



**Environmental Assessment of the  
Joint Unmanned Systems Testing in Collaborative  
Environment (Project JUSTICE)**

**Department of Homeland Security  
Science & Technology Directorate**

**19 February 2021**

## EXECUTIVE SUMMARY

Pursuant to U.S. Department of Homeland Security (DHS) Directive 023-01, Rev. 01 (2014), *Implementation of the National Environmental Policy Act* and Instruction 023-01-001-01, Rev. 01 (2014) and regulations implementing procedural provisions of the National Environmental Policy Act (NEPA) as outlined in 40 CFR Parts 1500-1508, this Environmental Assessment (EA) has been prepared to evaluate the potential environmental impacts associated with the continued and proposed research, development, test, evaluation, and training (project activities) of unmanned aircraft systems (UAS) under the Joint Unmanned Systems Testing in Collaborative Environment (Project JUSTICE) at Mississippi State University (MSU) Rasket Flight Center in Oktibbeha County, Mississippi (MS); Camp Shelby, Perry County, MS; and Singing River Island, Pascagoula County, MS. The DHS Science & Technology (S&T) Directorate administers Project JUSTICE. The three Project JUSTICE locations provide the specialized outdoor test areas required by DHS S&T to ensure project activities across a broad range of evaluation scenarios throughout the validation, acquisition, and equipment lifecycle. Project JUSTICE supports homeland security operations and training by providing UAS flight and exercise support facilities needed for the project activities operational evaluation of UAS in a variety of applications and scenarios.

This EA evaluates both the continued project activities of UAS under Project JUSTICE at Camp Shelby as well as proposed new UAS project activities at the Rasket Flight Center and Singing River Island. A comprehensive EA is needed to ensure that continued and proposed UAS project activities are fully evaluated and considered under NEPA for all three test site locations.

This EA considers the Proposed Action and a No Action alternative. Under the Proposed Action, DHS S&T would conduct Project JUSTICE activities at the three designated locations, including the continuation of activities at Camp Shelby and new activities at the Rasket Flight Center and Singing River Island. Under the No Action alternative, Project JUSTICE activities would not occur. This EA documents baseline environmental conditions at the three test sites, reviews and analyzes the potential significant effects of the Proposed Action and No Action Alternative, and identifies measures to manage potential adverse effects.

As described in this EA, implementing the Proposed Action would have a negligible short-term adverse impact on wildlife, and no short- or long-term adverse impacts on: visual aesthetics; airspace management; vegetation; wetlands or water quality; soundscape; solid or hazardous waste generation and disposal; human health and safety; archaeologically, historically, or architecturally significant sites; socioeconomics; or environmental justice.

Under Project JUSTICE, UAS undergo research, development, test, evaluation, and training activities. These project activities are continuously evaluated and reviewed for compliance with applicable environmental regulations, including airspace. Wildlife avoidance measures have been and continue to be performed at the Project JUSTICE test areas at Camp Shelby where native wildlife is present. Measures used to ensure that potential adverse impacts remain insignificant include implementing existing pre-flight checklists to prevent impacts to avian wildlife, maintaining flight altitudes consistent with Federal Aviation Administration requirements, and maintaining control of UAS through line-of-sight operations. Further, there are minor beneficial socioeconomic impacts realized to the local economy from employment of staff who oversee Project JUSTICE during each test event at all three test locations.

DHS S&T will post this EA with an email address for the public, regulatory agencies, and tribes to comment during a 30-day review period. Public input will be documented and addressed in the final EA.

Recent changes to the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Parts 1500-1508) became effective on September 14, 2020. As stated in 40 CFR 1506.13, the new

regulatory changes apply to any NEPA process begun after September 14, 2020. This EA substantively commenced prior to that date; therefore, this EA conforms to the DHS NEPA implementing procedures and CEQ regulations in effect prior to September 14, 2020.

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## LIST OF ACRONYMS

| <b>Acronym</b> | <b>Definition</b>   |
|----------------|---|
| AGL            | above-ground level  |
| AOI            | area of interest  |
| APE            | area of potential effect                                    |
| ATON           | aids to navigation  |
| BCC            | Birds of Conservation Concern                               |
| CEQ            | Council on Environmental Quality                            |
| CFR            | Code of Federal Regulations                                 |
| COA            | Certificate of Waiver or Authorization                      |
| CWA            | Clean Water Act   |
| CZMA           | Coastal Zone Management Act                                 |
| DHS            | U.S. Department of Homeland Security                        |
| DNL            | day-night level   |
| DOD            | U.S. Department of Defense                                  |
| EA             | Environmental Assessment                                    |
| EIS            | Environmental Impact Statement                              |
| EO             | Executive Order   |
| ESA            | Endangered Species Act                                      |
| FAA            | Federal Aviation Administration                             |
| FS             | Forest Service  |
| Hz             | hertz   |
| gHz            | gigahertz   |
| JUSTICE        | Joint Unmanned Systems Testing in Collaborative Environment |
| MDAH           | Mississippi Department of Archives and History              |
| MS             | Mississippi   |
| MSL            | mean sea level  |
| MSU            | Mississippi State University                                |
| NAAQS          | National Ambient Air Quality Standards                      |
| NEPA           | National Environmental Policy Act                           |
| NLEB           | Northern long-eared bat                                     |
| NOA            | notice of availability                                      |
| NRHP           | National Register of Historic Places                        |
| ROI            | region of influence   |
| SME            | subject matter expert                                       |
| SOP            | standard operating procedures                               |
| S&T            | Science & Technology Directorate                            |
| sUAS           | small unmanned aircraft system                              |
| SUP            | special use permit  |
| UAS            | unmanned aircraft system                                    |
| US             | United States   |
| USDA           | U.S. Department of Agriculture                              |
| USFWS          | U.S. Fish and Wildlife Service                              |
| VEC            | valued environmental component                              |

## 1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

### 1.1 Introduction

This Environmental Assessment (EA) was prepared pursuant to U.S. Department of Homeland Security (DHS) Directive 023-01, Rev. 01 (2014) and Instruction 023-01-001-01, Rev. 01 (2014), *Implementation of the National Environmental Policy Act*. The National Environmental Policy Act (NEPA) of 1969, Public Law 91-190, as amended, requires all federal agencies to consider the impact of their proposed actions on the environment, in compliance with regulations implementing NEPA as promulgated by the Council on Environmental Quality (CEQ) in 40 Code of Federal Regulations (C.F.R.) Parts 1500 to 1508. Recent changes to the CEQ regulations became effective on September 14, 2020 (85 Fed. R. 43304-76 (July 16, 2020)). As stated in 40 C.F.R. § 1506.13, the new regulatory changes apply to any NEPA process begun after September 14, 2020. This EA substantively commenced prior to that date, as shown by the scoping letters sent to stakeholders on April 23, 2020. Therefore, this EA conforms to the CEQ NEPA implementing regulations in effect prior to September 14, 2020. This EA analyzes the potential environmental, cultural, socioeconomic, and cumulative effects associated with the continued operation of Project JUSTICE project activities at Camp Shelby, and new project activities at Raspet Flight Research Laboratory and Singing River Island.

The DHS Science and Technology Directorate (S&T), a Component of DHS, conducts basic and applied research, development, demonstration, testing, and evaluation activities relevant to the DHS mission. The Homeland Security Act of 2002 (P.L. 107-296), which established the DHS, created within DHS a Directorate of S&T, headed by an Under Secretary for Science and Technology. The Homeland Security Act gave the Under Secretary a wide-ranging list of responsibilities and authorities. In 2006, then Under Secretary Jay M. Cohen identified the S&T Directorate's missions as follows: "The S&T Directorate's mission is to protect the homeland by providing federal, state, local, and Tribal officials with state-of-the-art technology and resources" (from *The DHS Directorate of Science and Technology: Key Issues for Congress, June 22, 2009*). Under this purview, S&T may conduct a myriad of functions that contribute the DHS's broader homeland security mission, including basic research and training, facilitating technology transfer, and advisement on research priorities. This authority is paramount to the Department's mission to protect and secure the Homeland from evolving threats.

S&T has developed and administers the Joint Unmanned Systems Testing in Collaborative Environment (Project JUSTICE) UAS mission-related testing and evaluation activities. Project JUSTICE supports homeland security operations and training by providing UAS flight and exercise support facilities needed for the research, development, test, evaluation, and training (project activities) of UAS in a variety of applications and scenarios.

DHS S&T has partnered with the Mississippi State University (MSU)-led partnership, managed by MSU's Raspet Flight Research Laboratory (Raspet), to provide technical support to implement Project JUSTICE. The partnership's members provide facilities, expertise, and personnel to conduct specialized evaluation of and training on UAS for DHS agencies, including the U.S. Coast Guard, U.S. Secret Service, U.S. Customs and Border Protection, U.S. Immigration and Customs Enforcement, and the Federal Emergency Management Agency. Project JUSTICE activities can occur at three test areas in Mississippi: (1) MSU Raspet; (2) Mississippi National Guard's Camp Shelby Joint Forces Training Center (Camp Shelby); and (3) the State of Mississippi's Singing River Island. DHS S&T proposes to continue UAS project activities at Camp Shelby and conduct new UAS project activities at Raspet and Singing River Island.

## **1.2 Purpose and Need**

The purpose of the Proposed Action is to provide three test areas in Mississippi to support the continued and new UAS project activities for Project JUSTICE. The Proposed Action is needed to ensure DHS S&T can effectively carry out its mission including basic research and training, facilitating technology transfer, and advisement on research priorities.

This EA evaluates both continued testing of UAS project activities under Project JUSTICE at Camp Shelby as well as proposed new UAS project activities at the Raspet and Singing River Island. A comprehensive EA is needed to ensure that continued and proposed UAS project activities are fully evaluated and considered under NEPA for all three test site locations.

## **1.3 Scope of The Environmental Assessment**

This EA has been prepared to analyze the potential environmental and social consequences associated with the project activities performed under Project JUSTICE. For the purposes of this EA, the study area evaluated for potential impacts to the human and natural environment is defined as the training grounds and airspace in which UAS are flown. This study area includes approximately 150 acres at MSU Raspet, 500 acres at Camp Shelby, and 1,200 acres at Singing River Island, which includes the island and the surrounding waters.

## **1.4 Environmental Laws and Regulations**

A summary of the key environmental laws and regulations that may apply to the Proposed Action includes the Federal Aviation Administration (FAA) safety mandate under 49 U.S. Code § 40103; Clean Air Act of 1970 (as amended), Clean Water Act (1972, as amended), Toxic Substances Control Act (1976, as amended), Noise Control Act (1972), Endangered Species Act (ESA) (1973, as amended), Coastal Zone Management Act (CZMA) (1972, as amended), National Historic Preservation Act (1966), Archaeological Resources Protection Act (1979), Resource Conservation and Recovery Act (1976), Executive Order (EO) 11593, Protection and Enhancement of the Cultural Environment, dated May 13, 1971; EO 11988, Floodplain Management, dated May 24, 1977; EO 11990, Protection of Wetlands, dated May 24, 1977; EO 12088, Federal Compliance with Pollution Control Standards, dated October 13, 1978; EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994; EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, dated April 21, 1997; EO 13112, Invasive Species, dated February 3, 1999; and EO 13693, Planning for Federal Sustainability in the Next Decade, dated March 19, 2015, which has since been revoked by EO 13834, Efficient Federal Operations, dated May 17, 2018. Note that this list is not all-inclusive and other federal, state, and local regulations may apply.

## **1.5 Public Involvement**

Coordination with federal and state agencies including the U.S. Fish and Wildlife Service (USFWS), the Mississippi Department of Environmental Quality, and the Mississippi Department of Archives and History (MDAH), was initiated for the Proposed Action via letters and/or public notice on September 29, 2020. Copies of coordination letters and agency responses are located in Appendix A. Scoping for this project commenced in April 2020 through a request for input from selected Mississippi state agencies and selected Native American Tribes with ancestral connections to the project locations.

Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by DHS NEPA implementing procedures and the CEQ regulations. The EA is being coordinated with stakeholders (Chapter 8.0) and was made available for a 30-day review period to receive comments from the public and other federal, state, tribal, and local agencies. A Notice of Availability (NOA) was advertised in the *Clarion-Ledger*, a daily newspaper with statewide circulation. The NOA was also sent to

federal, state, tribal, and local agencies to solicit comment during the 30-day review period. Responses received are provided in Appendix A. Comments from the public are provided in Appendix

B.

