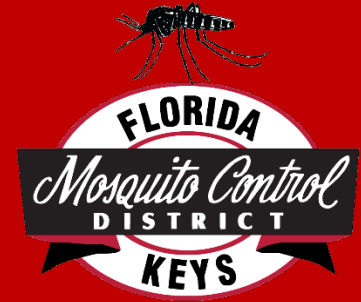


2024-2027



# Strategic Plan



# **DISTRICT BOARD OF COMMISSIONERS**

District 1: Jill Cranney, Board Member

District 2: Phil Goodman, Chairman

District 3: Brandon Pinder, Board Member

District 4: Stan Zuba, MD, Vice Chairman

District 5: Bette Brown, Secretary-Treasurer

# **FLORIDA KEYS MOSQUITO CONTROL DISTRICT**

## **2024-2027 STRATEGIC PLAN**

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## **DEFINITIONS**

Mission Statement: Identifies the organization's purpose and value to the community it serves. All activities within the District should be related to supporting the Mission Statement.

District Overview: Entails a review of the District's strengths, weaknesses, opportunities and threats/concerns which may affect the District's abilities to provide services and/or require changes or modifications to services.

Priority Areas: Identifies policies, practices or events that may impact the District's ability to provide services, or require modifications or changes to service delivery. These areas can play a key role in governance, management and operational planning and community outreach.

Strategy: Gives a specific direction to accomplish the Objective.

Objective: Identifies approaches or methods to address specific strategic issues. This may include short, long term, focused or broad-brushed approaches.

Goals: Specific actions, timeframes necessary for the completion of the goals. It is expected that periodic progress reports will be submitted by those responsible for the completing the goals.

## **MISSION STATEMENT**

The District's Mission Statement was adopted by the Board of Commissioners on April 27<sup>th</sup>, 2021.

**“The mission of the Florida Keys Mosquito Control District is to protect the public from health threats and nuisance issues that impact the local economy by utilizing control methods that are efficient, effective and environmentally sensitive.”**

## DISTRICT OVERVIEW

The District’s strengths, weaknesses, potential opportunities or threats/concerns (SWOT) may affect the District’s abilities to provide services and/or require changes or modifications to services.

The following items could have an impact on the future success of the District:

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Quality, experienced staff</li> <li>• Involved in mosquito control on State and national levels</li> <li>• New technology implementation for both ground and aerial control methods</li> <li>• Scientific staff for new product/material testing</li> <li>• Innovative ideas</li> <li>• Good customer response time</li> <li>• Science-based decision making</li> <li>• Transparent to the public</li> <li>• Good relationships with external partners (City, County, USFWS, FWCC, etc...)</li> <li>• Knowledgeable, highly-engaged Board of Commissioners</li> </ul>	<ul style="list-style-type: none"> <li>• Housing costs and lack of affordable housing units, particularly for entry-level positions</li> <li>• High cost of current domestic mosquito control methods</li> <li>• Limited physical space for growth</li> <li>• Difficulty in effective communication of complex subject matter to public</li> <li>• Aging vehicle and aircraft fleet</li> <li>• Geography for aerial adulticide applications</li> <li>• Labor intensive industry</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• UAVs and emerging technologies</li> <li>• New mosquito control products</li> <li>• Mapping and database system availability</li> <li>• Collaboration with other districts and vendors</li> <li>• Sterile Insect Techniques for population suppression (<i>Wolbachia</i>, Genetic Modification, Irradiation)</li> <li>• New domestic mosquito trapping products</li> <li>• Developing technology to increase performance and efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Expanding areas of restricted adulticide use (State and Federal lands)</li> <li>• Endangered species listings</li> <li>• Invasive species, particularly <i>Aedes albopictus</i> and <i>Aedes aegypti</i></li> <li>• Geography</li> <li>• Hurricanes</li> <li>• Increased resistance to adulticides throughout Florida</li> <li>• New tropical disease introductions</li> <li>• Sea level rise</li> <li>• Rising healthcare costs</li> <li>• Behavioral difficulties in control of domestic mosquitoes</li> <li>• Re-registration process for mosquito control products</li> <li>• Legislative changes</li> </ul>

## **PRIORITY AREAS**

This section identifies policies, practices or events that may impact the District's ability to provide services, or require modifications or changes to service delivery. These areas can play a key role in governance, management and operational planning and community outreach.

