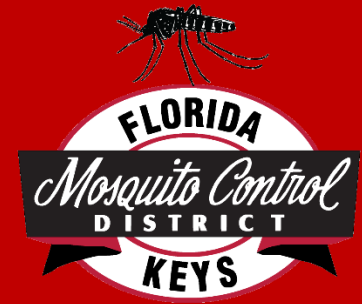


2026-2028



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

2026-2028 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 completing the goals.

MISSION STATEMENT

The District's Mission Statement was adopted by the Board of Commissioners on June 16th, 2026.

“The mission of the Florida Keys Mosquito Control District is to protect the public from mosquito-borne 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
• Quality, experienced staff • Involved in mosquito control on State and national levels • New technology implementation for both ground and aerial control methods • Scientific staff for new product/material testing • Innovative ideas • Good customer response time • Science-based decision making • Transparent to the public • Good relationships with external partners (City, County, USFWS, FWCC, etc...) • Knowledgeable, highly-engaged Board of Commissioners • Strong supporters of mosquito control associations	• Housing costs and lack of affordable housing units, particularly for entry-level positions • High cost of current domestic mosquito control methods • Limited physical space for growth • Difficulty in effective communication of complex subject matter to public • Geography for aerial adulticide applications • Labor intensive industry • Limited local talent pool
OPPORTUNITIES	THREATS
• UAVs and emerging technologies • New mosquito control products • Mapping, including LiDAR, and database system availability • Collaboration with other districts and vendors • Sterile Insect Techniques for population suppression (<i>Wolbachia</i>, Genetic Modification, Irradiation) • New domestic mosquito trapping products • Developing technology to increase performance and efficiency • Promote positive impact on the local economy.	• Expanding areas of restricted adulticide use (State and Federal lands) • Endangered species listings • Invasive species, particularly <i>Aedes albopictus</i> and <i>Aedes aegypti</i> • Geography • Everglades Restoration Project impacts • Hurricanes • Increased resistance to adulticides throughout Florida • New tropical disease introductions • Sea level rise • Rising healthcare costs • Behavioral difficulties in control of domestic mosquitoes • Re-registration process for mosquito control products • Legislative changes

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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Review methodology for adulticide resistance testing	12/2026	NA	IN PROGRESS
Develop product rotation alerts in new database system	12/2027		IN PROGRESS
Interagency cooperation to collect information on product usage across the industry; Orkin, Mr. Mosquito, etc.	12/2027		

- **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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Review plan for annual testing	1/2026	NA	Completed

Ground trials with Altosid, <i>Bti</i> liquid larvicide products	12/2026		
Test Sumiliarv 0.5 in drains	12/2027		

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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Repeat testing of WB1 males in hot spot areas of middle and upper Keys.	10/2026	\$76,000	IN PROGRESS
Develop plan for continuation of future use of <i>Wolbachia</i> -infected mosquitoes.	12/2026		IN PROGRESS

- **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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
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Determine potential effects of FKMCD larvicides on larval development		NA	COMPLETED
Determine Implementation Plan	Unknown*		

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

- **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.	12/2026	NA	
Develop plan for testing irradiated male <i>Ae. aegypti</i> mosquitoes.	12/2026	NA	
Test irradiated male <i>Ae. aegypti</i> mosquito releases.	12/2027	\$150,000	

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

- **STRATEGY:** Increase companywide knowledge to achieve the Districts desired threshold for both salt marsh mosquitoes and domestic mosquitoes.

- **COMPLETED OBJECTIVES:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Evaluate inspector areas.	Annually	NA	Complete 2025 Complete 2026
Evaluate inspector positions.	Through attrition if needed	NA	
Develop plans for cross training of	Annually	NA	Complete 2025

field and domestic inspectors, supervisors, biologists and inspectors.			Complete 2026
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- **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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Assess routine routes to ensure better coverage.	Annually	NA	Complete 2025 Complete 2026
Create additional routes/maps and schedules.	Annually	NA	Complete 2025 Complete 2026

- **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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Assess effectiveness of acoustic larvicide traps in controlling adult <i>Ae. aegypti</i> population.	6/2026		Trial Completed, data processing in progress
Assess effectiveness of In2Care traps in controlling adult <i>Ae. aegypti</i> population.	6/2026		Trial completed, data processing in progress

Research available <i>Ae. aegypti</i> control trapping methods	8/2026		IN PROGRESS
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- **GOAL:** Identify important domestic mosquito control harborage areas to better target operations.