## 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

The Proposed Action is for DHS S&T to conduct Project JUSTICE at three sites in Mississippi: MSU Raspet, Camp Shelby, and Singing River Island. As stated in Chapter 1 of this EA, the Proposed Action includes the continued implementation of Project JUSTICE project activities at Camp Shelby and proposed new UAS project activities at MSU Raspet and Singing River Island. The Proposed Action is expected to continue through 2021, with an option for extension through 2024. The following sections discuss the specific elements of Project JUSTICE in greater detail.

#### 2.1.1 Project JUSTICE Training Exercise Details

On December 16, 2015, FAA promulgated an Interim Final Rule (80 Fed. Reg. 78594) that defined *Unmanned Aircraft, Model Aircraft, Small Unmanned Aircraft and Small Unmanned Aircraft System* in 14 CFR §1.1 as the “Unmanned aircraft and all of the associated support equipment, control station, data links, telemetry, communications and navigation equipment, etc., necessary to operate the unmanned aircraft.”

Project JUSTICE training exercises may include both UAS and small UAS (sUAS). The FAA uses the term sUAS to categorize UAS weighing less than 55 pounds at takeoff and conducting non-recreational operations. Project JUSTICE training activities may also involve UAS up to, but not exceeding, 100 pounds. (Note: this EA uses the term UAS to include both sUAS and UAS.)

Project JUSTICE may test and evaluate both fixed wing and rotary aircraft. UAS may be launched remotely or with human assistance (such as propelling a fixed-wing UAS into the air). All UAS are powered by on-board batteries and are flown manually and in the line-of-sight of the operator. UAS are not operated autonomously (i.e., controlled by artificial intelligence software).

Project JUSTICE exercises would occur at existing facilities located at MSU Raspet, Camp Shelby, and Singing River Island. (Section 2.2.1 describes the different Project JUSTICE activities that would occur at each facility. Additionally, Project JUSTICE activities that have occurred at Camp Shelby and are described under Section 2.2.1 would continue.) The facilities were constructed prior to the establishment of Project JUSTICE and are used for other UAS research and training exercises by other state or local agencies when not involved with a Project JUSTICE training event. All three locations have previously supported UAS testing and training events that are not associated with Project JUSTICE. For example, MSU Raspet UAS activities involve analyses of UAS for academic engineering purposes; Camp Shelby UAS activities involve training for military and law enforcement personnel; and Singing River Island UAS activities have primarily focused on obtaining imagery of the industrial facility infrastructure located on the island. Various UAS activities not related to Project JUSTICE will continue at each location, but would not occur at the same time as Project JUSTICE events. Thus, the specific Project JUSTICE activities would continue at Camp Shelby and would include new activities at Raspet and Singing River Island.

Project JUSTICE includes a maritime search and rescue program, implemented at Singing River Island. Project JUSTICE maritime search and rescue exercises would not limit, disrupt, or otherwise interfere with commercial or recreational boating in any way, because they occur close to shore and outside of navigation channels. As warranted, maritime exercises are coordinated in advance of all Project JUSTICE project activities with cooperation from the U.S. Coast Guard. Additionally, continued implementation of pre-flight management measures ensures potential impacts on avian wildlife are avoided.

A total of 12 Project JUSTICE test events are planned to occur each year, with one exercise typically occurring each calendar month of the year at one of the three locations. Concurrent project activities at two

or more locations are not planned. Each training event lasts less than five consecutive days. All project activities are conducted during weekdays and during daylight hours (Dixon, 2020). Approximately 10-20 participants attend each event, typically with 6-8 participants from each participating organization (MSU, DHS and other government agencies, and UAS vendors).

The maximum altitude that UAS fly during Project JUSTICE is highly variable and primarily depends on the type of UAS being tested and the location of the operation. To date, the maximum altitude observed during Project JUSTICE is 400-feet above ground level (AGL). However, altitudes up to 6,000-feet AGL are accessible/attainable if needed for Project JUSTICE UAS evaluation operations.

Project JUSTICE test and evaluation scenarios have been developed in conjunction with MSU Raspet Flight Research Laboratory to research, develop, test, and evaluate third-party vendor UAS.

### **2.1.2 Applicable Regulations**

Airspace management is defined as the coordination, integration, and regulation of the use of airspace. Airspace management procedures assist in preventing potential conflicts or aircraft accidents associated with aircraft using designated airspace in the U.S., including restricted military airspace. The objective of airspace management is to meet DHS operational requirements through the safe and efficient use of available navigable airspace, while minimizing the impact on other aviation users and the public.

The FAA released the Small Unmanned Aircraft Vehicle Rule (Part 107) in August 2016 to address operation in the national airspace. Project JUSTICE operates with an FAA Certificate of Waiver or Authorization (COA) to be able to self-certify UAS and operators for flights performing governmental functions. To date, the MSU Raspet Flight Research Laboratory has received FAA COAs for operations at or below 3,500-feet mean sea level (MSL) at MSU Raspet, and at or below 7,000-feet MSL at Singing River Island. These FAA COAs are required to fly UAS weighing over 55 pounds at elevations greater than 400-feet AGL. The restricted airspace at Camp Shelby is not under FAA jurisdiction, but instead is under the authority of Camp Shelby's Department of Defense (DOD) Range Control. Accordingly, for UAS flights above 400-feet AGL at Camp Shelby, an FAA COA is not applicable; UAS flight clearance is received on a flight-by-flight basis from DOD Range Control.

## **2.2 Alternatives Considered**

### **2.2.1 Alternative 1: Proposed Action**

The Proposed Action includes implementation of specific Project JUSTICE activities at each of the three designated test areas, including MSU Raspet, Camp Shelby, and Singing River Island (Figure 1). Additional details are presented in the following outline and are referenced throughout this EA as project activities.

Project JUSTICE new activities at MSU Raspet include the following scenarios:

- Tethered Optics Baseline - The Optics Baseline Scenario evaluates the camera clarity on a tethered UAS at multiple distance intervals.

Project JUSTICE continuing and new activities at Camp Shelby include the following scenarios:

- Tethered Optics Baseline - The Optics Baseline Scenario evaluates the camera clarity on a tethered UAS at multiple distance intervals.
- Border Surveillance - The Border Surveillance scenario evaluates identifying and monitoring items of interest along a political/geographic boundary and provides real time data to monitoring personnel.

- Land Search and Rescue - The Land Search and Rescue scenarios evaluate navigating to a defined area, locating a survivor, transmitting the survivor location, and deploying survival gear while providing live stream information to the sUAS operator(s) and search and rescue coordinators.
- Post Storm/Utility Asset Mapping - The Post Storm/Utility Asset Mapping scenario evaluates capturing, producing, and delivering terrain information for post flight analysis.
- Team Escort - The Team Escort scenario evaluates navigating to a staging point for the escort rendezvous then providing route reconnaissance and overwatch during the route transit to monitoring personnel.
- VIP Escort - The VIP scenario evaluates navigating to a rally point to acquire the VIP convey then providing route reconnaissance and overwatch to monitoring personnel until arriving at the drop off location.
- Fixed Site Security - The Fixed Site Security scenario evaluates navigating to the overwatch point provides real time observation data to monitoring personnel.
- Tactical Building Entry - The Tactical Building Entry scenario evaluates navigating into a building window or door entrance and providing real time observation data to monitoring personnel.
- Tower Inspection - The Tower Inspection scenario evaluates viewing and collecting high-quality imagery of communication towers and other structures and therefore reduce the requirement for lift-devices and the need for inspecting personnel to climb/scale tall structures.

Project JUSTICE new activities at Singing River Island include the following scenarios:

- Port/Harbor Security - The Port/Harbor Security scenario evaluates identifying and monitoring items of interest in ports and harbors and provides real time data to monitoring personnel.
- Land Search and Rescue - The Land Search and Rescue scenario evaluate navigating to a defined area, locating a survivor, transmitting the survivor location, and deploying survival gear while providing live stream information to the sUAS operator(s) and search and rescue coordinators.
- Maritime Search and Rescue - The Maritime Search and Rescue scenario evaluate navigating to a defined area, locating a survivor, transmitting the survivor location, and deploying survival gear while providing live stream information to the sUAS operator(s) and search and rescue coordinators.
- Shoreline Mapping - The Shoreline Mapping scenario evaluates capturing, producing, and delivering terrain information for post flight analysis.
- Maritime Tracking - The Maritime Tracking scenario evaluates acquiring and tracking an item of interest and providing live stream data to the operator(s) and monitoring personnel.
- Crime Scene Documentation - The Crime Scene Documentation scenario evaluates capturing, producing, and delivering terrain information for post flight analysis.
- Accident Scene Reconstruction Maritime - The Accident Scene Reconstruction Maritime scenario evaluates navigating to an area then capturing and storing site information which allows for reconstruction of the accident event by investigators.
- Accident Scene Reconstruction Land - The Accident Scene Reconstruction Land scenario evaluates capturing, producing, and delivering terrain information for reconstruction of the accident event by investigators.
- Aids to Navigation (ATON) Inspection - The ATON inspection scenario evaluates viewing, verifying location, and collecting high-quality imagery of buoys, day boards, and range markers in waterways and channels and reduce on-site requirements of inspection teams.
- Tower Inspection - The Tower Inspection scenario evaluates viewing and collecting high-quality imagery of communication towers and other structures and therefore reduce the requirement for lift-devices and the need for inspecting personnel to climb/scale tall structures.
- Post Storm/Utility Asset Mapping - The Post Storm/Utility Asset Mapping scenario evaluates navigating, capturing, and storing terrain information and providing post flight information for analysis.

- Team Escort - The Team Escort scenario evaluates navigating to a staging point for the escort rendezvous then providing route reconnaissance and overwatch during the route transit to monitoring personnel.

This EA includes current information about these facilities and documents the potential impact from operating Project JUSTICE on existing environmental resources at these facilities. This will assist in DHS S&T environmental compliance decision-making. Should changes to Project JUSTICE occur, DHS S&T can utilize this EA to evaluate the appropriate level of NEPA analysis required to document those changes, whether in the form of a Record of Environmental Consideration and categorical exclusions, EA, or an Environmental Impact Statement (EIS).

**Figure 1. Project JUSTICE Test Areas**



### 2.2.2 Alternative 2: No Action

Under the No Action alternative, Project JUSTICE project activities would not occur. This alternative does not meet the purpose and need of the Proposed Action. The No Action alternative is carried forward for analysis in the EA to provide a comparison of baseline conditions to the Proposed Action, as required by the CEQ NEPA implementing regulations.

### 2.3 Level of Environmental Analysis

In compliance with NEPA and CEQ regulations, the description of the affected environment in this EA focuses on the resources and conditions the Proposed Action could potentially impact. In an effort to comply with CEQ regulations encouraging NEPA analyses to be as concise and focused as possible (40 CFR Part 1500.1(b) and 1500.4(b)), Table 1 presents each valued environmental component (VEC), its corresponding area of interest (AOI), and threshold of significance. A qualified DHS S&T subject matter

expert (SME) reviewed the potential effects of the Proposed Action and the No Action alternative relative to each VEC and analyzed the existing conditions of each VEC within the Proposed Action AOI. The SME determined that, for several VECs, the Proposed Action would have a negligible or no adverse effect. These categories were thus excluded from further detailed consideration in the EA as summarized in Table 1.