1. Pesticide Resistance
2. Domestic Mosquito Control Practices
3. Increase Environmental Sensitivity
4. Public Awareness of Mosquito Control Practices
5. Operational Safety Practices
6. Use of Technology to Maximize Resources and Increase Efficiencies
7. Employee Retention and Health Initiatives
8. Capital Projects

# 1. PRIORITY AREA: Pesticide Resistance

- **GOAL: Understand the potential and causes of pesticide resistant populations of mosquitoes in Monroe County.**

- **STRATEGY:** Support and participate in local, regional and state-wide efforts to detect and monitor pesticide resistant populations of mosquitoes.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Have a plan in place for testing mosquito populations from each island	8/2017	NA	Document completed
Begin testing mosquito populations for resistance to current adulticide products	10/2017	NA	Table created
Comparison of results to known susceptible colonies	12/2019	NA	Resistance ongoing

Hribar, L.J. and H.L. Murray. 2019. Toxicity of naled and eugenol to mosquito larvae, 2018. *Arthropod Management Tests*, 44. doi: 10.1093/amt/tsz016.

Hribar, L.J. 2020. Increased water hardness in catch basins treated with spinosad (Natular® XRT) extended release tablets. *Journal of the Florida Mosquito Control Association*, 67: 60-63.

Pruszyński, CA. 2022. Laboratory bioassays to determine methoprene susceptibility in *Aedes aegypti* populations in the Florida Keys, 2021. *Arthropod Management Tests*: 47(1). <https://doi.org/10.1093/amt/tsac087>

Scott, M.L., L.J. Hribar, A.L. Leal, & J.C. McAllister. 2021. Characterization of pyrethroid resistance mechanisms in *Aedes aegypti* from the Florida Keys. *American Journal of Tropical Medicine and Hygiene*, 104: 1111-1122.

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Have method of mapping tested populations by island	12/2024	NA	
Have a plan in place for testing mosquito populations for resistance to larvicides	12/2024	NA	



- **GOAL: Continuation of testing of newly available products for alternative adulticides to be used in areas of resistant mosquito populations.**
  - **STRATEGY:** Attend state and national meetings as well as utilize current vendor contacts to find new adulticides and larvicide products for testing in Monroe County.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Contact with vendors of major providers updated (ongoing)	9/2017	NA	List of new products annually
Bottle bioassays with new products completed	Annually	NA	
Cage trials completed with new products	Annually	NA	
New products identified for upcoming season	3/2023		Completed Annually
Cage trials with ReMoaTri	5/2023	NA	Initial Trial Completed

Hribar, L.J. and H.L. Murray. 2019. Toxicity of tau-fluvalinate, lambda-cyhalothrin, and alpha-cypermethrin to *Aedes aegypti*, 2019. *Arthropod Management Tests*, 44. doi: 10.1093/amt/tsz077.

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Cage trials with ReMoa Tri	6/2024	NA	
Ground trials with Natular SC	9/2024	NA	

## **2. PRIORITY AREA: Domestic Mosquito Control Practices for Invasive Mosquitoes**

- **GOAL: Determine utility of *Wolbachia*-infected mosquitoes for control of *Aedes aegypti* in Monroe County.**
  - **STRATEGY:** Support and participate in local, regional and state-wide

efforts to determine suitability of *Wolbachia* for *Aedes aegypti* control.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Complete testing <i>Wolbachia</i> -infected mosquitoes on Stock Island.	8/2017	NA	Successful trial conducted
Complete assessment of initial trial of <i>Wolbachia</i> -infected mosquitoes.	12/2017	NA	Information given to EPA

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Develop plan for continuation of future use of <i>Wolbachia</i> -infected mosquitoes.	Unknown**	\$100,000	

\*\*No EUP available for continued trials. Awaiting regulatory approval.