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

- **COMPLETED OBJECTIVES:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Tire Amnesty	Annually	NA	Complete 2026
Neighborhood Cleanups	Annually	NA	
Define hotspots and develop plan to share locations with staff	Annually		Complete 2026
Repeat In-Depth Pupal Study	12/2028	NA	

3. PRIORITY AREA: Increase Environmental Sensitivity

- **GOAL:** Transition to high efficiency vehicles that are more duty specific.

- **STRATEGY:** Replace the current fleet with more fuel-efficient vehicles.

- **COMPLETED OBJECTIVES:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Maintain vehicle replacement list.	Annually		Complete 2026
Research current market.	Annually		Complete 2026

- **GOAL:** Transition to electric ULV fog machines.

- **STRATEGY:** Replace current truck-mounted ULV machines with battery operated electric ULV machines.
- **COMPLETED OBJECTIVES:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research more robust electric ULV equipment including backpack & handheld	Annually		

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

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

Objective	Goal Date	Budget	Results
Evaluate Hybrid Vehicle efficiencies	10/2026		IN PROGRESS
Report on efficiencies of multiuse vehicles and determine future use	12/2026		
Additional multiuse vehicles	9/2027		IN PROGRESS

- **GOAL:** Move towards being more environmentally friendly/energy efficient at all facilities.

- **STRATEGY:** Determine and implement environmentally friendly/energy efficient 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.
Research fully shielded lighting around facilities to reduce light pollution	Ongoing		

- **GOAL:** Go paperless throughout the District to increase efficiency.
 - **STRATEGY:** Utilize electric form & electric signatures; use current software to cut down on paper use.
 - **COMPLETED OBJECTIVES:** Moved to Appendix A
 - **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Conversion of financial purchasing documents (cash disbursements) to electronic records	6/2026	NA	Completed
Research electronic timesheets.*	10/2026		IN PROGRESS*
Research electronic leave requests.*	10/2026		IN PROGRESS*
Develop departmental list of common forms to be electronic	12/2026		IN PROGRESS
Research electronic PO system	10/2027		IN PROGRESS**

*New Payroll Software Estimated at \$30K/year **Payables Software Estimated at \$30K/year

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:** Moved to Appendix A
 - **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Upgrade Notification Methods	10/2026		IN PROGRESS
Research incentive-based community program.	11/2026	\$1,000	IN PROGRESS

Create and simplify New App. Develop Transition plan for new app + exploit available functions in Regroup.	5/2027		
Visit schools to program in-classroom programming in each 3 areas of the Florida Keys (Upper Keys, Middle Keys, Lower Keys).	12/2027		
Visit 6 schools to deliver in-classroom mosquito education programs.	12/2027		
Deliver 15 in-classroom mosquito education lessons to Monroe County School students.	12/2027		
Reach 500 students through in-classroom mosquito education programs.	12/2027		
Establish partnerships with 3 schools to participate in annual in-classroom mosquito education programming.	12/2027		
Attend 3 events at Monroe County Schools.	12/2027		

▪ **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.
- **COMPLETED OBJECTIVES:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
New methods, or access to QR code for banners, trucks, etc.	6/2026	\$5,000	IN PROGRESS
Increase social media posts about ongoing District operations and board functions	12/2026	\$5,000	IN PROGRESS
Develop plan to update Educational Materials	12/2026		IN PROGRESS
Publish 2-3 ops eds or ad placements on operations, innovations, staff highlights, Rainy Season Preps.	Annually		Due December
Update Homeowner's Guide	01/2027	\$5,000	IN PROGRESS
Hold Annual Open House every April	Annually	\$10,000	Complete 2026
Review website functionality and look.	5/2028		IN PROGRESS
Review booth design for festivals to make them more educational and interactive to	Annually		

include Mojito the Mosquito			
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- **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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Update curriculum for school-aged children.	7/2026		IN PROGRESS
Develop fiction vs. truth guide	12/2026		
Develop an interactive education center on keysmosquito.org for teachers/students.	3/2027		IN PROGRESS