**Table 1. Valued Environmental Components Considered in this EA**

| <b>Valued Environmental Component</b> | <b>Area of Interest</b>  | <b>Thresholds of Significance</b>   | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>  |
|---------------------------------------|--|---|---|---|
| Land Use                              | Areas within and adjacent to the project study areas             | Significant impacts could occur if the land use were incompatible with existing military (Camp Shelby) or institutional (MSU Raspet, Singing River Island) land uses and designations (including recreation). These impacts may conflict with DHS land use plans, policies, or regulations, or conflict with land use off-post. Significant impacts could occur if certain natural land cover types (wetlands and forests of particular interest) were to be converted to other land cover (such as built environment). | No  | Project JUSTICE does not require changes to site-specific or regional land use patterns, zoning, or assessments. Additionally, Project JUSTICE would not induce any land use changes at the sites or in the surrounding communities. Further, Project JUSTICE activities are consistent with the land uses specified by local zoning regulations at the sites where Project JUSTICE activities occur; therefore, there would be no adverse effects to land use. |
| Visual Aesthetics                     | Areas within and immediately adjacent to the project study areas | The Proposed Action would be considered to have a significant effect to visual impacts if: long-term alteration of the viewshed would occur that would require mitigation; negative alterations to the viewshed of a historical resource would be expected; and it was not compliant with the overall viewshed of adjacent areas.   | Yes   | Implementation of Project JUSTICE would not require modification of the existing physical or natural environment. Tree clearing or other vegetation modifications are not required, nor is the construction or removal of any physical facility or supporting infrastructure.<br><br>However, this VEC is retained to examine the potential impacts from the temporary presence of UAS on the existing visual environment.                                      |

| Valued Environmental Component | Area of Interest                               | Thresholds of Significance   | Further Analysis Presented in this EA? | Rationale for Level of Assessment  |
|--------------------------------|--|--|--|--|
| Air Quality                    | Intrastate Air Quality Control Region          | An impact to air quality would be considered significant if it were to affect the achievement or maintenance of National Ambient Air Quality Standards (NAAQS)   | No                                     | Project JUSTICE UAS are powered by small onboard batteries. Emissions from Project JUSTICE are limited only to only those generated from mobile on-road automobiles driven to and from test locations. Air emissions would be well below concentrations considered significant and are <i>de minimus</i> to NAAQS; therefore, impacts would be negligible. |
| Soundscape                     | Areas within and adjacent to the project sites | Impacts would be considered significant if noise from Project JUSTICE actions were to cause harm or injury to staff, training attendees, and nearby communities; or if noise levels exceed any applicable environmental noise limit guidelines.  | Yes                                    | Project JUSTICE would generate noise from operation of UAS up to 100 pounds. These UAS would not generate noises that exceed applicable noise ceiling level guidelines. However, UAS operational noises may adversely impact wildlife populations. Thus, this resource is retained in context to potential impacts on wildlife.                            |
| Geology, Topography, and Soils | Grounds where training activities occur        | Impacts on geology, topography, and soils would be considered significant if: the landscape would not be sustained for Project JUSTICE testing and training; excessive soil loss was to impair plant growth; or federal, state, or local laws pertaining to this resource were violated. | No                                     | No impacts to soil, geologic material, or topography would occur during Project JUSTICE.   |

| <b>Valued Environmental Component</b> | <b>Area of Interest</b>   | <b>Thresholds of Significance</b>  | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>   |
|---------------------------------------|---|--|---|--|
| Cultural Resources                    | Cultural Resources within the project sites                         | Impacts to cultural resources would be considered significant if Project JUSTICE actions were to diminish the integrity of a historic property or archaeological site such that it would no longer be eligible for listing in the National Register of Historic Places (NRHP).   | Yes   | The Mississippi State Historic Preservation Officer concurred that Project JUSTICE would have no adverse effect on historic properties. However, this resource is retained in the EA to briefly describe existing conditions and document completion of Section 106 consultation pursuant to the National Historic Preservation Act of 1966.   |
| Biological Resources                  | Biological resources within the project area and associated habitat | Impacts to biological resources would be considered significant if Project JUSTICE actions were to result in: long-term loss, degradation, or loss of diversity within unique or high-quality plant communities; unpermitted ‘take’ of federally listed species; local extirpation of rare or sensitive species not currently listed under the Endangered Species Act (ESA) of 1973; unacceptable loss of critical habitat as determined by the USFWS or; violation of the Migratory Bird Treaty Act (1918) or Bald and Golden Eagle Protection Act (1940, as amended) | Yes   | The airborne operation of UAS does not have the potential to exceed the thresholds of significance established for biological resources. However, UAS activities can be a nuisance activity that temporarily disrupts avian wildlife present in the testing area. Thus, this resource area is retained to document existing conditions, identify potential impacts, an impact minimization measures. |

| <b>Valued Environmental Component</b> | <b>Area of Interest</b>  | <b>Thresholds of Significance</b>  | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>   |
|---------------------------------------|--|--|---|--|
| Wetlands                              | U.S. Army Corps of Engineers jurisdictional wetland resources within the project sites   | Impacts to wetlands would be considered significant if Project JUSTICE activities do not comply with policies, regulations, and permits related to wetlands conservation and protection.   | Yes   | There are no wetlands at the Project JUSTICE training area at MSU Raspet. Wetlands occur beneath flight paths at Camp Shelby and Singing River Island. However, UAS events entirely avoid interactions with these resources. Therefore, there is no anticipated impact to wetlands. However, this resource is retained to establish baseline conditions. |
| Water Resources                       | Watersheds, state designated stream segments associated with the project area; groundwater aquifers below the project area; waterways and federal navigation channel near Singing River Island and floodplains | Impacts to water resources would be considered significant if Project JUSTICE actions: exceed applicable federal and state regulatory limits for surface water quality or result in unpermitted direct impacts to waters of the U.S.; substantially affect surface water drainage or stormwater runoff; substantially affect groundwater quantity or quality; are inconsistent with enforceable policies under the Mississippi CZMA; induce flooding; or disrupt federal navigation channel activities | Yes   | While Project JUSTICE activities at MSU Raspet and Camp Shelby would have no impact on water resources, activities at Singing River Island involve overwater flights and temporary in-water landings in Pascagoula Bay. Therefore, this resource is retained to analyze potential impacts to water resources at Singing River Island.                    |

| <b>Valued Environmental Component</b> | <b>Area of Interest</b>   | <b>Thresholds of Significance</b>  | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>   |
|---------------------------------------|---|--|---|--|
| Human Health and Safety               | Project JUSTICE test areas for each of the three locations  | Impacts to human health and safety would be considered significant if they resulted in public and occupational health and safety hazards, introduced new health or safety risks, or overwhelmed safety-related plans, procedures, or facilities. | Yes   | Project JUSTICE activities would have a negligible impact on human health and safety. This VEC has been retained to document baseline conditions and the safety procedures incorporated into the Proposed Action.  |
| Socioeconomics                        | Socioeconomic and Environmental Justice factors in the communities encompassing the project sites | Impacts to socioeconomic and environmental justice conditions would be considered significant if they were to cause substantial change to the sales volume, income, employment, or population of the surrounding Region of Influence (ROI).      | Yes   | <p>Project JUSTICE requires expenditures of federal funds, the impact of which may be beneficial on the local economies where activities occur. Thus, this VEC is retained for further analysis.</p> <p>It is noted, however, that Project JUSTICE would not measurably impact public services (e.g. fire protection, police enforcement, medical services, education, etc.), nor would there be a disproportionately high or adverse effect on low income or minority populations, or children.</p> |

| <b>Valued Environmental Component</b>                   | <b>Area of Interest</b>   | <b>Thresholds of Significance</b>  | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>   |
|---|---|--|---|--|
| Traffic and Transportation                              | Public roadways and key access points within and near the project sites | Significant impacts would generally occur when a reduction by more than two levels of service at roads and intersections within the ROI occurs.  | No  | Project JUSTICE training events involve fewer than 10 vehicles per event. This number of vehicles would account for less than a 20% increase in average annual daily traffic volume and therefore not degrade level of service designations for area roadways. No improvements to existing roadways would be needed. Therefore, impacts would be negligible. |
| Airspace Management                                     | Airspace above and surrounding the project area                         | An impact to airspace would be considered significant if the Proposed Action violates FAA safety regulations or causes an infringement of current military, private, and commercial flight activity, and flight corridors. | Yes   | Project JUSTICE activities have received approval from FAA, where required. However, this VEC is retained to document baseline conditions and evaluate potential impacts to airspace and to manage and avoid potential airspace conflicts.   |
| Facilities, Energy Demand and Generation, and Utilities | Utilities within each project site                                      | Impacts to facilities, energy demand and generations, and utilities would be considered significant if Project JUSTICE caused an impairment of utility service to local communities, homes, or businesses.                 | No  | Project JUSTICE would have no impact on existing utility infrastructure because operation of the program does not require use or modification of any utility service. All UAS flights are powered by batteries provided by the UAS vendor. Therefore, there would be no impact to this VEC.  |

| <b>Valued Environmental Component</b>   | <b>Area of Interest</b> | <b>Thresholds of Significance</b>  | <b>Further Analysis Presented in this EA?</b> | <b>Rationale for Level of Assessment</b>   |
|---|-------------------------|--|---|--|
| Hazardous Materials and Hazardous Waste | Project sites           | Impacts to solid waste hazardous materials, or hazardous waste, would be considered significant if the Proposed Action were to: create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or wastes from reasonably foreseeable accident events; require remediation of unexploded ordinance contamination; impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | No  | Project JUSTICE UAS may utilize small batteries provided by the UAS vendor. Spent batteries are managed by the UAS vendor at the vendor facility for reuse or recycling. No other hazardous materials or wastes are used or generated during training events. Therefore, this VEC is excluded from further analysis as there would be no effects or effects would be negligible. |

### **3.0 EXISTING ENVIRONMENTAL CONDITIONS**

This Section describes the natural and human environmental resources present at the three designated Project JUSTICE test areas. The information provides the baseline data for aspects of the environment that could be affected by the Proposed Action.

The potential impacts of the Proposed Action and No Action Alternative on these environmental resources are evaluated in Section 4. It is noted that the impacts can extend to areas beyond the boundary where Project JUSTICE activities occur, and so these were included in the analysis.

Information cited in this section has been obtained from reference documents listed in Section 6, interviews with Project JUSTICE personnel and input from selected regulatory agencies listed in Section 7.

### **3.1 Project JUSTICE Test Area and Project Activity Descriptions**

#### **3.1.1 MSU Raspet Flight Center**

##### *3.1.1.1 Background*

MSU Raspet is located at the George M. Bryan, which serves as the municipal airport in Starkville, Oktibbeha County, MS. The MSU Raspet facility is a single-story building located east of the airfield. The MSU Raspet personnel at this facility research and manage various UAS programs for different organizations, including DHS S&T.

The airfield provides fueling, hangar, and flight planning services, and a one-mile-long runway situated in a north-south orientation. On average, 83 aircraft depart and land at the airfield on a daily basis (AirNav, 2020). The airfield property is bordered to the west by Highway 25; to the north by Highway 19; to the east by industrial/commercial facilities; and to the south by agricultural fields and wooded areas.

##### *3.1.1.2 Project JUSTICE Project Activities*

Project JUSTICE activities performed at MSU Raspet would occur within an approximately 150-acre area (Figure 2). Limited activities may occur in an approximately 5-acre grass-covered field on the east side of the runway. Additionally, tethered UAS tests are performed by anchoring the UAS near the MSU Raspet building and then allowing the UAS to fly to the southern end of the runway when aircraft are not actively approaching or taking off from the airfield. UAS may be flown to a maximum altitude of 400-feet AGL. A test flight typically lasts 20-45 minutes.

**Figure 2. MSU Raspet Project JUSTICE Test Area**



### 3.1.2 Camp Shelby

#### 3.1.2.1 Background

Camp Shelby Joint Force Training Center (Camp Shelby) is one of the largest National Guard Training Installations in the U.S. and is primarily located in portions of Perry and Forrest Counties with a small portion in Greene County, in southern Mississippi. Camp Shelby occupies approximately 134,000 acres, with approximately 117,000 acres being part of the DeSoto National Forest managed by the US Department of Agriculture (USDA) Forest Service (FS). Military activities on the National Forest lands are governed by a Master Agreement between the DOD and USDA, and a Special Use Permit (SUP) that is issued to the Mississippi National Guard; the SUP authorizes military training activities at Camp Shelby (National Guard, 2007). Project JUSTICE flight activities are confined within the Camp Shelby Restricted Area (R-4401-A/B/C/D/E; see 76 CFR §36871) and are coordinated with Camp Shelby Range Control. Therefore, Project JUSTICE activities are consistent with the SUP.

