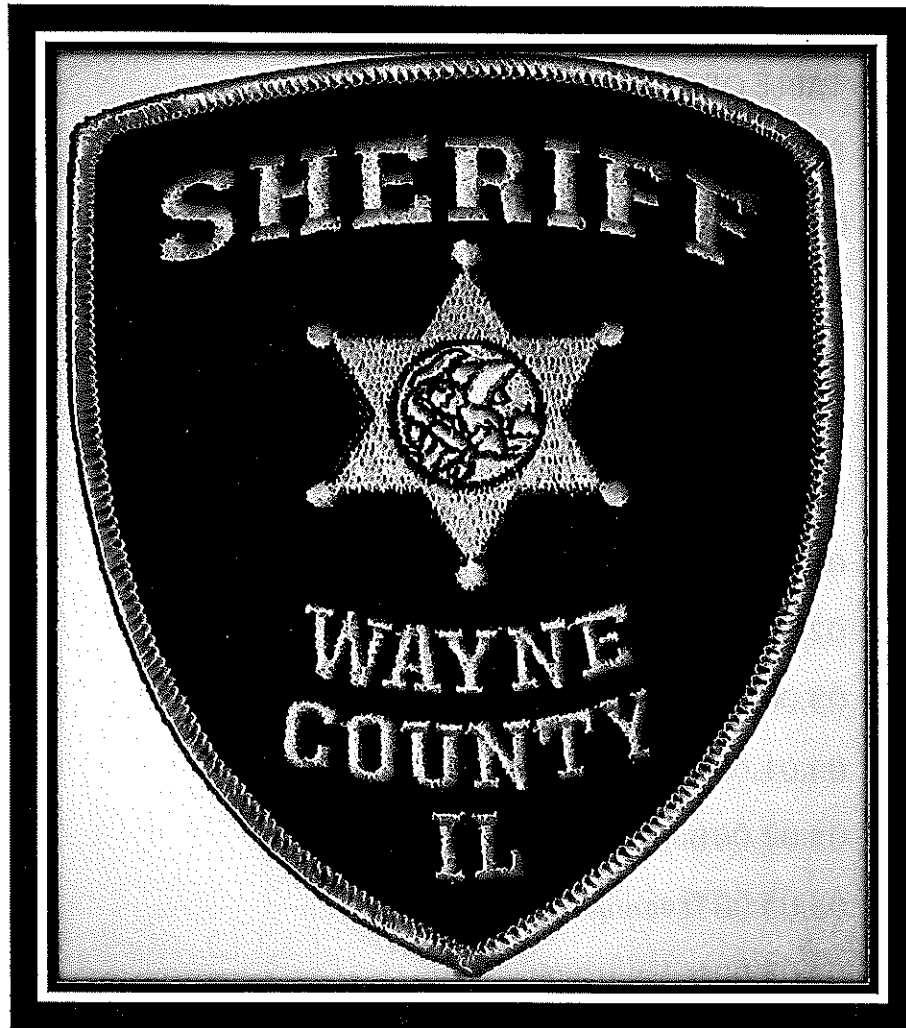


**Wayne County Sheriff's Office**  
**Unmanned Aircraft Systems**



**Sheriff Chris Otey**

UNMANNED AIRCRAFT SYSTEMS POLICY AND OPERATIONS MANUAL  
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## **Preface**

The following procedures are intended to promote the safe and efficient operation of the department's unmanned aircraft. SAFETY, above all else, is the primary concern in each and every operation, regardless of the nature of the mission.

## **01.00.00 ADMINISTRATIVE MATTERS**

The policies and procedures contained in this manual are issued by authority of the Sheriff. As such it is an official document of the agency.

The manual is not intended to be all-inclusive, but as a supplement to other department guidelines, Federal Aviation Regulations, aircraft manufacturers' approved flight manuals, etc...

The manual has been written to address unmanned aircraft operations as they existed when the manual was drafted. Equipment, personnel, environment (internal and external), etc., change over time. The management of change (MOC) involves a systematic approach to monitoring organizational change and is a critical part of the risk management process. Given this fact, it is essential that this manual be periodically updated as necessary. The entire manual will be reviewed annually to assure it is up to date. Any changes to the manual will be communicated expeditiously to all affected personnel.