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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Annual Review of District Hurricane Plan	Annually		Complete 2026
Review Annual Training Requirements	12/2026	NA	Annual

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

- **STRATEGY:** Develop safety reporting and review protocol for near miss accidents.
- **COMPLETED OBJECTIVES:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**
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Objective	Goal Date	Budget	Results
Revisit system annually to ensure capturing pertinent information.	Annually	NA	Complete 2026

- **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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Revisit reporting system annually to ensure capturing pertinent information.	Annually	NA	Complete 2026

- **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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Develop assessment tools to properly	6/2026	NA	IN PROGRESS

analyze reported injuries.			
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- **GOAL: Increase capacity and reach for safety training throughout all areas of the District**

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

- **COMPLETED OBJECTIVES:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Work with IT to develop a portal format	6/2026		IN PROGRESS
Introduce trial portal to test group	12/2026		
Launch portal	3/2027		

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

- **STRATEGY:** Implement routine safety audits as well as software to assist in tracking, alerts and maintenance.

- **COMPLETED OBJECTIVES:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Conduct operational safety audits	10/2026		Completed Monthly
Annual PPE evaluation audit	10/2026		Annually
Conduct external safety audit of flight and maintenance.	12/2026	\$5,000	Budget FY26-27

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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research potential tidal measuring tools to assist in remote information collected.	12/2026	\$5,000	IN PROGRESS
Research remote rain sensors.	12/2026	\$10,000	IN PROGRESS

- **GOAL:** Utilize UAS within the District for larvicide treatments.

- **STRATEGY:** Remain up to date on UAS regulations and District program.
- **COMPLETED OBJECTIVES:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Analyze feasibility of in-house drone program	Annually		IN PROGRESS
Monitor ongoing legislative priorities	Ongoing		

- **GOAL:** Determine utilization of the BG Auto Counter to replace landing rate counts conducted daily.
- **STRATEGY:** Continue working with BioGents Corporation on the BG Auto Counter.
- **COMPLETED OBJECTIVES:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Compare landing rate counts with BG Auto Counter.	3/2026		Published*

Determine if landing rate counts can be reduced with use of BG Auto Counter.	11/2027		IN PROGRESS
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* Pruszynski, C.A., H.L. Murray, L.J. Hribar. 2025. Comparing human landing rate counts with BG Counter 2 collection in the Florida Keys. Journal of the Florida Mosquito Control Association, 72: 85-88.

- **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.	12/2026	\$1,000	IN PROGRESS
Submit bids/proposals for budgeting purposes.	5/2026		COMPLETE

- **GOAL:** Utilize available mapping systems to identify potential saltmarsh mosquito habitats.

- **STRATEGY:** Use of LiDAR mapping to establish database of potential production sites.
- **OBJECTIVES:**

Objective	Goal Date	Budget	Results
Use of publicly available Army Corps of Engineers Mapping	4/30/2026	NA	COMPLETED
Analyze DEP LiDAR data	9/2026	NA	
Determine Methods for Future Data Gathering	12/2026	NA	

7. PRIORITY AREA: Employee Retention and Health Initiatives

- **GOAL:** Develop a compensation policy and retention strategies that reward employees for high-level performance that reach District goals.