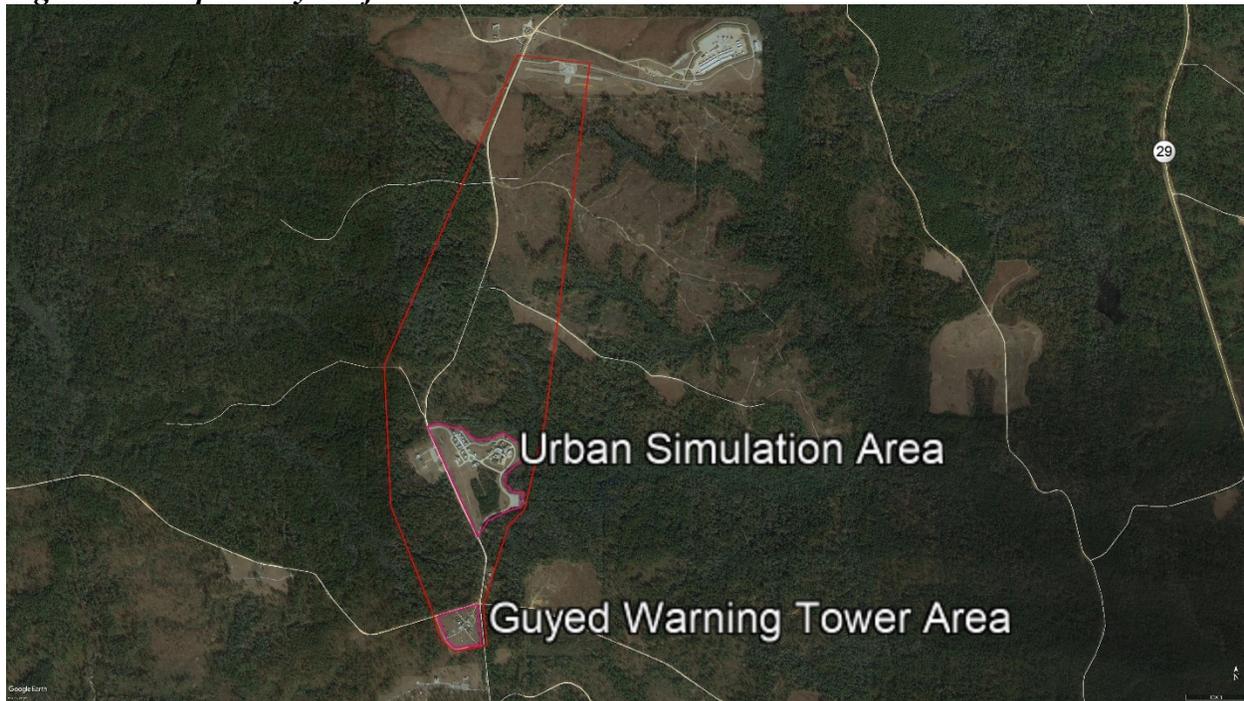
#### 3.1.2.2 Project JUSTICE Project Activities

Project JUSTICE project activities occur in an approximately 500-acre area located on the eastern portion of Camp Shelby, entirely in Perry County (Figure 3). The test area is approximately 0.3-miles north of the intersection between Route 304 and Forest Service Route 305. The primary test area is an approximately 30-acre campus with approximately 30 buildings and bunkers designed to simulate an urban setting and which are dedicated for military training exercises (“urban simulation area”). A semi-circular roadway

extends east from Forest Service Route 305 into urban simulation test area. Various military organizations utilize this urban simulation area; it is not solely used for Project JUSTICE activities. Neither this test area nor the connecting roadway has restrictions preventing civilian access.

During Project JUSTICE activities at Camp Shelby, both fixed wing and rotary wing UAS are flown in and around the urban simulation area and over the adjacent forest within the 450-acre test area. UAS are typically launched and recovered from the urban simulation area. UAS are also flown to or launched from the 10-acre guyed warning tower facility located in the southern portion of the 450-acre test area. Additionally, under selected scenarios, UAS launch from the urban simulation area and travel approximately 1.2-miles north to an overwatch area or to a secondary paved airfield for observation. UAS test flights may reach a maximum altitude of 1,200-feet AGL. A test flight typically lasts 45 minutes. Project JUSTICE test operators coordinate with the DoD Range Control prior to test events.

**Figure 3. Camp Shelby Project JUSTICE Test Area**



### **3.1.3 Singing River Island**

#### *3.1.3.1 Background*

The Singing River Island test area includes the approximately 437-acre man-made island and the approximately 763 acres of waters surrounding it in Pascagoula County, MS (). Singing River Island is situated in Pascagoula Bay, approximately 1,500-feet south of the mainland. Singing River Island was constructed using dredge materials from the Pascagoula federal channel and nearby Ingalls Shipbuilding shipyard and was the former site of Naval Station Pascagoula (1985-2006). The base officially closed November 15, 2006, and ownership was transferred from the Navy to the Mississippi Secretary of State's office on July 9, 2007. Currently, several industrial and commercial tenants are located at Singing River Island, including Ingalls Shipbuilding and Naval Facilities. The Port of Pascagoula is responsible for managing land use at Singing River Island.

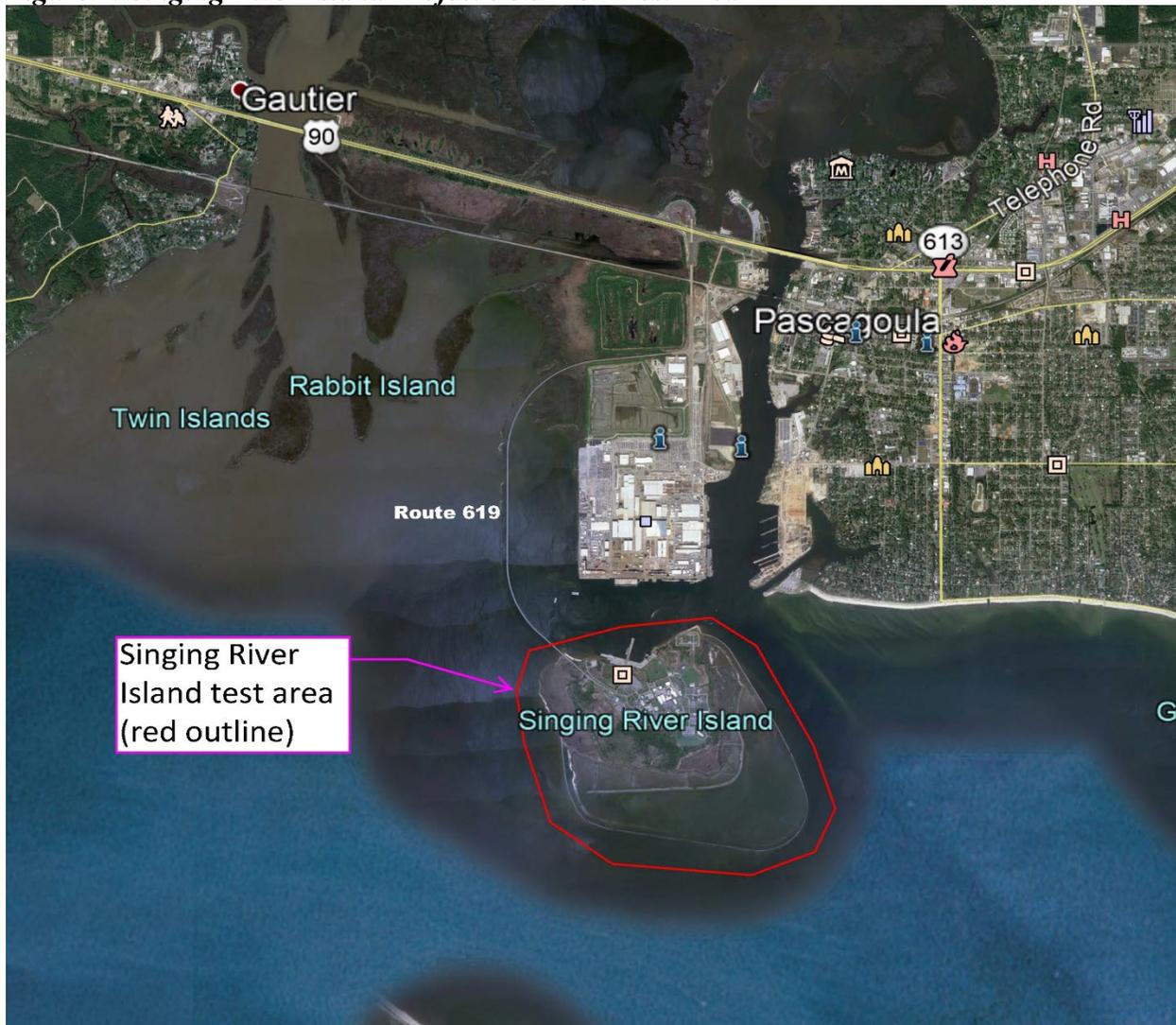
Access to Singing River Island is permitted only to authorized personnel, including those associated with Project JUSTICE. Access to the island by automobile is only from Route 619. An access control gate on

Route 619 is located on the northwest side of the island. Access by watercraft to the port on the north side of the island from the open Gulf is gained via the Horn Island Pass Channel. The channel passes through dredged cuts between the extreme eastern limit of the water area between the east end of Horn Island and the western end of Petit Bois Island. An in-water stone breakwater surrounds the east, south, and west sides of the island. This breakwater also restricts access to the island from the water.

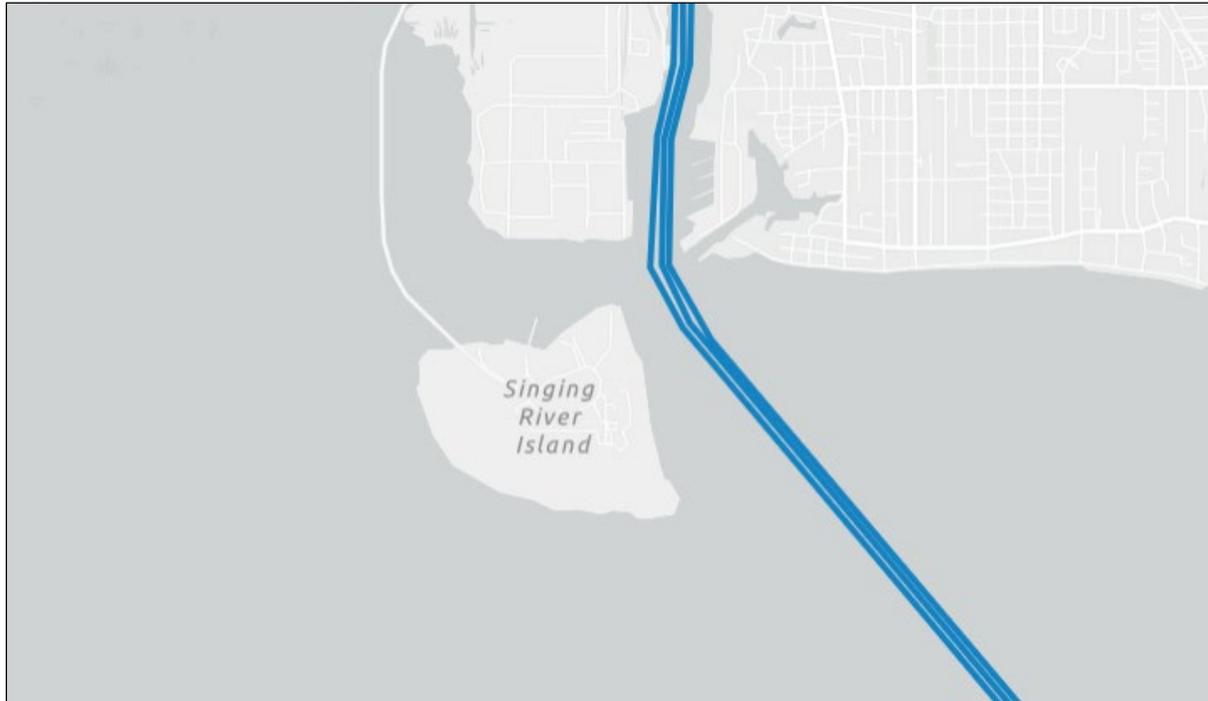
An authorized navigation channel maintained by the U.S. Army Corps of Engineers is located approximately 600 feet to the east of the island's eastern shore (Figure 5). This navigation channel connects the Port of Pascagoula to the Gulf of Mexico and is depicted on the nautical chart for Pascagoula Harbor (NOAA chart 11375). The Singing River Island test area does not overlap this navigation channel.