▪ **GOAL: Determine utility of genetically modified mosquitoes for control of *Aedes aegypti* in Monroe County.**

- **STRATEGY:** Support and participate in local, regional and state-wide efforts to determine suitability of GM technology for *Aedes aegypti* control.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Obtain regulatory approval (EPA/FDACS) for Exper. Use Permit.	6/2020	NA	
Obtain board approval for trials.	8/2020	NA	
Complete initial testing.	12/2021	NA	Males only, flight range identified, successful mating
Complete 2 <sup>nd</sup> year testing.	12/2022	NA	Population information, suppression
Complete 3 <sup>rd</sup> year testing.	12/2023	NA	Population information, suppression

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Determine potential effects of FKMCD larvicides on larval development	12/2024	NA	

Develop plan for continuation of future use of genetically modified male mosquitoes.	12/2024	Unknown	
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- **GOAL: Determine utility of irradiated (sterilized) male mosquitoes for control of *Aedes aegypti* in Monroe County.**

- **STRATEGY:** Support and participate in local, regional and state-wide efforts to determine suitability of irradiated (sterilized) male mosquitoes for *Aedes aegypti* control.

- **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Identify potential vendors from which to purchase irradiated male <i>Ae. aegypti</i> mosquitoes.	12/2024	NA	
Develop plan for testing irradiated male <i>Ae. aegypti</i> mosquitoes.	12/2025	NA	
Test irradiated male <i>Ae. aegypti</i> mosquito releases.	12/2026	Unknown	

- **GOAL: To obtain better control of disease vector mosquito populations**

- **STRATEGY:** Redraw Lower Keys areas for inspectors to be able to achieve the Districts desired threshold for both salt marsh mosquitoes and domestic mosquitoes.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Have a plan in place for smaller field areas or the potential of “domestic only” inspectors.	12/2020	NA	Smaller field areas and more domestic inspections.
Train staff in new areas	ongoing	NA	Staff fully trained and cross-trained.

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Evaluate inspector areas.	Annually	NA	

Evaluate inspector positions.	Through attrition	NA	
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- **GOAL: Determine the efficacy of barrier treatments applied around homes and businesses for control of *Aedes aegypti* and *Aedes albopictus*.**

- **STRATEGY:** Complete step-by-step trials of multiple barrier treatment products to determine their effectiveness in the control of invasive domestic mosquitoes.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Perform bottle bioassays using bifenthrin, deltamethrin, and tau-fluvalinate for <i>Ae. aegypti</i>	12/2020	NA	Attached spreadsheet

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Perform leaf tests using above products.	12/2024	NA	
Make operational decision based on results.	4/2025	NA	

- **GOAL: Determine the efficacy of ground Vectobac WDG treatments in neighborhoods in comparison to aerial applications.**

- **STRATEGY:** Perform ground applications of Vectobac WDG and do trap comparisons to perform a cost-benefit analysis comparing aerial and ground treatments.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Procure initial ground equipment.	12/2017	Purchased with State Available funds due to Zika.	Equipment procured and calibrated for use.
Complete multiple applications by ground and air in response to	8/2018		Missions completed successfully.

rainfall and/or suspect disease cases.			
Analyze trap and larval data for efficacy.	4/2019		Good efficacy throughout treatment areas (see publication).
Set treatment thresholds for use of ground and aerial WDG treatments.	5/2019		Rain and larval threshold set.
Create routes for routine treatment throughout each area.	4/2022		Routes completed.
Hire and train on call drivers for ground WDG treatments.	6/2022		Drivers trained.

Murray, H.L., C.A. Pruszyński, & L.J. Hribar. 2021. Ground applications of Vectobac® WDG with A1 Super Duty Mist Sprayer® and Micronair® AU5000 Atomizer for suppression of *Aedes aegypti* populations in the Florida Keys. *Journal of the American Mosquito Control Association*, 37: 271-279.

Pruszyński, C.A., L.J. Hribar, R. Mickle, & A.L. Leal. 2017. A large scale, biorational approach using *Bacillus thuringiensis israelensis* (AM65-52 strain) for managing *Aedes aegypti* populations to prevent dengue, chikungunya, and Zika transmission. *PLoS ONE*, 12(2): 1-17. e0170079.doi:10.1371/journal.pone.0170079

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Assess routine routes to ensure better coverage.	Annually	NA	
Create additional routes/maps and schedules.	Annually	NA	

▪ **GOAL: Determine utility of specialized traps for the control of *Aedes aegypti* in Monroe County.**

- **STRATEGY:** Support and participate in local, regional and state-wide efforts to determine suitability of specialized trap technology for *Aedes aegypti* control.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Research available <i>Ae. aegypti</i> control trapping methods.	Annually		