- **STRATEGY:** 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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Research and expand training opportunities for staff	5/2026	NA	IN PROGRESS
Evaluation of organizational chart when vacancies occur	Ongoing	NA	
Annual open enrollment for Retiree's and implement virtual assistant benefit guide	10/2026	NA	
In-house salary survey completed and presented to the board of commissioners.	7/2027	NA	
Digitize retiree and active employee files.	1/2030	\$15,000	

- **STRATEGY:** Increase interdepartmental communication and team building throughout the District.
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Develop plan for semi-annual team building activities at each location	9/2026		
Research app-based communication within District	10/2026		IN PROGRESS

- **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:** Moved to Appendix A
- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Review, solicit and collect benefit costs and present to board.	08/2026	NA	

Bid process completed for medical, dental and vision.	08/2026	NA	
Comparative analysis of benefits at similar agencies	12/2026	N/A	
Review leave policies and research cost savings of a PTO only policy	12/2026	TBD	
Review of EAP & Health Initiatives	12/2026	N/A	

- **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:** Moved to Appendix A

- **CONTINUED OBJECTIVES:**

Objective	Goal Date	Budget	Results
Surplus 1 LongRanger	1/2027	NA	\$800,000

Implement 4 th Airbus H125 into service	1/2027	NA	Fleet replacement plan completed.
Decision on Last LongRanger	10/2027	NA	

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

Objective	Goal Date	Budget	Results
Recurrent NVG Training	Annually	\$7,000	Complete 2026
Research nozzle technology that can increase our dispersion height.	Annually		
Droplet testing at 200’.	4/2027	\$10,000	

Additional Future Capital Projects

Project	Cost Estimate	Year Projected
Aviation Office Build Out	\$40,000	FY26-27
Lift for Aviation Vehicles (MK)	\$30,000	FY26-27
New Storage Building (UK) – A1 Misters, BG Counters, Etc.	Researching	FY27-28
Hangar Insulation (MK)	\$20,000	FY27-28
Roof Chem Room/Auto Shop (MK)	\$120,000	FY28-29
Gutter Replacement (MK)	\$30,000	FY28-29
Two new larvicide trailers	\$65,000	FY28-29

Four Helicopter Dollies	\$100,000	FY28-29
Roof (Silicone Repair) (UK)	Researching	FY28-29
Utility Vehicles	\$50,000	FY28-29
Main Office Building Replacement (LK)	\$5,000,000	FY30-31
Hangar Door – Manual Open (MK)	\$1,500,000	FY30-31
Replace Unleaded Fuel Farm (MK)	\$70,000	FY30-31
Replace Unleaded Fuel Farm (UK)	\$80,000	FY31-32
Permanent Carports w/Solar Panels (ALL)	Researching	TBD
Install Dry Ice Machine (MK)	\$75,000	TBD
Update Aerial Fleet	710, 720 (\$16M)	FY40-41
Update Aerial Fleet	730 (\$8M)	FY43-44
Update Aerial Fleet	740 (\$8M)	FY46-47

APPENDIX A: HISTORICAL PRIORITY AREAS, GOALS AND OBJECTIVE TIMELINES

GOALS AND OBJECTIVES		PERSON RESPONSIBLE	PRODUCT	DEADLINE	STATUS
PRIORITY AREA: Pesticide Resistance					
GOAL	Understand the potential and causes of pesticide resistant populations of mosquitoes in Monroe County.				
	Have a plan in place for testing mosquito populations from each island	Director of Research		8/2017	✓
	Begin testing mosquito populations for resistance to current adulticide products	Director of Research		10/2017	✓
	Comparison of results to known susceptible colonies	Director of Research		12/2019	✓
GOAL	Continuation of testing of newly available products for alternative adulticides and larvicides to be used in areas of resistant mosquito populations.				
	Contact with vendors of major providers updated (ongoing)	Director of Research		9/2017	✓
	Bottle bioassays with new products completed	Director of Research		Annually	✓
	Cage trials completed with new products	Director of Research		Annually	✓
	New products identified for upcoming season	Director of Research		3/2023	✓
	Cage trials with ReMoaTri	Director of Research		5/2023	✓
PRIORITY AREA: Domestic Mosquito Control Practices for Invasive Mosquitoes					
GOAL	Determine utility of Wolbachia-infected mosquitoes for control of Aedes aegypti in Monroe County.				
	Complete testing <i>Wolbachia</i> -infected mosquitoes on Stock Island.	Director of Research		8/2017	✓
	Complete assessment of the initial trial of	Director of Research		12/2017	✓