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the Ordinary High Water (OHW) elevation of navigable waters of the United States be approved/permited by the U.S. Army Corps of Engineers. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Because Project JUSTICE activities do not involve any of these activities, Section 10 does not apply and does not warrant further analysis in this EA.

**Figure 4. Singing River Island Project JUSTICE Test Area**



**Figure 5. Authorized Navigation Channel Near Singing River Island**



### 3.1.3.2 Project JUSTICE Project Activities

During Project JUSTICE activities, UAS may be flown within and above the developed portion of Singing River Island (). Several test scenarios would involve observation of the Singing River Island stone breakwater and shoreline. Two test scenarios would involve overwater flights that may extend approximately 2,000-feet beyond the breakwater. As previously described, none of the flights overlap the authorized navigation channel. UAS test flight altitude is typically 400-feet AGL but may reach a maximum altitude of 1,200-feet AGL. A given test flight typically lasts 45 minutes.

## 3.2 Project JUSTICE Test Area Natural Resources

This section describes natural resources present at each Project JUSTICE test area. Natural resources include biological systems, which are native or naturalized plants and animals, as well as federally protected species and the habitats in which they live. Protected biological resources include plants and animal species listed by USFWS and/or National Marine Fisheries Service as threatened or endangered, or by the State of Mississippi as rare, threatened, or endangered. Special concern species are not afforded the same level of protection as the protected species; however, their presence is taken into consideration by resource agencies involved in reviewing projects and permit applications, when warranted.

Wetland information was obtained from the USFWS National Wetlands Inventory (USFWS, 2020a). Information regarding federally threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, was obtained from the USFWS under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*) (USFWS, 2020b). USFWS also identified birds protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that have the potential to occur at the three Project JUSTICE test areas. State-listed species were obtained from the Mississippi Natural Heritage Program (MSDWFP, 2020).

### 3.2.1 MSU Raspet

The grounds at and surrounding the MSU Raspet test area are landscaped with grass and are devoid of trees or shrubs, which would otherwise interfere with aircraft maneuvering. The grounds are mowed as part of routine airfield maintenance and do not provide suitable habitat for listed species.

Based on the USFWS National Wetland Inventory (USFWS, 2020a), there are no wetlands within the MSU Raspet test area (Figure 6). Wetlands are present to the east and west of the test area but would not be encountered during any of the Project JUSTICE activities. There are no FEMA-mapped floodplains within the MSU Raspet test area.

Based on the USFWS Information, Planning and Consultation System (IPaC) (USFWS, 2020b), there are a total of four threatened, endangered, or candidate species potentially present within the MSU Raspet test area, as summarized in Table 2.

USFWS identified the bald eagle as a bird of concern in this region. However, there are no known bald eagle nests within 0.5 miles of the MSU Raspet test area (Dixon, 2020). No other birds protected under the Migratory Bird Treaty Act were identified by USFWS.

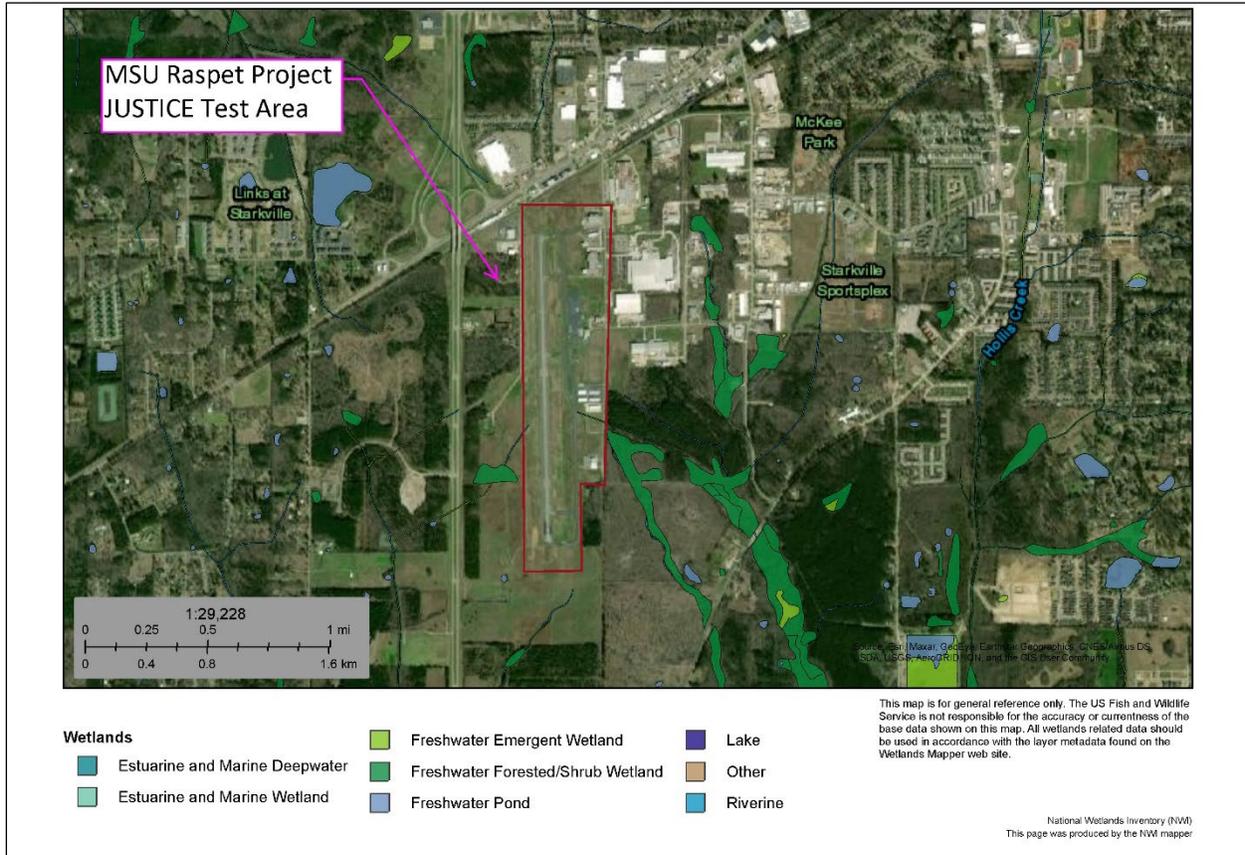
**Table 2. Federally Listed Species at MSU Raspet Project JUSTICE Test Area**

| Species   | Status     |
|---|------------|
| <b>Mammals</b>  |            |
| Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>                      | Threatened |
| <b>Birds</b>  |            |
| Red-cockaded Woodpecker ( <i>Picoides borealis</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/7614">https://ecos.fws.gov/ecp/species/7614</a>                           | Endangered |
| Wood Stork ( <i>Mycteria americana</i> )<br>Population: AL, FL, GA, MS, NC, SC<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a> | Threatened |
| <b>Plants</b>   |            |
| Prices Potato-bean ( <i>Apios priceana</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/7422">https://ecos.fws.gov/ecp/species/7422</a>                                   | Threatened |

The Mississippi Department of Wildlife, Fisheries, and Parks also identified Oktibbeha County as having two additional state-listed animals (peregrine falcon, American burying beetle) (MSDWFP, 2020).

These species are not reasonably anticipated to be present at the airfield where airplanes are routinely landing and taking off and where the grounds are mowed on a regular basis. Thus, for avian species, there is a lack of suitable habitat for nesting, resting, or feeding of avian wildlife at the MSU Raspet test area. Likewise, the Prices Potato-bean is not found at the MSU Raspet test area; this vining species prefers openings in the forest canopy in mixed hardwood stands where ravine slopes grade into creek or stream bottoms. These conditions are not present at the MSU Raspet test area. Suitable habitat for the NLEB, such as roosting trees, are not present at the airfield or the MSU Raspet test area, as such trees would present a hazard to aircraft flight.

**Figure 6. National Wetland Inventory at MSU Raspet Project JUSTICE Test Area**



### 3.2.2 Camp Shelby

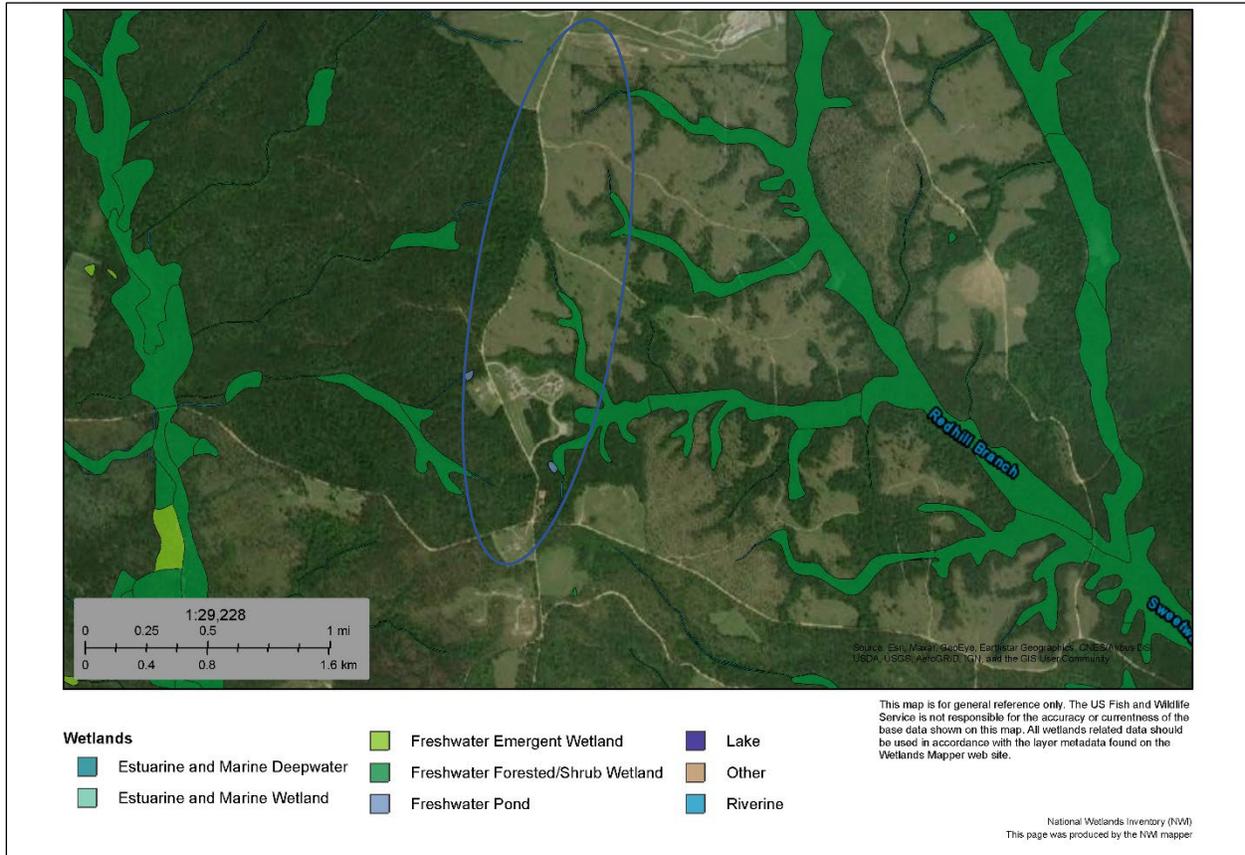
The grounds within the Camp Shelby urban simulation test area are primarily landscaped with grass and improved with the aforementioned buildings and roadways. A small, wooded area is located near the south entrance to the urban simulation test area. Immediately surrounding the test area are forests managed by USDA-FS as part of the DeSoto National Forest. The forests consist of longleaf pine savannas, pine flatwoods, and longleaf pine. The Camp Shelby test area also includes an approximately 10-acre guy wired tower site that is clear of vegetation, and two overwatch areas that are also clear of vegetation. The urban simulation test area, warning tower, and overwatch areas were previously established for other military uses (Stone, 2020).