A copy of this manual (electronic or paper) will be issued to every member having unmanned aircraft responsibilities.

### **01.01.00 ORGANIZATION**

The Unmanned Aircraft Operations Unit shall be comprised of those personnel assigned by the Sheriff and may include pilots, sensor system operators, visual observers, and others deemed necessary.

Unmanned aircraft operations are under the command of the Sheriff. Control and supervision of flight operations are hereby delegated to the UAS Chief Pilot. The UAS Chief Pilot may delegate such responsibility to UAS

pilots. Control and supervision of the law enforcement aspect of all UAS missions is retained by the Sheriff. The Sheriff may delegate such responsibility to other law enforcement personnel.

Personnel assignments can be on a full-time, part-time, or volunteer basis.

## **01.02.00 PERSONNEL**

Commanding Officer - The Sheriff serves as the commanding officer of unmanned aircraft operations and is responsible for overall management and supervision of the operation, which includes budget preparation and control, personnel selection, etc.

1. Given the technical nature of aviation, the Sheriff may, at his discretion, assign responsibility for unmanned aircraft operations to any member who has the knowledge, skills and abilities to safely and effectively manage the operation.

Supervisor/Chief Pilot 1. The Sheriff shall assign a subordinate to serve as the supervisor of UAS operations. 2. At the discretion of the Sheriff, one pilot may be designated as the chief pilot who shall be subordinate to the supervisor of UAS.

### **Pilots**

1. To be considered for selection as a pilot, applicants must be in good standing with WCSO and meet any other requirements imposed by the Sheriff.

2. A pilot's primary duty is the safe and effective operation of the agency's UAS in accordance with the manufacturers' approved flight manual, FAA regulations and certificate of authorization conditions, and WCSO Policies and Procedures. Pilots must remain knowledgeable of pertinent FAA regulations; aircraft manufacturer's flight manual; and WCSO policies and procedures.

3. In order to fly a mission (other than flights required for initial training or currency) pilots must have completed three (3) currency events within the

previous 90 days. Currency events include landings, takeoffs, and simulator flights.

4. Pilots may be temporarily or permanently removed from flight status at any time by the Sheriff, for reasons including performance, proficiency, etc... Should this become necessary, the pilot shall be notified in writing.

Sensor System Operators/Visual Observers (SSO/VO)

1. The sensor system operator/visual observer is responsible for assisting the pilot in scanning the airspace surrounding UAS operations and interpreting downlink data received from the UAS when.

## **02.00.00 SAFETY**

The Sheriff is committed to a safe and healthy workplace, including:

1. The ongoing pursuit of an accident free workplace, including no harm to people, no damage to equipment, the environment and property.
2. A culture of open reporting of all safety hazards in which management will not initiate disciplinary action against any personnel who, in good faith, disclose a hazard or safety occurrence due to unintentional or intentional conduct.
3. Support for safety training and awareness programs.
4. Conducting regular audits of safety policies, procedures and practices.
5. Monitoring the unmanned aviation community to ensure best safety practices are incorporated into the organization.

It is the duty of every agency member to contribute to the goal of continued safe operations. This contribution may come in many forms and includes always operating in the safest manner practicable and never taking unnecessary risks. Any safety hazard, whether procedural, operational, or maintenance related should be identified as soon as possible. Any

suggestions in the interest of safety should be made to the Sheriff without reservation.

### **02.01.00 CHIEF PILOT**

The chief pilot is responsible for the following:

1. Ensuring all flight operations personnel understand applicable regulatory requirements, standards and organizational safety policies and procedures.
2. Observe and control safety systems by monitoring and supervision of pilots and sensor system operators.
3. Measure Pilot and sensor system operator performance and compliance with organizational goals, objectives and regulatory requirements.
4. Review standards and the practices of agency personnel as they impact flight safety.