	<i>Wolbachia</i> -infected mosquitoes.				
GOAL	Determine utility of genetically modified mosquitoes for control of <i>Aedes aegypti</i> in Monroe County.				
	Obtain regulatory approval (EPA/FDACS) for Exper. Use Permit.	Director of Research		6/2020	✓
	Obtain board approval for trials.	Director of Research		8/2020	✓
	Complete initial testing.	Director of Research		12/2021	✓
	Complete 2 nd year testing.	Director of Research		12/2022	✓
	Complete 3 rd year testing.	Director of Research		12/2023	✓
	Determine potential effects of FKMCD larvicides on larval development	Director of Research		2/2025	✓
GOAL	To obtain better control of disease vector mosquito populations.				
	Have a plan in place for smaller field areas or the potential of “domestic only” inspectors.	Director of Operations		12/2020	✓
GOAL	Determine the efficacy of barrier treatments applied around homes and businesses for control of <i>Aedes aegypti</i> and <i>Aedes albopictus</i>.				
	Perform bottle bioassays using bifenthrin, deltamethrin, and tau-fluvalinate for <i>Ae. aegypti</i>	Director of Research		12/2020	✓
GOAL	Determine the efficacy of ground Vectobac WDG treatments in neighborhoods in comparison to aerial applications.				
	Procure initial ground equipment.	Director of Operations		12/2017	✓
	Complete multiple applications by ground and air in response to rainfall and/or suspect disease cases.	Director of Operations		8/2018	✓
	Analyze trap and larval data for efficacy.	Director of Operations		4/2019	✓

	Set treatment thresholds for use of ground and aerial WDG treatments.	Director of Operations		5/2019	✓
	Create routes for routine treatment throughout each area.	Director of Operations		4/2022	✓
	Hire and train on-call drivers for ground WDG treatments.	Director of Operations		6/2022	✓
GOAL	Determine utility of specialized traps for the control of Aedes aegypti in Monroe County.				
	Place acoustic larvicide traps in the field.	Director of Research		5/2022	✓
	Place In2Care traps in the field.	Director of Research		4/2023	✓
GOAL	Identify important domestic mosquito control harborage areas to better target operations.				
	Create list of major Ae. aegypti hotspots.	Director of Operations		3/2022	✓
	List all homeowners associations in the Florida Keys.	Director of Operations		3/2022	✓
	Itemize list of potential control measures for each area.	Director of Operations		3/2022	✓
	Evaluate areas to conduct special trapping studies.	Director of Operations		4/2022	✓
	Conduct Tire Amnesty Day	Director of Operations		2/2023	✓
	Conduct Tire Amnesty Day	Director of Operations		2/2026	✓
	Define hotspots and develop plan to share locations with staff	Director of Operations		3/2026	✓
PRIORITY AREA: Increase Environmental Sensitivity					
GOAL	Transition to high efficiency vehicles that are more duty-specific.				
	Establish which vehicles are due for replacement.	Director of Operations		Ongoing	✓
	Research current market for viable replacements.	Director of Operations		10/2017	✓

	Create a plan for each vehicle.	Director of Operations		12/2017	✓
	Obtain smaller, more fuel-efficient vehicles.	Director of Operations		12/2019	✓
GOAL	Transition to electric ULV fog machines.				
	Establish a phase out timeline for current ground fogging equipment.	Director of Operations		11/2017	✓
	Obtain quote for new equipment.	Director of Operations		12/2017	✓
	Procure 3 electric machines (one for each location).	Director of Operations		4/2018	✓
	Procure additional equipment according to plan.	Director of Operations		Ongoing	✓
GOAL	Increase efficiency of vehicle use throughout the District.				
	Research potential multi-function trucks (WDG/ULV/inspector)	Director of Operations		6/2024	✓
	Put plan together for fleet operations.	Director of Operations		8/2024	✓
	Multiuse vehicles 2 units	Director of Operations		6/2025	✓
	Maintain Vehicle Replacement List	Director of Operations		6/2026	✓
GOAL	Go paperless throughout the District to increase efficiency.				
	Complete network filing system re-vamp.	Director of Operations		1/2018, 12/2020	✓
	Complete digital forms.	Director of Operations		3/2018	✓
	Print only items that need signature	Director of Operations		5/2018	✓
PRIORITY AREA: Public Awareness of Mosquito Control Practices					
GOAL	Making members of the community a more active part of our mosquito control efforts				