Place acoustic larvicide traps in the field.	5/2022	\$795	Traps placed successfully in hotspot area.
Place In2Care traps in the field.	4/2023	\$2,550	Traps placed successfully

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Assess effectiveness of acoustic larvicide traps in controlling adult <i>Ae. aegypti</i> population.	5/2024	NA	
Assess effectiveness of In2Care traps in controlling adult <i>Ae. aegypti</i> population.	5/2024		

- **GOAL: Identify important domestic mosquito control harborage areas to better target operations.**

- **STRATEGY:** Evaluate historical larval and adult collection data in order to identify “hotspots” for *Ae. aegypti* mosquitoes and focus control measures in these areas.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Create list of major <i>Ae. aegypti</i> hotspots.	3/2022	NA	List created.
List all homeowners associations in the Florida Keys.	3/2022	NA	List created.
Itemize list of potential control measures for each area.	3/2022	NA	Completed.
Evaluate areas to conduct special trapping studies.	4/2022	NA	Completed.
Conduct Tire Amnesty Day	2/2023	All costs reimbursed by the State.	Approximately 300 collected

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Monroe County Tire Amnesty	4/2024	NA	
Evaluate Plan for Future Cleanups and Tire Amnesty	8/2024	NA	

### 3. PRIORITY AREA: Increase Environmental Sensitivity

- **GOAL:** Transition to high efficiency vehicles that are more duty-specific.
  - **STRATEGY:** Replace current fleet with more fuel-efficient vehicles.
  - **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Establish which vehicles are due for replacement.	Ongoing	NA	List created.
Research current market for viable replacements.	10/2017	NA	List created.
Create a plan for each vehicle.	12/2017	NA	Completed.
Obtain smaller, more fuel-efficient vehicles.	12/2019	Leasing currently	Fuel efficiencies gained: approximate savings \$6,300/yr

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Maintain vehicle replacement list.	Annually		
Research current market.	Annually		
Research potential multi-function trucks (WDG/ULV/inspector)	6/2024	NA	

- **GOAL:** Transition to electric ULV fog machines.
  - **STRATEGY:** Replace current gas-operated truck-mounted ULV machines with battery operated electric ULV machines.
  - **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Establish a phase out timeline for current ground fogging equipment.	11/2017	NA	Timeline created.
Obtain quote for new equipment.	12/2017	\$16,255/e	Completed.
Procure 3 electric machines (one for each location).	4/2018	\$16,255/e	Completed.
Procure additional equipment according to plan.	Ongoing		Savings of approximately

			\$3,000/yr
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▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research more robust electric ULV equipment.	Annually		

- **GOAL:** Increase efficiency of vehicle use throughout the District.

- **STRATEGY:** Determine the potential for multi-purpose vehicles.

▪ **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research potential for multi-purpose vehicles throughout District.	6/2024		Contacts in place at other districts, research underway
Put plan together for fleet operations.	8/2024		

- **GOAL:** Move towards renewable energy at facilities.

- **STRATEGY:** Determine and implement renewable energy sources at all FKMCD facilities to become more energy efficient.

▪ **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research potential for solar energy at all three locations.	Annually		Annually analyze cost/benefit of solar installation.

- **GOAL:** Go paperless throughout the District to increase efficiency.

- **STRATEGY:** Only print items that need signatures and research electronic signature solutions.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
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Complete network filing system re-vamp.	1/2018, 12/2020	NA	Completed.
Complete digital forms.	3/2018	NA	Completed.
Print only items that need signature	5/2018	NA	Completed.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research electronic timesheets.	5/2025		
Research electronic leave requests.	5/2025		

#### 4. PRIORITY AREA: Public Awareness of Mosquito Control Practices

- **GOAL: Making members of the community a more active part of our mosquito control efforts**

- **STRATEGY:** Instituting new ways for community members to access mosquito control information and to report problem areas, as well as incentive-based community programs to encourage residential responsibility.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Beta version of smart phone app developed.	2/2018	\$20,000	Completed.
Testing of beta version completed.	3/2018	NA	Completed.
Final version of app completed and incorporated.	7/2018	NA	Service requests streamlined (less phone calls), notification system streamlined, increased public awareness of operations

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research incentive-based community program.	12/2024		

- **GOAL: Increasing community awareness of what makes up an effective mosquito control program.**