### **02.02.00 SAFETY TRAINING**

All new members shall receive training in the following prior to serving in an operational capacity:

1. Agency commitment to safety.
2. Agency policy/SOP.
3. The member's role in safety.
4. Process for reporting hazards and occurrences.
5. Applicable emergency procedures.

All safety training shall be documented.

## **03.00.00 TRAINING**

### **03.01.00 OBJECTIVE**

1. The key to continued safe operations is by maintaining a professional level of aviation competency. The first step in this process is establishing minimum qualifications for selecting aircrew. The second step involves training.

### **03.02.00 BUDGET**

1. The Sheriff will meet with the UAS Unit Chief Pilot annually to ascertain training needs for the upcoming fiscal year.
2. Every effort will be made, using resources that are available, to provide meaningful training to new and existing members.

### **03.03.00 TRAINING PLANS**

1. The chief pilot will formulate a training plan for each unit training session.
2. Training objectives will vary depending on whether the member is new to unmanned aviation or an experienced member. For new members, the focus will be familiarization with the equipment and operational procedures. Existing members will focus on recurrent training. Objectives should challenge the member to increase their competency in the knowledge and skills necessary to perform safe UAS operations..

### **03.04.00 INITIAL TRAINING**

1. Initial factory representative training will be conducted to provide new pilots with skills sufficient to operate specific unmanned aircraft systems.
2. All sensor system operators/visual observers must complete a initial training being conducted by WCSO chief pilot.
3. Any new member who fails to successfully complete initial training may be subject to removal from the unit.

### **03.05.00 RECURRENT TRAINING**

1. Recurrent training for all pilots and sensor system operators/visual observers should be conducted no less than twice each calendar year. The UAS Unit Chief Pilot is responsible for organizing these training sessions. Training will emphasize safety, respect for the law and citizens' privacy, crew resource management, "lessons learned" in previous deployments, and the efficient completion of public safety missions.
2. All pilots must complete at least three (3) currency events each 90 days utilizing the make and model of UAS to be deployed. Currency events include landings, takeoffs, and simulator events. Pilots who experience a lapse in currency must perform their currency events under the supervision of a UAS instructor pilot. Lapsed currency flights may not be in support of an actual public safety mission. Flights necessary to demonstrate pilot currency will be recorded in the pilot's UAS logbook.
3. Recurrent training is not limited to actual pilot skills but includes knowledge of all pertinent unmanned aircraft system matters.
4. Failure to demonstrate proficiency may result in removal from the Unmanned Aircraft Systems Unit.

### **03.06.00 USE OF SHERIFF'S OFFICE UNMANNED AIRCRAFT SYSTEMS FOR TRAINING**

1. WCSO unmanned aircraft systems may be used to meet training objectives.

## **04.00.00 GENERAL OPERATING PROCEDURES**

### **04.01.00 CALL OUT PROCEDURES**

1. WCSO, and other agencies' personnel, requesting UAS Unit support for planned events should submit the request to the Sheriff at least 5 working days in advance of the event.
2. Requests for immediate support of unplanned events shall be made to the WCSO via telephone, radio, or in-person. The decision to respond on-call UAS personnel will be made by the on-duty WCSO supervisor after consultation with the UAS Unit Chief Pilot or his designee.
3. Once a request for UAS response has been approved by the on-duty WCSO supervisor, personnel will notify the on-call UAS pilot via telephone. Personnel will then dispatch any system operator to the incident. If there is no sensor system operator on-duty, the dispatcher will advise the on-call pilot.
4. Whenever possible, only the pilot-in-command and the SSO/VO will occupy the flight operations area. All other personnel will observe from a distance that discourages conversational communication with the PIC and SSO/VO. Staff other than the PIC and SSO/VO may view downlinked imagery via a remote viewing terminal (RVT) located away from the flight operations area.

## **04.02.00 FLIGHTS OUTSIDE WAYNE COUNTY**

1. Planned flights leaving the jurisdictional boundaries of Wayne County require the specific approval of the Sheriff or his designee.