Based on the USFWS National Wetland Inventory (USFWS, 2020a), there are several wetlands and two small ponds within the Camp Shelby test area (Figure 7). None of these wetlands are located within the primary urban simulation test area. Wetlands present to the east and west of the test area are not directly encountered during any of the test scenarios. There are no FEMA-mapped floodplains within the Camp Shelby test area.

Based on the USFWS IPaC, there is a total of six threatened, endangered, or candidate species on this species list, as summarized in Table 3. Additionally, a portion of the Camp Shelby test area is in an area designated as providing critical habitat for the Black Pine snake.

USFWS has not identified any migratory birds of concern within the Camp Shelby test area (USFWS, 2020b).

**Figure 7. National Wetland Inventory at Camp Shelby Project JUSTICE Test Area**



**Table 3. Federally Listed Species at the Camp Shelby Project JUSTICE Test Area**

| Species  | Status     |
|--|------------|
| <b>Birds</b>   |            |
| Red-cockaded Woodpecker ( <i>Picoides borealis</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/7614">https://ecos.fws.gov/ecp/species/7614</a>  | Endangered |
| Wood Stork ( <i>Mycteria americana</i> )<br>Population: AL, FL, GA, MS, NC, SC<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a>  | Threatened |
| <b>Reptiles</b>  |            |
| Black Pine Snake ( <i>Pituophis melanoleucus lodingi</i> )<br>There is final critical habitat for this species. The northern portion of the Camp Shelby test area overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/452">https://ecos.fws.gov/ecp/species/452</a> | Threatened |
| Gopher Tortoise ( <i>Gopherus polyphemus</i> )<br>Population: West of Mobile and Tombigbee Rivers<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6994">https://ecos.fws.gov/ecp/species/6994</a>                                 | Threatened |
| <b>Amphibians</b>  |            |
| Dusky Gopher Frog ( <i>Rana sevosa</i> )<br>There is final critical habitat for this species. The Camp Shelby test area is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/5600">https://ecos.fws.gov/ecp/species/5600</a>                                       | Endangered |
| <b>Ferns and Allies</b>  |            |
| Louisiana Quillwort ( <i>Isoetes louisianensis</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/7756">https://ecos.fws.gov/ecp/species/7756</a>  | Endangered |

The Mississippi Department of Wildlife, Fisheries, and Parks identified Perry County as having three additional state-listed animals (Camp Shelby Burrowing Crawfish, Swallow-tailed Kite, Louisiana Black Bear) (MSDWFP, 2020).

These avian species are not reasonably anticipated to use the limited habitat within the urban simulation test area, tower area, or the overwatch areas, and where grounds are mowed on a regular basis and military activity occurs on a daily basis. More suitable habitat without human activity is present in the surrounding De Soto National Forest. Portions of the urban scenario test area are relatively open and could provide suitable habitat for the gopher tortoise. However, the lack of suitable feeding areas would prevent the gopher tortoise from using the urban simulation area, tower area, or overwatch areas as habitat. The black pine snake prefers xeric, fire-maintained longleaf pine forest having sandy, well-drained soils preferred, usually on hilltops, ridges, and toward the tops of slopes, with open canopy, reduced midstory, and dense herbaceous understory (USFWS, 2020b). These conditions are not present within the urban simulation test area, tower area, or the overwatch areas. Therefore, the black pine snake is unlikely to be encountered in this portion of the test area but is more likely to be present in undisturbed areas of the De Soto National Forest. The Louisiana quillwort occurs predominantly on sand and gravel bars on small to medium-sized streams. There are no streams within the urban simulation area, tower area, or overwatch areas.

### 3.2.3 Singing River Island

Of the 437 total acres that make up the physical Singing River Island facility, approximately 160 acres are developed with buildings, parking areas, and roadways. The grounds within the developed area are

landscaped with grass and maintained by mowing. The grounds outside of the developed area are not maintained and remain in a natural setting with vegetation consisting of coastal shrubs, grasses, and herbaceous plants.

Based on the USFWS National Wetland Inventory, wetlands are present along the border of Singing River Island, with pocket wetlands and two small freshwater ponds in the developed interior (USFWS, 2020a). Wetland types include estuarine and marine deep-water, estuarine and marine, freshwater emergent, and freshwater ponds. Figure 8 depicts wetland resources at Singing River Island. FEMA-mapped flood hazard areas are present at Singing River Island. The majority of the island and its shoreline is located within a 1% Annual Chance Flood Hazard area, while much of the island interior is within a 0.2% Annual Chance Flood Hazard area (Figure 9).

**Figure 8. National Wetland Inventory at Singing River Island**



**Figure 9. FEMA-Mapped Flood Hazard Zones at Singing River Island**



Based on the USFWS IPaC, there are a total of 11 federally listed threatened, endangered, or candidate species potentially present within the Singing River Island test area, as summarized in Table 4.

Mississippi has not identified Jackson County as having any state-listed plant species, but has identified 11 state-listed animal species (One-toed Amphiuma, Snowy Plover, Swallow-tailed Kite, Peregrine Falcon, Rainbow Snake, Pascagoula Map Turtle, Southern Hognose Snake, Ironcolor Shiner, Brown Pelican, Bewick's Wren, Louisiana Black Bear) (MSDWFP, 2020).

**Table 4. Federally Listed Species at Singing River Island Project JUSTICE Test Area**

| Species   | Status                 |
|---|------------------------|
| <b>Mammals</b>  |                        |
| West Indian Manatee ( <i>Trichechus manatus</i> )<br>There is final critical habitat for this species. Singing River Island is outside the critical habitat. This species is also protected by the Marine Mammal Protection Act.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/4469">https://ecos.fws.gov/ecp/species/4469</a>  | Threatened             |
| <b>Birds</b>  |                        |
| Eastern Black Rail ( <i>Laterallus jamaicensis ssp. Jamaicensis</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/10477">https://ecos.fws.gov/ecp/species/10477</a>  | Proposed<br>Threatened |
| Piping Plover ( <i>Charadrius melodus</i> )<br>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Singing River Island location is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a> | Threatened             |
| Red Knot ( <i>Calidris canutus rufa</i> )<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>  | Threatened             |
| Wood Stork ( <i>Mycteria americana</i> )<br>Population: AL, FL, GA, MS, NC, SC. No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a>  | Threatened             |
| <b>Reptiles</b>   |                        |
| Green Sea Turtle ( <i>Chelonia mydas</i> )<br>Population: North Atlantic DPS<br>There is final critical habitat for this species. Singing River Island is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>  | Threatened             |
| Hawksbill Sea Turtle ( <i>Eretmochelys imbricata</i> )<br>There is final critical habitat for this species. Singing River Island is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3656">https://ecos.fws.gov/ecp/species/3656</a>  | Endangered             |
| Kemp's Ridley Sea Turtle ( <i>Lepidochelys kempii</i> )<br>There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5523">https://ecos.fws.gov/ecp/species/5523</a>   | Endangered             |
| Leatherback Sea Turtle ( <i>Dermochelys coriacea</i> )<br>There is final critical habitat for this species. Singing River Island is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1493">https://ecos.fws.gov/ecp/species/1493</a>  | Endangered             |
| Loggerhead Sea Turtle ( <i>Caretta caretta</i> )<br>Population: Northwest Atlantic Ocean DPS<br>There is final critical habitat for this species. Singing River Island is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1110">https://ecos.fws.gov/ecp/species/1110</a>  | Threatened             |
| <b>Fish</b>   |                        |
| Atlantic Sturgeon (gulf Subspecies) ( <i>Acipenser oxyrinchus (=oxyrhyinchus) desotoi</i> ). There is final critical habitat for this species. Singing River Island overlaps the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/651">https://ecos.fws.gov/ecp/species/651</a>   | Threatened             |

USFWS identified 16 birds listed under the Migratory Bird Treaty Act with potential to be present within the Singing River Island test area (Table 5). The Magnificent Frigatebird is the only species listed on the USFWS Birds of Conservation Concern (BCC) list. All other birds warrant special attention because of the Bald and Golden Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. These birds could potentially utilize the undeveloped areas at Singing River Island for resting, feeding, or nesting.

**Table 5. Migratory Bird Treaty Act Birds at Singing River Island**

| Bird   | Breeding                |
|--|-------------------------|
| Magnificent Frigatebird ( <i>Fregata magnificens</i> )<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere        |
| Black Scoter ( <i>Melanitta nigra</i> )  | Breeds elsewhere        |
| Bonaparte's Gull ( <i>Chroicocephalus philadelphia</i> )   | Breeds elsewhere        |
| Brown Pelican ( <i>Pelecanus occidentalis</i> )  | Breeds Jan 15 to Sep 30 |
| Common Loon ( <i>Gavia immer</i> )   | Breeds Apr 15 to Oct 31 |
| Common Tern ( <i>Sterna hirundo</i> )  | Breeds May 10 to Sep 10 |
| Double-crested Cormorant ( <i>Phalacrocorax auritus</i> )  | Breeds Apr 20 to Aug 31 |
| Great Black-backed Gull ( <i>Larus marinus</i> )   | Breeds Apr 15 to Aug 20 |
| Herring Gull ( <i>Larus argentatus</i> )   | Breeds Apr 20 to Aug 31 |
| Least Tern ( <i>Sterna antillarum</i> )  | Breeds Apr 20 to Sep 10 |
| Long-tailed Duck ( <i>Clangula hyemalis</i> )  | Breeds elsewhere        |
| Northern Gannet ( <i>Morus bassanus</i> )  | Breeds elsewhere        |
| Red-breasted Merganser ( <i>Mergus serrator</i> )  | Breeds elsewhere        |
| Ring-billed Gull ( <i>Larus delawarensis</i> )   | Breeds elsewhere        |
| Royal Tern ( <i>Thalasseus maximus</i> )   | Breeds Apr 15 to Aug 31 |
| Surf Scoter ( <i>Melanitta perspicillata</i> )   | Breeds elsewhere        |

### 3.2.4 Cultural Resources

An Area of Potential Effect (APE) was separately defined for each of the three Project JUSTICE test areas. The APEs were determined based on where Project JUSTICE activities occur at each site. Based on a review of the National Register of Historic Places (NRHP) Database and Research , there are no known historic districts or historic properties within any APE (NPS, 2020).

MSU Rasket is the only test area that has a documented cultural resource. The APE is the test area and encompasses the MSU Rasket Flight Research Laboratory.; The MSU Rasket Laboratory, established in 1948 under the guidance of Dr. August Rasket, became a world class flight research and development facility for sailplanes and powered aircraft, utilizing unconventional methods (National Soaring Museum, 2020). The main building at the Laboratory was constructed in 1963 and declared eligible for listing on the National Register of Historic Places (NRHP) on November 1, 2003 (MDAH inventory ID 105-STK-4039) (MDAH, 2020).

## **4.0 ENVIRONMENTAL IMPACTS OF IMPLEMENTING THE ALTERNATIVE ACTIONS**

This section discusses potential environmental impacts associated with the Proposed Action and the No Action alternative. The threshold for significance of an effect for each resource is presented in Table 1 of this EA. For purposes of assessment and evaluation of possible environmental effects, current activity levels are considered to represent future activity levels and effects.

### **4.1 Effects on Visual Aesthetics**

A combination of natural and built features influence and contribute to the aesthetic environment of an area. Natural features may include topography and vegetation, which themselves may have been altered over time by human action, while built features can include buildings and other constructed elements. Beneficial or adverse impacts may occur depending on how changes to the existing aesthetic environment are perceived by human receptors, which can include visitors and residents living adjacent to and in the vicinity of the area.

Project JUSTICE activities would have no impact on visual aesthetics at MSU Raspet, Camp Shelby, or Singing River Island. All the test areas are developed and devoid of natural features. The presence of UAS, particularly at test elevations of 400-feet AGL and while in motion, would be difficult to visually discern by the public and would be temporary. Additionally, the presence of consumer-grade UAS in the public viewshed is no longer a novel occurrence, such that the public would not reasonably consider the temporary presence of UAS in flight to diminish viewshed quality.

The Proposed Action would have no effect on visual aesthetics. Similarly, there would be no effects under the No Action alternative.

### **4.2 Effects on Soundscape**

Sound occurs when vibrations that travel through a medium are interpreted by the biological elements of the ear. Noise occurs when sounds become undesirable, unpleasant, or damaging.