- **STRATEGY:** Bring community awareness of what we do on a daily-basis to the forefront through the use of quarterly sweeps, Mosquito Awareness/Open House day at our MAP facility, and use of traditional and social media platforms.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Quarterly sweeps in different neighborhoods throughout the Keys.	2/2018	NA	Completed, but on hold from 2020-2022 due to Covid
Educational materials updated.	2/2018	NA	Completed.
Update Homeowner’s Guide DVD.	1/2019	\$18,000	Better awareness of operations, homeowners activity dumping water saving inspector time

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Increase social media posts about ongoing District operations and board functions	5/2023	NA	Increased public awareness.
Publish 2-3 ops eds or ad placements on operations, innovations, staff highlights	Annually		
Plan for annual “open house” event at the Marathon facility.	10/2024	\$5,000	75 <sup>th</sup> Anniversary
Improve website functionality and look.	12/2024	\$20,000	
Research larger vehicle logos/branding.	12/2024	NA	

- **GOAL: Increase mosquito knowledge and awareness among school-aged children and young adults through educational programs.**

- **STRATEGY:** Creation of a more robust school and home-based education program for children and young adults.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Guest lecture centered around <i>Ae. aegypti</i> control and operations.	12/2020	NA	Completed and have been using for school and civic groups.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Update curriculum for school-aged children.	12/2024	NA	
Teach classes on mosquito control in local schools.	12/2024	NA	
Develop an interactive education center on <a href="http://keysmosquito.org">keysmosquito.org</a> for teachers/students.	12/2024		

○ **GOAL: Better understand public knowledge and customer service.**

- **STRATEGY:** Develop and implement public survey to gain awareness of public needs.

▪ **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Finalize questions.	3/2024	15,000	Completed
Plan for information gathering completed.	3/2024	NA	Completed
Disseminate survey.	4/2024	NA	
Compile results.	9/2024	NA	

## 5. PRIORITY AREA: Operational Safety Practices

○ **GOAL: Reduce work related injuries through safety awareness.**

- **STRATEGY:** Create an increase in safety awareness throughout the district.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Create safety focus groups in each location.	11/2017	NA	Groups completed.
Develop monthly meeting	12/2017	NA	Completed.

schedule.			
Determine common accidents over past 3 years.	12/2017	NA	Completed.
Develop and implement monthly safety message plan.	5/2018	NA	Completed.
Update District Hurricane Plan	6/2018	NA	More comprehensive plan based on lessons learned.
Meet with program Directors to determine best method of training.	6/2021	NA	Completed
Develop training tools.	12/2021	NA	Distance Learning Training-Target Solutions CPR/Basic First Aid-Monroe County Sheriff's Office Collaboration; Hostile Intruder-Monroe County Sheriff's Office Collaboration Program Specific Training - Aviation: Forklift, Manlift, Dibrom loading Field Staff: Venomous Snakes; Canine Safety; Trail Maintenance and Safety; Heat Injury and Illness
Implement training by department.	3/2022	NA	Digital Safety Files for Each Employee

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research new training methods.	ongoing	NA	

▪ **GOAL:** Reduce work related injuries by developing a proactive safety system.

- **STRATEGY:** Develop a safety reporting and review protocol for near miss accidents.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Determine a method of reporting near miss accidents.	8/2018		Developed safety concern/near-miss reporting protocol and reporting forms. Developed an anonymous reporting system. Currently

			upgrading system to meet cybersecurity needs.
Develop incident review procedures.	11/2018		Developed Incident Reporting and Review Protocol. Developed Incident Review form including Supervisors review and corrective action procedures.
Implement near miss incident program.	1/2019		Reports directly to supervisor or through anonymous electronic means.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Revisit system annually to ensure capturing pertinent information.	Annually	NA	

- **GOAL:** Reduce work related injuries by further developing a safety inspection program.