## **04.03.00 FLIGHT CREW RESPONSIBILITIES**

### **PILOT-IN-COMMAND**

The pilot-in-command (PIC) is directly responsible for and is the final authority over the operation of the unmanned aircraft. PICs have absolute authority to reject a flight based on weather, aircraft limitations, physical condition, etc. No member of any law enforcement agency, regardless of rank, can order a PIC to make a flight when, in the opinion of the PIC, it cannot be done safely. PICs are responsible for compliance with this manual, all UND policies and procedures, Federal Aviation Regulations, and Certificate of Authorization conditions. PICs shall handle radio communications with air traffic control and other aircraft. PICs shall be responsive to the requests of the sensor system operator/visual observer in order to accomplish the mission.

### **SENSOR SYSTEM OPERATOR/VISUAL OBSERVER (SSO/VO)**

The SSO/VO is responsible for the law enforcement aspect of the mission. The SSO/VO will assist the pilot in maintaining visual awareness of the airspace and advise the pilot of any imminent hazards including other aircraft, terrain, and adverse weather conditions. The SSO/VO shall operate the payload and handle radio communications between ground units and dispatcher. The SSO/VO shall remain alert for suspicious persons or activities on the ground and coordinate response by ground units. The SSO/VO will avoid unnecessary communications with the pilot during takeoff and landing. The SSO/VO is the custodian of evidence.

## **04.04.00 PERSONAL PROTECTIVE EQUIPMENT**

1. Service weapons may to be worn/carried by UAS pilots and SSO/VOs authorized to carry such weapons.
2. Personnel within close proximity to rotor wing UAS launches and recoveries will wear protective eyewear.

## **04.05.00 PREFLIGHT ACTIONS**

Thorough preflight planning and inspections are critical to safe operations.

### Physical Assessment

1. Preflight begins with the aircrew making a self-assessment of their physical condition.
2. If unable to perform flight duties, the crewmember will decline such activity.

### INSPECTIONS

1. At the beginning of each tour of duty, the pilot shall conduct a thorough preflight inspection of the UAS in accordance with the instructions contained in the unmanned aircraft flight checklist.
2. All mission equipment will be tested prior to the flight by the SSO/VO or pilot.
3. It is widely recognized that the use of checklists is a major factor in reducing aviation accidents. Checklists are provided and shall be utilized.
4. If during the course of the preflight any mechanical discrepancy is found, refer to 06.00.00 MAINTENANCE

### WEATHER

1. Prior to initiating a flight, the pilot shall obtain a full weather briefing. The pilot will ensure that he/she gathers enough information to make themselves familiar with the weather situation existing throughout the area of operation.

2. Subsequent to the original weather briefing, pilots will obtain, as necessary, sufficient weather information to ensure that the original briefing remains valid. The frequency of these additional weather checks will be determined by the severity of existing or forecast weather.

#### DOCUMENTATION

1. All flights will be documented in the aircraft logbook.

#### PRE-FLIGHT PLANNING

1. The pilot shall familiarize themselves with all available information concerning the flight.

2. Pilots shall insure that all required FAA notifications have been made prior to conducting any flight.

### **04.06.00 GROUND HANDLING**

1. The pilot is responsible for operation of UAS in the air and on the ground. Pilots will ensure that no unauthorized items are attached to the aircraft prior to movement. During movement, adequate clearance will be maintained.

2. Upon "Repack" of the unmanned aircraft the Pilot will ensure that all items are returned to their proper place IAW the system inventory checklist stored in the system case.

## **04.07.00 POST FLIGHT RESPONSIBILITIES**

1. A thorough inspection will be conducted of the UAS immediately after the completion of the mission to ascertain if any damage was sustained during operation.
2. If necessary, the aircraft will be serviced so that it is immediately available for the next flight.
3. Necessary entries will be made into the aircraft flight log and appropriate reports will be completed.

### **DATA COLLECTION MINIMIZATION**

In order to safeguard the privacy of the citizens we serve, collection of data to include, but not limited to, digital photographs, digital video, infrared images, and sound recordings will be limited to the extent absolutely necessary to accomplish the current mission.