	Beta version of smart phone app developed.	PEIO		2/2018	✓
	Testing of beta version completed.	PEIO		3/2018	✓
	Final version of app completed and incorporated.	PEIO		7/2018	✓
GOAL	Increasing community awareness of what makes up an effective mosquito control program.				
	Developed plan for quarterly sweeps in different neighborhoods throughout the Keys.	Director of Operations		2/2018	✓
	Educational materials updated.	PEIO		2/2018	✓
	Updated Homeowner's Guide DVD.	PEIO		1/2019	✓
	Hold Annual Open House every April	PEIO		4/2026	✓
GOAL	Increase mosquito knowledge and awareness among school-aged children and young adults through educational programs.				
	Guest lecture centered around Oxitec Ae. aegypti control and operations.	PEIO		12/2020	✓
	Teach classes on mosquito control in local schools.	Educational Coordinator		4/2026	✓
GOAL	Better understand public knowledge and customer service.				
	Finalize Public Survey survey questions.	PEIO		6/2025	✓
	Plan for information gathering completed.	PEIO		6/2025	✓
	Disseminate survey.	PEIO		7/2025	✓
	Compile results.	PEIO		7/2025	✓
PRIORITY AREA: Operational Safety Practices					
GOAL	Reduce work related injuries through safety awareness.				

	Determine common accidents over past 3 years.	Safety Coordinator		12/2017	✓
	Develop and implement monthly safety message plan.	Safety Coordinator		5/2018	✓
	Meet with program Directors to determine best method of training.	Safety Coordinator		6/2021	✓
	Create a Safety Committee with representatives from each location that meets quarterly.	Safety Coordinator		1/2026	✓
	Determine common accidents over past 3 years and conduct quarterly evaluation	Safety Coordinator		1/2026	✓
	Annual Review of District Hurricane Plan	Safety Coordinator		6/2026	✓
GOAL	Reduce work related injuries by developing a proactive safety system.				
	Determine a method of reporting near miss accidents.	Safety Coordinator		8/2018	✓
	Develop incident review procedures.	Safety Coordinator		11/2018	✓
	Implement near miss incident program.	Safety Coordinator		1/2019	✓
	Create Digital Forms & Checklist	Safety Coordinator		2/2026	✓
GOAL	Reduce work related injuries by further developing a safety inspection program.				
	Create an inspection schedule with input of focus groups.	Safety Coordinator		4/2019	✓
	Create departmental inspection forms.	Safety Coordinator		8/2019	✓
	Develop standard reward program.	Safety Coordinator		11/2019	✓
	Implement inspection program.	Safety Coordinator		2/2020	✓
	Create robust building inspection form.	Safety Coordinator		10/2022	✓
GOAL	Determine the effectiveness of new implementations over the past 3 years.				

	Employee safety survey to review effectiveness of the safety program.	Safety Coordinator		1/2020	✓
	Develop reportable injury tracking system.	Safety Coordinator		1/2021	✓
	Employee safety survey to review the effectiveness of the safety program.	Safety Coordinator		9/2025	✓
GOAL	Increase capacity and reach of safety training throughout all areas of the District				
	Research alternative remote learning opportunities for field staff.	Safety Coordinator		3/2023	✓
	Meet with program Directors to discuss remote learning alternatives.	Safety Coordinator		5/2023	✓
	Test remote learning alternatives.	Safety Coordinator		11/2023	✓
	Implement remote learning.	Safety Coordinator		1/2024	✓
	Determine departmental training protocol based on departmental needs	Safety Coordinator		9/2025	✓
	Develop short-course training protocol for departments	Safety Coordinator		9/2025	✓
	Develop trial portal	Safety Coordinator		6/2026	✓
GOAL	Increase safety awareness through audits and software implementation to develop more comprehensive safety awareness.				
	Complete external safety audit.	Safety Coordinator		12/2018	✓
	Complete update of flight operations manual and maintenance procedures manual.	Safety Coordinator		10/2019	✓
	Implement full maintenance and flight operations tracking.	Safety Coordinator		6/2020	✓
PRIORITY AREA: Use of Technology to Maximize Resources and Increase Efficiencies					