Sound pressure levels are quantified in decibels (dB), which can be amplified by frequency and intensity, and is given a level on a logarithmic scale. The way the human ear hears sound intensity is quantified in A-weighted decibel (dBA), which are level “A” weights according to weighting curves. Generally, noise levels decrease by approximately 6 dBA for every doubling of distance for point sources (such as a single piece of construction equipment), and approximately 3 dBA for every doubling of distance for line sources (such as a stream of motor vehicles on a busy road at a distance).

The National Institute for Occupational Safety and Health recommends that individuals working in an environment of 85 dBA or louder for an eight-hour workday limit their exposure to this noise level and wear protective earwear to help manage and prevent hearing loss due to noise exposure.

Sound levels from consumer-grade battery-powered rotary wing UAS at ground level can range from 70-80 dBA, which is similar to loud highway noise (Airborne Drones, 2020). Based on a decrease of 6 dB for every doubling of distance, the UAS sound level would be approximately 56 dB at 400-feet AGL. The UAS sound level would gradually become indistinguishable to the UAS operator and participants from ambient background noise (typically 45-60 dB) as the UAS leaves the launch area. At MSU Raspet, UAS noise levels from Project JUSTICE would not be audible above ambient background noise levels to the nearest residential receptors due to distance from the test area (greater than 1,250 feet). There are no residential receptors at Camp Shelby or Singing River Island.

Therefore, Project JUSTICE activities at MSU Raspet, Camp Shelby, and Singing River Island would have no significant adverse impact on the soundscape. Similarly, there would be no effects under the No Action alternative. Review of noise impacts to wildlife are contained in Section 4.3 below.

### **4.3 Effects on Cultural Resources**

Project JUSTICE does not require ground disturbing activities or modifications to existing structures or surrounding environments at any of the APEs. Accordingly, DHS S&T issued a finding of no adverse effect on historic properties or cultural resources for each area. On September 21, 2020, DHS S&T presented this finding in a consultation letter to the Mississippi Department of Archives and History, Historic Preservation Division consistent with Section 106 of the National Historic Preservation Act and 36 CFR Part 800. On October 1, 2020, the Mississippi State Historic Preservation Officer issued written concurrence. A copy of the correspondence is provided in Appendix A.

Additionally, on September 21, 2020, DHS S&T notified the Mississippi Band of Choctaw Indians, a federally recognized tribe with ancestral ties to the APEs, of the undertaking and the findings and requested concurrence. To date, a response from the tribe has not been received.

The Proposed Action would have no effect on historic properties or cultural resources. Similarly, there would be no effects under the No Action alternative.

### **4.4 Effects on Biological Resources**

To ensure adverse impacts are minimized or avoided, Project JUSTICE participants perform a pre-flight readiness review followed by a pre-flight checklist (Dixon, 2020). These measures specifically require test organizers to address whether avian wildlife is forecasted or currently present during the time of the test. The forecast is based on radar data provided by MSU Raspet Flight Center staff (for Project JUSTICE activities at MSU Raspet or Singing River Island) or Camp Shelby installation staff (for Project JUSTICE activities at Camp Shelby). If the presence of avian wildlife represents a hazard, then Project JUSTICE test operators stand down until the airspace is clear. The MSU Raspet Program Manager, Mr. Madison Dixon, indicated that these measures pre-date Project JUSTICE, and to his knowledge no avian/UAS airstrikes have been recorded since at least 2016 (Dixon, 2020). No known avian/UAS airstrikes have occurred at Camp Shelby (Stone, 2020) or Singing River Island (Greer, 2020). Additional measures taken to avoid impacts include operating all UAS in line-of-sight of the operator, such that the operator could maneuver the UAS away from an unanticipated mid-air obstacle.

It is also noted that Project JUSTICE activities are not the only activities performed at the test areas. Military and/or commercial-industrial activities at all the test areas pre-date the use of the areas by Project JUSTICE. As a result, wildlife present in these areas are accustomed to the continual presence of human activities and disturbances, such as maintenance mowing, airplane flights, military activities, and maritime operations. Additionally, due to maintenance landscaping, none of the test areas where launch and recovery occur provide suitable habitat to support listed species.

Project JUSTICE activities represent a short temporary disturbance lasting no more than five days at any one of the three test areas per month. Project JUSTICE activities that could impact mobile wildlife may include temporary staging of a mobile trailer, pop-up tents and tables, and the presence of participants walking on the grounds. Mobile wildlife species, including all the listed species identified by USFWS, would be able to leave the area and return once the disruption ends. Any common wildlife species that are less or non-mobile could potentially experience stress or mortality if they are unable to leave the test area. However, the loss of an individual common animal at any of the test sites would not have an impact at a

population level because of the prevalence of more suitable habitat (forested areas and/or unmowed grounds) for larger numbers of common species that live in areas surrounding the test areas.

Project JUSTICE activities at Camp Shelby and Singing River Island do fly over undisturbed natural habitat. The noise from UAS may also startle wildlife. The potential hazard from UAS flights over these areas is limited to avian/UAS strikes and noise disruption. However, adverse impacts would be negligible because UAS flight paths are narrow, flight times are limited to no more than one hour per test scenario, and as noted above, pre-flight and in-flight measures to avoid impacts would continue to be implemented at both sites

Although Project JUSTICE does not involve any activities that could potentially adversely impact Northern long-eared bat (NLEB), such as clearing of potential roosting trees or impacts to a hibernacula, NLEB may be present in the regional area where MSU Raspet is located. Accordingly, USFWS considers that all activities in this region may affect NLEB; therefore, consultation with USFWS pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required. However, the Proposed Action may rely on the USFWS's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation. No additional consultation with USFWS is required for the Proposed Action.

With consideration given to management efforts and environmental monitoring, Project JUSTICE test events at MSU Raspet, Camp Shelby, and Singing River Island would have no significant adverse impact on wildlife or habitat, including no effect to federally listed species except for the NLEB. Because of the potential presence of NLEB at MSU Raspet, the Proposed Action may affect but is not likely to adversely affect the NLEB and impacts would not be significant. Similarly, there would be no effects under the No Action alternative.

#### **4.5 Effects on Wetland and Water Resources**

EO 11990, *Protection of Wetlands*, requires federal agencies take action to minimize the destruction, loss, or degradation of wetlands. The order further requires federal agencies to ensure that there are no practicable alternatives to such construction and that the Proposed Action includes all practical measures to minimize harm to wetlands which may result from such use. In making this determination agencies may consider economic, environmental, and other pertinent factors.

Project JUSTICE activities at MSU Raspet would have no impact on wetlands and water resources because wetlands are not present within the test area and test activities have no mechanism to impact wetlands adjacent to the test area.

At Camp Shelby, UAS flight paths occur above jurisdictional wetlands. However, UAS flights would have no impact on these wetlands because UAS do not touch down at wetlands during scheduled test scenarios. Should a UAS flight fail and require recovery within a wetland, the test operator would enter the wetland on foot to remove the UAS. This disturbance would not be considered significantly adverse because it would be temporary, does not constitute fill as defined in the Clean Water Act, and the area of impact would represent a very small percentage of the overall wetland area, such that the wetland function or value would not be measurably decreased. Additionally, UAS are battery operated and thus would not release any fuel to the wetland.

At Singing River Island, several test scenarios require mapping of the shoreline where coastal wetlands are present. Under this test scenario, UAS may fly and/or hover over a wetland, increasing the probability that should the UAS fail it would land directly in the wetland. However, no material damage (as defined under

MS Code §49-27-1 to 49-27-71) would occur to the wetland if a UAS landed in it and an operator entered the wetland for retrieval, as previously described.

Other Project JUSTICE activities at Singing River Island involve launch and recovery from the water. The temporary presence of a UAS on or near the surface of the water in Pascagoula Bay would have no impact on this resource due to the negligible size of the UAS and duration of contact relative to the size of the bay and impacts from other maritime activities (i.e. recreational, commercial, and industrial marine traffic) on Pascagoula Bay. Additionally, the UAS would not impact nearby federal navigation channels maintained by the U.S. Army Corps of Engineers (located east of Singing River Island), or limit maritime activities occurring in Pascagoula Bay, because UAS operators would purposefully avoid and easily maneuver away from maritime vessels.

Project JUSTICE activities has no activities that are regulated under Section 10 of the Rivers and Harbors Act of 1899, which include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Project JUSTICE does not involve these activities.

The Mississippi Office of Coastal Resources Management is responsible for implementing the Mississippi Coastal Program, which was mandated by the Legislature in Section 57-15-6 of the Mississippi Code of 1972 and approved by National Oceanic and Atmospheric Administration. Under this rule, DHS is not listed as a federal agency that is required to submit a federal consistency determination to the MS Coastal Zone Management Program. Therefore, this determination is not included in this EA. It is noted, however, that Project JUSTICE test activities do not involve construction, dredging, or other material impacts to the coastal zone that could otherwise trigger a CZMA federal consistency determination.

Therefore, Project JUSTICE activities at MSU Raspet, Camp Shelby, and Singing River Island would have no significant adverse impact on wetlands, floodplains, coastal zone management areas, or navigable waters. Similarly, there would be no effects under the No Action alternative.

#### **4.6 Effects on Human Health and Safety**

All activities proposed or continuing under Project JUSTICE would be conducted in accordance with mandatory approved DHS S&T and MSU Raspet Standard Operating Procedures (SOPs) for UAS operations. SOPs are a step-by-step instruction for safe performance of a training event or other evolution. SOPs are written by experienced Test operators and reviewed and approved by DHS S&T and other personnel having training and/or experience in subject matter areas contained within the SOP, i.e. Safety and Health, or Environmental Quality, to ensure compliance with regulations and site-specific safety practices unique to each of the three testing areas.

Test operators are responsible to ensure personnel involved in or observing testing are wearing proper Personal Protective Equipment; have received applicable test area safety training and briefings; and are sheltered in a safe location or at a safe distance before any testing or training begins. Additionally, at Camp Shelby, the Test operator would continue to coordinate with DOD Range Control to establish safe flight areas.

To control a UAS remotely, the operator communicates with it wirelessly. Radio waves are an invisible wave form on the electromagnetic spectrum. Radio is measured in hertz (Hz). Extremely low frequency is anywhere from 3Hz to 30Hz, while a very high frequency is 300 gigahertz (GHz) to 3,000 GHz. Lower frequencies tend to have a much greater range at lower power than higher frequency devices. Lower frequencies also have a greater ability to penetrate dense objects and make them suitable for remote controlling a UAS. However, the lower the frequency, the larger the antenna must be to receive the

frequency. Most remote-control UAS use 900 megahertz for transmission. These radio frequency energy levels have been found to be safe and do not cause adverse effects to humans or wildlife (FCC, 2020).

The Proposed Action would have no effect on human health and safety. Similarly, there would be no effects under the No Action alternative.

#### **4.7 Effects on Airspace Management**

Airspace management is defined as the coordination, integration, and regulation of the use of airspace. Airspace management procedures assist in preventing potential conflicts or aircraft accidents associated with aircraft using designated airspace in the U.S., including restricted military airspace. The objective of airspace management is to meet DHS operational requirements through the safe and efficient use of available navigable airspace, while minimizing the impact on other aviation users and the public.

The FAA released the Small Unmanned Aircraft Vehicle Rule (Part 107) in August 2016 to address operation in the national airspace. Project JUSTICE operates with an FAA Certificate of Waiver or Authorization (COA) to be able to self-certify UAS and operators for flights performing governmental functions. To date, the MSU Raspet Flight Research Laboratory has received FAA COAs for operations at or below 3,500-foot mean sea level (MSL) at MSU Raspet, and at or below 7,000-foot MSL at Singing River Island. These FAA COAs are required to fly UAS weighing over 55 pounds at elevations greater than 400-foot AGL. Additionally, tethered test events at MSU Raspet are coordinated in advance with the airfield manager to ensure there is no disruption to inbound or outbound commercial aircraft flight plans. The restricted airspace at Camp Shelby is not under FAA jurisdiction, but instead is under the authority of Camp Shelby's Department of Defense (DOD) Range Control. Accordingly, for UAS flights above 400-foot AGL at Camp Shelby, an FAA COA is not applicable; UAS flight clearance is received on a flight-by-flight basis from Range Control.