### **DATA STORAGE**

Only data that meets legitimate research objectives, or has evidentiary value, will be retained after the mission has been concluded. Said data will be safeguarded so as to protect the privacy of citizens who may be depicted in the data. All other data will be destroyed through electronic deletion. Digital logs of aircraft mission profiles are exempt from this requirement. The SSO/VO is responsible for safeguarding and deleting data as required.

## **04.08.00 ACTIVITY REPORTING PROCEDURES**

1. Flight activities will be documented in the aircraft logbook.

## **04.09.00 CONSTITUTIONAL ASPECTS OF AERIAL SEARCHES**

1. Aerial searches to inspect, or gather evidence on activity on the ground may, under some circumstances, intrude upon a person's reasonable expectation of privacy and therefore come under the protection of the Fourth Amendment to the U.S. Constitution.
2. The Supreme Court has cautioned against assuming that compliance with FAA regulations will automatically satisfy Fourth Amendment requirements. Instead, the courts will determine whether the law enforcement aircraft is in the public airways at an altitude at which members of the public regularly travel. Other considerations include; the type of property (open fields versus curtilage); frequency of other aircraft flights over the area; steps taken to conceal property and activity from aerial observation and location of the observer (altitude).
3. As a result of pertinent U.S. Supreme Court decisions, aerial searches of areas that can be reasonably interpreted to give rise to a reasonable expectation of privacy will be conducted no lower than 400' AGL. This section is not intended to prohibit aerial searches of areas that do not give rise to a reasonable expectation of privacy or searches pursuant to a search warrant to be conducted at altitudes below 400' AGL. Additionally, in rare circumstances, extreme exigent circumstances would also justify searches of "reasonable expectation of privacy" areas at an altitude below 400' AGL.

4. Use of thermal imagers is passive and non-intrusive. In most circumstances, use of this device is not considered a search and does not require a search warrant. However, a 2001 U.S. Supreme Court decision (U.S. v. Kyllo), held that using sense-enhancing technology to obtain any information regarding the interior of a home that could not otherwise have been obtained without physical intrusion into a Constitutionally protected area, constitutes a search. Thus, police may not use thermal imagers to scan a private residence for heat characteristics (a tactic used to identify indoor marijuana grow operations) without first obtaining a search warrant. It does not prohibit their use on structures, or other areas that would not give rise to a "reasonable expectation of privacy".

5. It is ESSENTIAL to note that case law in the area of UAS searches has not yet matured to the point that clear guidelines have evolved. In all cases of UAS deployment, reasonableness and respect for the privacy of individuals shall guide the actions of the UAS SSO/VO and pilot.

#### **04.10.00 EMERGENCY RESPONSE PLAN**

During UAS operations, emergency situations may develop at any time. The primary concern in such incidents is the prevention of injury to persons on the ground and/or other users of the National Airspace System. Secondary concerns include protection of property, flora and fauna on the ground.

Following a UAS accident involving personal injury and/or significant property damage, the aircrew (if able) shall do the following:

1. Immediately notify dispatch and request assistance. Provide as much information as possible about the extent of the injuries, or damage.
2. Render first aid to the injured.
3. Request notification of the supervisor/chief pilot and Sheriff, who will respond to the scene and coordinate accident investigation efforts.

4. Request the FAA and NTSB be notified.
5. Survey the damage to the aircraft and/or other property.
6. Prior to the arrival of the FAA and NTSB, ensure the aircraft and its contents are moved only to the extent necessary to remove persons injured, protect the public from injury and/or protect the wreckage from further damage.
7. Provide any additional assistance or information requested by the FAA and NTSB.
8. Submit a detailed, written report to the Sheriff.

For ground emergencies, personnel shall:

1. Evaluate the need for response by fire or EMS.
2. Provide first aid, contain the incident, etc.
3. Notify the supervisor/chief pilot and Sheriff.

Pre-Planning for Emergencies

1. Prior to any UAS operations, the pilot and/or SSO/VO will identify the nearest emergency medical facility and brief all involved personnel on an emergency transportation plan.