GOAL	Utilize available technology to identify remote indicator sites.				
	Identify and prioritize all larval production sites.	Director of Operations		12/2017	✓
	Purchase and set cameras in priority areas.	Director of Operations		6/2018	✓
	Determine if area coverage is accurate and sufficient.	Director of Operations		11/2018	✓
	Set up buying/replacement schedule.	Director of Operations		3/2019	✓
	Camera placement and usage protocol established.	Director of Operations		5/2019	✓
GOAL	Become more precise when treating larvicide areas.				
	Train all inspectors on use of red/blue dot feature in Fieldseeker.	Director of Operations		12/2018	✓
	Implement policy on utilization of this feature to determine polygons and missed areas.	Director of Operations		4/2018	✓
	Follow up meetings w/ground and aerial teams after all larvicide treatments.	Director of Operations		10/2018	✓
GOAL	Expand the use of Remote Piloted Aircraft (RPA) throughout the District in surveillance and possible treatment.				
	Identify lead employees.	Director of Operations		11/2017	✓
	FAA certificate of authorization.	Director of Operations		5/2018	✓
	Aerial applicators licenses.	Director of Operations		3/2019	✓
GOAL	Determine utilization of the BG Auto Counter to replace landing rate counts conducted on a daily basis.				
	Determine overall accuracy of trap.	Director of Research		12/2020	✓
	Complete cost/benefit analysis of trap utilization.	Director of Research		12/2021	✓

	Develop procurement plan.	Director of Research		5/2021	✓
	Implement procurement plan.	Director of Research		10/2021	✓
	Develop and implement hurricane plan for traps.	Director of Research		10/2022	✓
PRIORITY AREA: Employee Retention and Health Initiatives					
GOAL	Develop a compensation policy and retention strategies that reward employees for high-level performance that reach District goals.				
	Meet with supervisors to ensure accurate job descriptions.	Director of HR		8/2017	✓
	Interview employees re: job descriptions.	Director of HR		10/2017	✓
	Finalize job descriptions.	Director of HR		12/2018	✓
	Conduct salary survey to include local government agencies and other MCDs.	Director of HR		6/2021	✓
	Board resolution to complete salary surveys every three years.	Director of HR		7/2021	✓
	Transition employee evaluations from paper to digital.	Director of HR		1/2021	✓
	Implementation of salary exempt positions.	Director of HR		4/2022	✓
	Review employee longevity policy	Director of HR		4/2026	✓
	Include FKMCD on housing discussions with the county	Director of HR		3/2026	✓
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.				
	Meet with external partners and evaluate District's benefit package.	Director of HR		7/2018	✓
	Collect and evaluate employee benefit utilization information.	Director of HR		8/2019	✓

	Collect and evaluate marketplace and industry specific trends.	Director of HR		8/2019	✓
	Compile collected data and report to Executive Director.	Director of HR		8/2019	✓
	Present a benefit policy for board approval.	Director of HR		8/2019	✓
	Begin selecting external partners to start developing benefits packages.	Director of HR		3/2020	✓
	Establish monthly meeting with partners.	Director of HR		3/2020	✓
PRIORITY AREA: Capital Projects					
GOAL	Maximize aerial fleet capacity and efficiency.				
	Complete use analysis of aerial fleet including missions flown, dates, capacity, etc...	Director of Aerial		5/2018	✓
	Complete maintenance cost projection per aircraft	Director of Aerial		12/2017	✓
	Complete cost/benefit analysis for fleet	Director of Aerial		5/2018	✓
	Complete future plan direction and present to Executive Director	Director of Aerial		6/2018	✓
	Procure 2 Airbus H125	Director of Aerial		7/2020	✓
	Surplus 2 Bell Jet Rangers	Director of Aerial		12/2021	✓
	Complete use analysis of H125 aircraft and present to board	Director of Aerial		4/2022	✓
	Procure 3 rd Airbus H125	Director of Aerial		10/2022	✓
	Surplus 1 st Islander	Director of Aerial		8/2023	✓
	Implement 3 rd Airbus H125 into service	Director of Aerial		10/2023	✓