- **STRATEGY:** Enhance the current random vehicle and building inspection program to create consistency and include a standard reward program.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Create an inspection schedule with input of focus groups.	4/2019	NA	Information for inspection forms.
Create departmental inspection forms.	8/2019	NA	Completed.
Develop standard reward program.	11/2019	\$500/yr	The standard reward program is currently a monthly program which provides staff with rewards for participating in safety incentives.
Implement inspection program.	2/2020	NA	Consists of monthly facility and vehicle inspections. Facility safety concerns are reported to Executive Director who then notifies the department director. Vehicle inspections conducted monthly by the operator. Safety

			concerns are reported to the area supervisor or safety coordinator, if they cannot be rectified immediately by the operator. Random vehicle inspections are conducted by the safety coordinator on an annual basis.
Create robust building inspection form.	10/2022	NA	Inspections ongoing; monthly responses to suggestions completed.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Revisit system annually to ensure capturing pertinent information.	Annually	NA	

- **GOAL:** Determine the effectiveness of new implementations over the past 3 years.

- **STRATEGY:** Implement review procedures to determine if new programs have reduced injuries, increased awareness, and created effective reporting procedures and survey employees on safety awareness.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Employee safety survey to review effectiveness of the safety program.	1/2020	NA	Positive overall results; target areas identified.
Develop reportable injury tracking system.	1/2021	NA	Completed.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Repeat employee safety survey.	12/2024	NA	
Develop assessment tool to properly analyze reported injuries.	12/2025	NA	

- **GOAL:** Increase capacity and reach of safety training throughout all areas of the

**District**

- **STRATEGY:** Increase safety training through remote learning opportunities and easy access employee portal throughout the District.

- **COMPLETED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research alternative remote learning opportunities for field staff.	3/2023	NA	Completed
Meet with program Directors to discuss remote learning alternatives.	5/2023	NA	Completed
Test remote learning alternatives.	11/2023	NA	Completed
Implement remote learning.	1/2024	NA	Implemented

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Determine departmental training protocol based on departmental needs	10/2024	NA	
Develop short-course training protocol for departments	1/2025		
Work with IT to develop a portal format	7/2025		
Develop trial portal	3/2026		
Introduce trial portal to test group	12/2026		
Launch portal	3/2027		

- **GOAL:** Increase safety awareness in the aviation department through audits and software implementation to develop more comprehensive safety awareness.

- **STRATEGY:** Implement routine safety audits of both aircraft operations and maintenance as well as software to assisting in tracking, alerts and maintenance.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Complete external safety audit.	12/2018	\$5000	Positive overall results; target areas identified.
Complete update of flight	10/2019	NA	Completed.

operations manual and maintenance procedures manual.			
Implement full maintenance and flight operations tracking.	6/2020	\$6000	Increase in flight safety and maintenance; mission by mission safety briefings

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Conduct external safety audit of flight and maintenance.	12/2025	\$5000	

## 6. PRIORITY AREA: Use of Technology to Maximize Resources and Increase Efficiencies

- **GOAL:** Utilize available technology to identify remote indicator sites.

- **STRATEGY:** Use of trail cameras in remote areas to identify when water table rises enough to produce mosquitoes giving inspectors up-to-date information on remote sites.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Identify and prioritize all larval production sites.	12/2017	NA	List completed.
Purchase and set cameras in priority areas.	6/2018	\$7500	Cameras placed.
Determine if area coverage is accurate and sufficient.	11/2018	NA	Completed.
Set up buying/replacement schedule.	3/2019	NA	
Camera placement and usage protocol established.	5/2019	NA	Time saved in the field as inspectors now know when water rises in indicator site.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research potential tidal measuring tools to assist in remote information collected.	12/2024	NA	



Research remote rain sensors.	12/2025	NA	
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- **GOAL:** Become more precise when treating larvicide areas.
  - **STRATEGY:** Utilize Fieldseeker tools (red/blue dots) to better map breeding areas prior to aerial treatments; follow up with similar mapping directly following treatments.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Train all inspectors on use of red/blue dot feature in Fieldseeker.	12/2018	NA	Completed.
Implement policy on utilization of this feature to determine polygons and missed areas.	4/2018	NA	Completed.
Follow up meetings w/ground and aerial teams after all larvicide treatments.	10/2018	NA	In progress and recurrent. Lesson learned, clarification and education most missions.

- **GOAL:** Expand the use of Remote Piloted Aircraft (RPA) throughout the District in surveillance and possible treatment.
  - **STRATEGY:** Remain up-to-date on RPA regulations and implement inspector training program.