## **04.11.00 Miscellaneous**

### **GENERAL**

Unmanned Aircraft will be operated in accordance with this manual, Wayne County Sheriff's Office Flight Policies and Procedures, UAS Manufacturers manual and recommendations, and Federal Aviation Regulations.

## FLIGHT LIMITATIONS

### Weather

1. Flight into instrument meteorological conditions, thunderstorms, or other severe weather is prohibited.
2. No aircraft operations will be conducted under VFR when the flight visibility is less than 3 statute miles.
3. No aircraft operations will be conducted when the ceiling is less than 1,000' AGL.
4. Weather minimums are not applicable to indoor operations.

### 04.14.05 MAXIMUM AND MINIMUM ALTITUDES

1. The maximum altitude for operations is specified in the airframe/mission specific COA.
2. The minimum altitude is one at which operations can be conducted without undue risk to persons or property on the surface.

### 04.14.06 MISCELLANEOUS

1. Should the PIC or SSO/VO develop fatigue or a sudden illness, the flight shall be terminated as soon as practical

## **05.00.00 GROUND SAFETY**

1. The pilot and SSO/VO must be constantly aware of dangers to ground personnel from moving propeller or rotor blades.
2. The pilot will not under any circumstances leave any unauthorized person in charge of the unmanned aircraft controls while the engine is running. If it is necessary for the pilot to leave the unmanned aircraft, the engine will be shut down and the controls deactivated.

3. Only mission essential personnel will be in proximity to UAS launch and recovery activities.

4. When operating over populated areas, the pilot will insure that a "defined incident perimeter" exists which limits the potential of persons being present beneath the UAS flight path.

## **06.00.00 MAINTENANCE**

1. Properly maintained UAS are essential to safe operations. Compliance with manufacturer's scheduled maintenance, preflight inspections and immediate repair of mechanical problems ensure the availability and safety of GFSO unmanned aircraft.

## **06.01.00 DEFINITIONS**

1. Aircraft Flight Log – Flight record book kept in the UAS storage case

2. Preventive Maintenance – Simple, or minor adjustments or the replacement of small standard parts not involving complex assembly operations.

3. Scheduled Maintenance – Periodic maintenance on aircraft at known intervals.

4. Unscheduled Maintenance – Repairs to aircraft in response to mechanical deficiencies.

## **06.02.00 Maintenance Officer**

1. One member will be designated as the maintenance officer who will coordinate maintenance for agency unmanned aircraft. This assignment will be in addition to other duties.
2. If possible, maintenance will be scheduled when it will have the least impact on operations.
3. The maintenance officer shall maintain the aircraft maintenance records.
4. The maintenance officer supervisor/chief pilot and Sheriff shall prepare the annual budget request for maintenance related needs. To do so, it will be necessary to accurately project which life-limited parts, or calendar-life components will need to be replaced, which systems require certification, required inspections, etc.

## **06.03.00 Pilots**

1. Conduct a thorough preflight inspection of the aircraft in accordance with the aircraft checklist. The UND Discrepancy Reporting System shall be followed if problems are noted.
2. The Aircraft Flight Log shall be reviewed prior to flight and the appropriate data entered at the conclusion of each flight.
3. Pilots are generally not authorized to order repair work, parts, etc., from the commercial maintenance provider without prior approval. When exigent circumstances exist, pilots are authorized to order those repairs necessary to assure the aircraft is operational and safe. Such repairs shall be reported to the supervisor/chief pilot as soon as practical.

4. In accordance with the Federal Aviation Regulations (refer to FAR Part 43.3), pilots can perform preventive maintenance. All such work must be entered into the maintenance records.

5. The pilot is the final authority on whether an aircraft is airworthy.

### **06.04.00 DISCREPANCY REPORTING SYSTEM**

1. For minor problems not requiring grounding, note the problem in the Aircraft Flight Log, complete a UND discrepancy form and notify the maintenance officer.

2. For major problems requiring grounding, note the problem in the Aircraft Flight Log, complete a UND discrepancy form, notify the maintenance officer and affix a placard to the system case indicating that the aircraft is not airworthy

