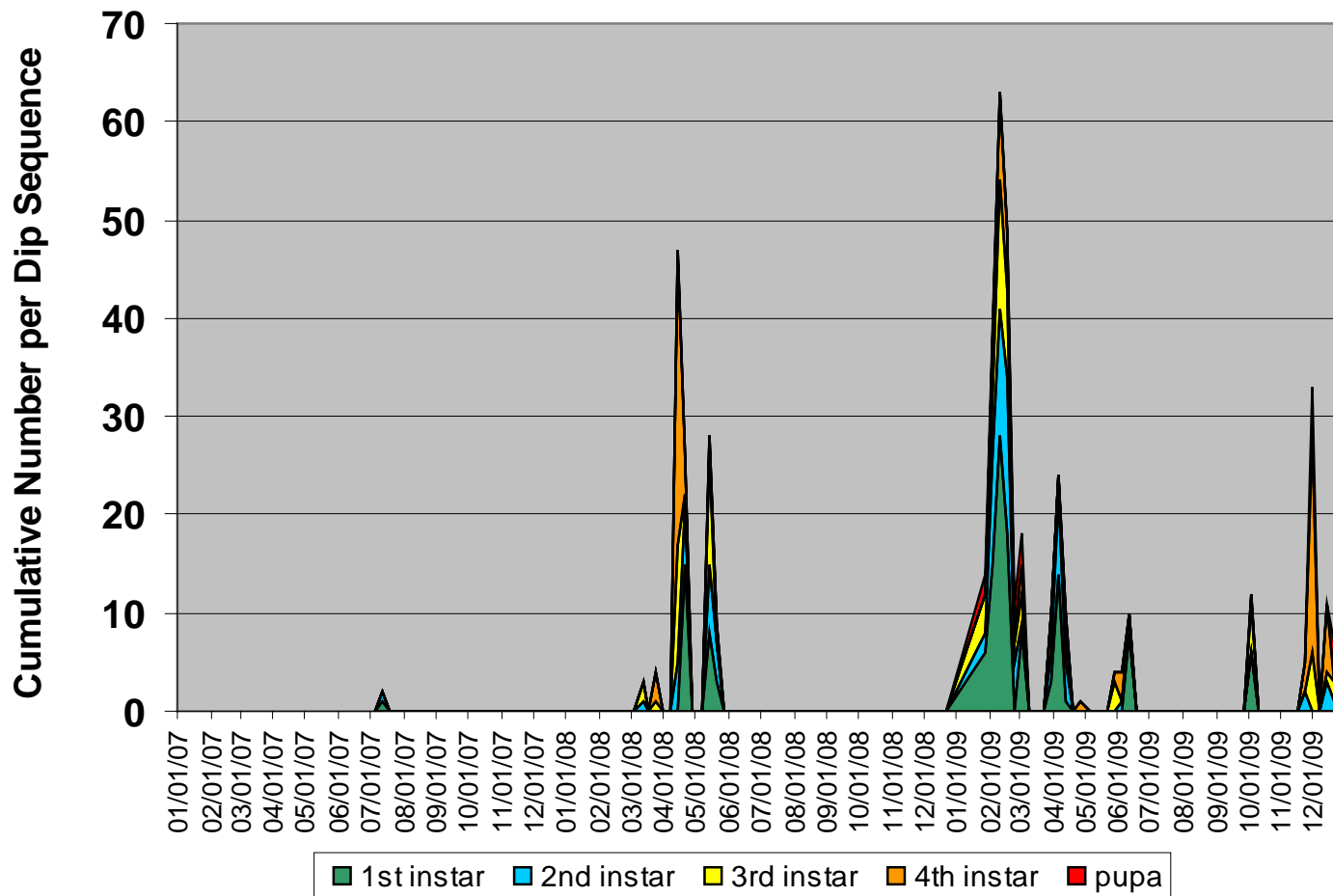
Public Safety and lessons learned



- Design
- Accessibility
- Proper staffing/training
- Equipment
- IPM's
- Budget
- Experience

The season

**FIG. 8 TRES RIOS LARVAE COUNTS BY LIFE STAGE
COBBLE AND HAYFIELD SITES COMBINED
Jan 2007-Dec 2009**



Strategy



- Consistent results
- Resource management
- Understanding of overall mission
- Anticipation of adaptive nature



The Fine Line