▪ **COMPLETED OBJECTIVES: COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Identify lead employees.	11/2017	NA	Completed.
FAA certificate of authorization.	5/2018	NA	Completed.
Aerial applicators licenses.	3/2019	NA	Completed.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Contract w/vendor for initial larvicide treatments with RPAs	Annually	11,000	
Monitor ongoing legislative priorities	Ongoing	NA	

- **GOAL:** Determine utilization of the BG Auto Counter to replace landing rate counts conducted on a daily basis.
  - **STRATEGY:** Continue working with BioGents Corporation on the BG Auto Counter.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Determine overall accuracy of trap.	12/2020	NA	Completed (92 ± 0.5% accuracy)
Complete cost/benefit analysis of trap utilization.	12/2021	NA	\$4200 NPV
Develop procurement plan.	5/2021	NA	Completed.
Implement procurement plan.	10/2021	\$1500/trap	Traps have been placed in the field and are collecting information.
Develop and implement hurricane plan for traps.	10/2022	NA	Plan in place for the removal of traps if hurricane.

Pruszyński, C. 2016. “The BG Counter: A new mosquito trap that remotely measures mosquito density in real time.” *Wing Beats*. 27: 13-18.

Pruszyński, C. 2021. “Using the BG Counter in the Florida Keys.” Florida Mosquito Control Association Annual Meeting. November 12, 2021.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Compare landing rate counts with BG Auto Counter.	12/2024	NA	Replications underway.
Determine if landing rate counts can be reduced with use of BG Auto Counter.	12/2024	NA	

- **GOAL:** Increase operational awareness of all District truck operators.
  - **STRATEGY:** Develop mapping systems for ground treatment trucks and inspector vehicles to alert them of areas of concern.
- **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research various vendor mapping capabilities.	12/2024	NA	
Submit bids/proposals for budgeting purposes.	5/2025	NA	

## 7. PRIORITY AREA: Employee Retention and Health Initiatives

\*\*Reduced staffing by 10 since 2010.

- **GOAL:** Develop a compensation policy and strategies that reward employees for high-level performance that reach District goals.
  - **STRATEGY:** Annual evaluation of salary ranges and alignment of the ranges with the expectations established in the job description as well as streamlining the evaluation process.

### ▪ COMPLETED OBJECTIVES:

Objective	Completed Date	Budget	Results
Meet with supervisors to ensure accurate job descriptions.	8/2017	NA	Completed.
Interview employees re: job descriptions.	10/2017	NA	Completed.
Finalize job descriptions.	12/2018	NA	Completed.
Conduct salary survey to include local government agencies and other MCDs.	6/2021	Done in-house	Survey completed and recommendations made to the board.
Board resolution to complete salary surveys every three years.	7/2021	NA	Completed.
Transition employee evaluations from paper to digital.	1/2021	\$6,200/yr	Allows for better transparency during the evaluation process and gives employees manner in which to recognize work done by themselves and others.
Implementation of salary exempt positions.	4/2022	NA	Overtime/Pay out savings of an estimated \$30,000/yr

### ▪ CONTINUED OBJECTIVES:

Objective	Goal Date	Budget	Results
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In-house salary survey completed and presented to board of commissioners.	6/2024	NA	
Review and explore performance evaluation platforms	12/2024	NA	
Digitize retiree and active employee files.	1/2025	NA	
Research training opportunities for staff to enhance the Ed Assist Program	5/2025	NA	

- **GOAL:** Develop a sustainable benefits plan that allows the District to continue to provide industry leading benefits that provide and encourage District employees to participate in their wellbeing.

- **STRATEGY:** Meet with external partners to examine current benefits and evaluate future benefits with current trends.

- **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Meet with external partners and evaluate District's benefit package.	7/2018	NA	This is done annually. Since 2018 we have reduced overall benefit cost approx. \$140,000 over 4 years
Collect and evaluate employee benefit utilization information.	8/2019	NA	Evaluating benefits resulted in refocusing our Wellness Program and Medical Benefits
Collect and evaluate marketplace and industry specific trends.	8/2019	NA	This evaluation showed were we about 6% below the national trend on Benefit cost and increases year over year.
Compile collected data and report to Executive Director.	8/2019	NA	Review our benefits to that of other entities are in line with other entities.
Present a benefit policy for board approval.	8/2019	NA	Annual Present the proposed polices and cost to the board for discussion and approval
Begin selecting external partners to start developing benefits packages.	3/2020	NA	Resulting in a partnership with FBMC. Implementing an electronic portal that significant reduced time spent on updating employee benefit data. Increasing accuracy.
Establish monthly meeting with partners.	3/2020	NA	Allows proactive discussion and results in positive solution.