Most of the Project JUSTICE activities fly UAS at altitudes up to 400-foot AGL. At this altitude, the UAS operator can maintain visual line-of-sight control over the UAS and complies with the FAA COA. Project JUSTICE test events would continue to evaluate UAS under these altitude restrictions.

Thus, Project JUSTICE would have no adverse significant impact on airspace management at any of the test areas. Similarly, there would be no effects under the No Action alternative.

#### **4.8 Effects on Socioeconomics**

Socioeconomics describes a community by examining its social and economic characteristics. Demographic variables such as population size, level of employment, and income range assist in analyzing the fiscal condition of a community and its government, school system, public services, healthcare facilities and other amenities.

As previously described, a total of 12-15 on-site personnel are required to operate and maintain Project JUSTICE at all three test sites on an annual basis. The estimated annual expenditure to operate Project JUSTICE is between \$500K and \$2.5M. The expenditure range depends on annual equipment procurement costs and operational exercise frequency. While these expenditures would benefit the local economy, the economic impact would be considered negligible in context to statewide spending. For example, the gross domestic product in MS was \$115.97 billion in 2019 (FRED, 2020). Thus, Project JUSTICE expenditures represent a negligible percentage of overall economic activity in Mississippi and would have a negligible beneficial impact on county- or state-wide socioeconomic conditions during testing events.

Thus, Project JUSTICE would have no adverse impact on socioeconomics at any of the test areas. Similarly, there would be no effects under the No Action alternative.

#### **4.9 Effects on Environmental Justice and Protection of Children**

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was signed in 1994 and declares that each federal agency makes identifying and addressing environmental justice part of its mission. Environmental justice focuses on the protection for racial and ethnic minorities and/or low-income populations to be disproportionately affected by project-related impacts. Analysis of environmental justice is initiated by determining the presence and proximity of these segments of the population relative to the specific locations that would experience adverse impacts to the environment. As defined for the purposes of identifying relevant populations, minority areas are census block groups with a 50 percent or greater proportion of the population consisting of racial minorities, including those of Hispanic origin. Poverty areas are defined as census block groups where 20 percent or more of the population lives in households with incomes below the poverty line.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997; as amended by EO 13296), directs federal agencies, to the extent permitted by law and appropriate, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children and to ensure that policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks.

The poverty rate in 2019 was 30% in Oktibbeha County, MS; 18.7% in Perry County, MS; 16% in Pascagoula County; and 20.8% statewide in Mississippi (DataUSA, 2020). The minority (non-white, non-Hispanic) population in 2018 was 42% in Oktibbeha County, MS; 23% in Perry County, MS; 16% in Pascagoula County; and 44% statewide in Mississippi (DataUSA, 2020).

The three test sites were previously established and have ongoing non-related activities occurring year-round. Project JUSTICE test operators at Camp Shelby would continue to limit access to test areas during test events to only authorized individuals, none of whom are children. Project JUSTICE test operators at Raspet and Singing Island River would follow the same practice. The Proposed Action would not present a significant adverse impact on environmental health and safety risks that could disproportionately affect children or environmental justice communities surrounding any of the three Project JUSTICE test areas, as generally defined by CEQ (CEQ, 1997).

Project JUSTICE has no reasonable mechanism, such as a significant impact on socioeconomics, hiring practices, or expenditures, to induce changes in the demographic characteristics in the communities surrounding the three test areas.

Therefore, there are no disproportionately adverse impacts on environmental justice communities or increased risks to children's welfare anticipated from the Proposed Action. Similarly, there would be no effects under the No Action alternative.

## **5.0 CUMULATIVE IMPACTS**

This section analyzes the impact to the human environment which results from the incremental impact of the Proposed Action and No Action alternative when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions. These cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

The impacts on the environment which would result from the incremental impact of the Proposed Action, when added to other past, present, and reasonably foreseeable future actions have been considered. No significant effects were identified on the valued environmental components identified in Table 1 and further analyzed in Chapters 3 and 4. Past, present, and future Project JUSTICE activities at Camp Shelby would continue to be temporary and less than significant. Additionally, given the type and duration of the proposed project activities at Raspet and Singing River Island, and based on the information presented in this EA, Project JUSTICE would not result in significant cumulative effects when considered with other recent past, ongoing, or reasonably foreseeable future actions.

Development patterns throughout Mississippi have the potential to impact biological resources, as natural wildlife habitat area decreases or becomes fragmented over time. In particular, wildlife that require specific habitat resources may experience continued stress as suitable habitat becomes harder to find. However, such pressures are independent of the Proposed Action and therefore will likely continue over time. The Proposed Action may increase such pressure slightly through flights that disturb avian wildlife. However, as noted in this EA, the impacts from the Proposed Action are temporary and less than significant. Further, the Proposed Action does not require development or loss of habitat. Accordingly, neither the Proposed Action nor the No Action Alternative would reasonably contribute to cumulative adverse impacts on biological resources.

Under the No Action Alternative, the Proposed Action would not occur; therefore, there would be no significant cumulative effects.

## **6.0 CONCLUSIONS**

Pursuant to the NEPA, the analysis presented in this EA finds that no significant adverse impact on the environment is anticipated from the Proposed Action, which is defined as the continued operation of Project JUSTICE activities at Camp Shelby, and new project activities at Raspet Flight Research Laboratory and Singing River Island for at least the next four years.

Implementation of the Proposed Action would allow DHS S&T to complete Project JUSTICE activities. Under the Proposed Action, no additional construction of amenities to support Project JUSTICE would be required to meet testing needs at the current level. The Proposed Action also includes continued planning and monitoring of all Project JUSTICE activities to ensure environmental protection and impact prevention measures remain and are implemented.

Selection of the No Action alternative would not fund and therefore would not allow Project JUSTICE activities to continue at Camp Shelby or begin at Raspet and Singing River Island. Thus, the No Action alternative would not provide DHS S&T an opportunity to meet its mission requirements regarding UAS testing and evaluation.

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## 8.0 PERSONS AND AGENCIES CONTACTED

### FEDERAL AGENCIES

#### **DHS, Science & Technology**

Mr. Patrick W. Parks, PMP  
Program Manager  
Mission & Capability Support

#### **US Fish and Wildlife Service**

Mississippi Ecological Services Field Office  
6578 Dogwood View Parkway, Suite A  
Jackson, MS 39213-7856

#### **U.S. Forest Service**

District Ranger  
De Soto Ranger District  
654 West Frontage Road  
P. O. Box 248  
Wiggins, MS 39577  
601 528-6160

#### **U.S. Forest Service**

Forest Supervisor  
Forest Supervisor's Office  
200 S. Lamar St., Suite 500-N  
Jackson, MS 39201

### NATIVE AMERICAN TRIBE

#### **Mississippi Band of Choctaw Indians**

Mr. Cyrus Ben, Chief  
Mr. Kenneth H. Carleton  
Tribal Historic Preservation Officer  
PO Box 6257  
101 Industrial Road  
Choctaw, MS 39350

### FEDERAL ELECTED OFFICIALS

#### **The Honorable Michael Guest**

U.S. House of Representatives  
Washington, DC 20515

#### **The Honorable Steven Palazzo**

U.S. House of Representatives  
Washington, DC 20515

#### **The Honorable Trent Kelly**

U.S. House of Representatives  
Washington, DC 20515

#### **The Honorable Roger Wicker**

U.S. Senate  
Washington DC 20510

#### **The Honorable Cindy Hyde-Smith**

U.S. Senate  
Washington DC 20510

#### **The Honorable Bennie G. Thompson**

Chairman,  
Committee on Homeland Security  
U.S. House of Representatives  
Washington, DC 20515

### STATE and LOCAL AGENCIES

#### **Anne Hall Brashier**

Policy Director  
Office of Governor Tate Reeves  
[AnneHall.Brashier@GovReeves.ms.gov](mailto:AnneHall.Brashier@GovReeves.ms.gov)

#### **Lora E. Hunter**

Interim Executive Director  
Mississippi Office of Homeland Security  
Department of Public Security  
State of Mississippi  
LHunter@dps.ms.gov

#### **Lt. Col. Stephen C. McCraney**

Director  
Mississippi Emergency Management Agency  
[Smccraney@mema.ms.gov](mailto:Smccraney@mema.ms.gov)

#### **Camp Shelby**

Colonel Bobby M. Ginn Jr.  
Camp Shelby Post Commander  
Camp Shelby, MS 39401

MSG William F. Stone  
DPTMS Special Plans and Projects NCOIC  
Camp Shelby, MS 39401

**Mississippi Department of Environmental Quality**

Ms. Trudy Fisher, Executive Director  
P. O. Box 2261  
Jackson, MS 39225

**Mississippi Coastal Program**

Ms. Willa Brantley  
Department of Marine Resources  
1141 Bayview Avenue  
Biloxi, MS 39530  
228-523-4108  
[Willa.brantley@dmr.ms.gov](mailto:Willa.brantley@dmr.ms.gov)

**Mississippi Department of Archives and History**

Mr. Hal Bell  
Review and Compliance Officer  
Historic Preservation Division  
P. O. BOX 571  
Jackson, MS 39205-0571  
Phone 601-576-6940 Fax 601-576-6955

**Mississippi State University**

Mr. Madison Dixon  
UAS Program Manager, Safety Officer  
Raspert Flight Research Laboratory  
(662) 325-3274 Office  
(662) 545-9303 Mobile

**Jackson County Port Authority**

Mr. Anthony Greer  
Operations Director  
P.O. Box 70  
Pascagoula, Mississippi 39568-0070  
(228) 762-4041  
[agreer@portofpascagoula.com](mailto:agreer@portofpascagoula.com)

**LOCAL ELECTED OFFICIALS**

**City of Starkville**

Mayor Lynn Spruill  
110 W Main Street  
Starkville, MS 3975

**Pascagoula City Manager**

Mr. Michael Silverman  
603 Watts Avenue  
Pascagoula, MS 39567

**Perry County Board of Supervisors**

Mr. Marc Williams  
District 5 Supervisor  
PO Box 345  
New Augusta, MS 39462-0345

## **9.0 LIST OF PREPARERS**

Ms. Susan S. Smits, CHMM, CIT, TURP  
Senior Vice President  
Mabbett & Associates, Inc.

Mr. Andrew Glucksman  
Director, Natural Resources Group  
Mabbett & Associates, Inc.

Mr. Roy Deitchman  
Senior NEPA Practitioner  
Mabbett & Associates, Inc.

## **APPENDICES**

## **Appendix A – Regulatory Correspondence**

## **Appendix B – Public Involvement Documentation**

**NOTICE OF AVAILABILITY**  
**Environmental Assessment of**  
**Joint Unmanned Systems Testing in Collaborative Environment (Project JUSTICE)**  
**Department of Homeland Security**  
**Science & Technology Directorate**

The U.S. Department of Homeland Security (DHS) Science & Technology (S&T) Directorate hereby gives Notice of the Availability (NOA) for the Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the continued testing of unmanned aircraft systems (UAS) under the Joint Unmanned Systems Testing in Collaborative Environment (Project JUSTICE) at Mississippi State University (MSU) Rasket Flight Center in Oktibbeha County, Mississippi (MS); Camp Shelby, Perry County, MS; and Singing River Island, Pascagoula County, MS.

Operational evaluation of UAS technologies for DHS S&T is the primary objective of Project JUSTICE. As new UAS technologies and capabilities are developed, operational evaluation(s) of these technologies by an independent third party is necessary to determine how well such new technologies meet the operational requirements of DHS, its components, and the operational requirements of DHS and its components.

The EA has been prepared in accordance with DHS Directive 023-01, Rev. 01 (2014), *Implementation of the National Environmental Policy Act* (NEPA) instruction/regulations implementing procedural provisions of NEPA as outlined in 40 CFR Parts 1500-1508. The EA is available to view/download electronically at <http://www.dhs.gov/national-environmental-policy-act>.

Comments or questions on the EA may be directed in writing to: Mr. Patrick Parks, Program Manager, Mission & Capability Support, DHS, Science & Technology, via email at: [Project-JUSTICE-Test@hq.dhs.gov](mailto:Project-JUSTICE-Test@hq.dhs.gov). Comments must be received within 30 days following publication of this notice.