	Surplus 2 nd Islander	Director of Aerial		2/2025	✓
	Procure 4 th Airbus H125	Director of Aerial		10/2026	✓
GOAL	Increase efficiency of aerial adulticide treatments.				
	Research night vision goggle (NVG) and night time spray usage possibilities.	Director of Aerial		11/2022	✓
GOAL	Additional Future Capital Projects				
	Hangar Roof Replacement (MK)	Director of Aerial	\$300,000	2024	✓
	Exterior Paint (UK)	UK Supervisor	\$12,120	5/2025	✓
	Fence replacement (UK)	UK Supervisor	\$25,000	3/2025	✓
	Two Utility Vehicles	Mechanic Supervisor	\$50,000	7/2026	✓
PRIORITY AREA: Lower Keys Operational Facility					
GOAL	Complete Lower Keys Operational Facility on Big Coppitt Key.				
	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	✓

APPENDIX B: COMPLETED PUBLICATIONS

Pesticide Resistance:

- 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, C.A. 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.
- 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.
- Murray, H.L. & L.J. Hribar. 2024. Resistance and inhibitor testing on *Aedes aegypti* (Linnaeus) (Culicidae: Diptera) populations in the Florida Keys. *Journal of Vector Ecology*, 49: 53-63.
- Hribar, L.J. 2024. Preliminary evaluation of toxicity of essential oils to *Aedes taeniorhynchus*. *Journal of the Florida Mosquito Control Association*, 71: 100.
- Hribar, L.J. 2025. Preliminary evaluation of toxicity of two essential oils to *Aedes taeniorhynchus* larvae. *Journal of the Florida Mosquito Control Association*, 72: 92.
- Hribar, L.J. 2025. Adulticide applications compared. *Wing Beats*, 36(2): 34, 36.

Domestic Mosquito Control Practices for Invasive Mosquitoes:

- 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
- Pruszyński, C.A., E.A. Wirsching, S.E. Faucett, L.J. Hribar, and A.L. Leal. 2026. Field evaluation of wide-area larvicide spraying effects on *Aedes aegypti* larvae in Oxitec release boxes. *Journal of the American Mosquito Control Association*, 42: 174-179..

Use of Technology to Maximize Resources and Increase Efficiencies:

- 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.
- Murray, H., A. Loftus, C. Pruszyński. 2025. Remote camera trapping for mosquito control. *Wing Beats*, 36: 24-28.
- Pruszyński, C.A., H.L. Murray, L.J. Hribar. 2025. Comparing human landing rate counts with BG Counter 2 collection in the Florida Keys. *Journal of the Florida Mosquito Control Association*, 72: 85-88.
- Hribar, L.J., H.L. Murray, and C.A. Pruszyński. Parity and blood-fed status of *Aedes taeniorhynchus* do not differ between human landing rate counts and BG Counter 2 traps in the Florida Keys. *Journal of the Florida Mosquito Control Association*, 73: 61-63.

Data Publications:

- Boehmler, M., H.L. Murray, D.J. DeMay, A.N. Rogers, and L.J. Hribar. 2023. Dataset for mosquitoes (Diptera, Culicidae) from State Route 905-Mile Marker 2, Key Largo, Monroe County, Florida USA. *Research Ideas and Outcomes (RIO)*, 9: e101286.
- Boehmler, M.B., D.J. DeMay, A.N. Rogers, C.A. Pruszyński, H.L. Murray, and L.J. Hribar. 2023. Dataset for mosquitoes (Diptera, Culicidae) from Gun Club Road, Key Largo, Monroe County, Florida USA. *Research Ideas and Outcomes (RIO)*, 9: e99607.