			Allowing the District to address issues before becoming major issues.
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▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Review, solicit and collect benefit costs and present to board.	7/2024	NA	
Bid process completed for medical, dental and vision.	9/2024	NA	
Comparative analysis of benefits at similar agencies	1/2025		

- **GOAL:** Develop a comprehensive policy and strategies to enhance housing opportunities for District employees.
  - **STRATEGY:** Meet with external partners, particularly local government partners to discuss potential solutions for the current affordable housing crisis.

• **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Annual review of other local entities policies and partnerships for affordable housing.	Annually	NA	

## 8. PRIORITY AREA: Capital Projects

- **GOAL:** Maximize aerial fleet capacity and efficiency.
  - **STRATEGY:** Complete an extensive cost-benefit analysis in looking at aircraft use, treatment capacity and maintenance to determine future fleet needs.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed	Budget	Results
Complete use analysis of aerial fleet	5/2018	NA	Comprehensive plan

including missions flown, dates, capacity, etc...			presented.
Complete maintenance cost projection per aircraft	12/2017	NA	Completed.
Complete cost/benefit analysis for fleet	5/2018	NA	Maintenance savings, field efficiency gains, increase in safety
Complete future plan direction and present to Executive Director	6/2018	NA	Completed.
Procure 2 Airbus H125	7/2020	\$750K/year	Lease to own for 15 years.
Surplus 2 Bell Jet Rangers	12/2021	NA	+\$750,000
Complete use analysis of H125 aircraft and present to board	4/2022	NA	Efficiency gains actualized.
Procure 3 <sup>rd</sup> Airbus H125	10/2022	\$4.2M	Continuation of fleet replacement plan.
Surplus 1 <sup>st</sup> Islander	10/2022	NA	\$400,000
Implement 3 <sup>rd</sup> Airbus H125 into service	10/2023	NA	Increased aerial efficiency.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Surplus 2 <sup>nd</sup> Islander	10/2023	NA	\$500,000
Surplus 1 LongRanger	10/2024	NA	\$900,000
Procure 4 <sup>th</sup> Airbus H125	10/2026	\$5.0M	
Implement 4 <sup>th</sup> Airbus H125 into service	10/2027	NA	Fleet replacement plan completed.
Surplus Last LongRanger	10/2027	NA	\$900,000

- **GOAL:** Increase efficiency of aerial adulticide treatments.
  - **STRATEGY:** Look at implementation of new technology to better target mosquitoes during peak flight time.

▪ **COMPLETED OBJECTIVES:**

Objective	Completed Date	Budget	Results
Research night vision goggle (NVG) and night time spray usage possibilities.	11/2022	NA	Completed. Night time spray still not safe at current altitude.

▪ **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Utilize NVGs to transition to	12/2024	\$27,000	Earlier start to spray

spray areas prior to first light.			operations to better target mosquitoes; training planned
Research nozzle technology that can increase our dispersion height.	Annually	NA	
Droplet testing at 200’.	12/2024	NA	

Additional Future Capital Projects

Project	Cost Estimate	Year Projected
Hangar Roof Replacement (MK)	\$300,000	FY23-24
Aviation Office Build Out	~\$120,000	FY23-24
Aviation Fuel Farm Replacement		
Deck replacement (LK)		
Exterior Paint (UK)		FY22-23
Fence replacement (UK)	\$25,000	FY24-25

Recommend placing additional \$200,000 in building fund for projects each year.

APPENDIX A: HISTORICAL PRIORITY AREAS, GOALS AND OBJECTIVE TIMELINES

GOALS AND OBJECTIVES		PERSON RESPONSIBLE	PRODUCT	DEADLINE	STATUS
<b>PRIORITY AREA:</b> Lower Keys Operational Facility					
<b>GOAL</b>	<b>Complete Lower Keys Operational Facility on Big Coppitt Key.</b>				
	Modular permit acquired.	Executive Director	Permit acquired.	9/2017	✓
	Move into modular offices.	Executive Director	Move completed.	11/2017	✓
	Substantial completion of maintenance building.	Executive Director		3/6/2018	✓
	Final completion of maintenance building.	Executive Director		4/5/2018	✓