



**ENVIRONMENTAL ASSESSMENT
INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN
U.S. ARMY GARRISON
YUMA PROVING GROUND**

September 2022

**Prepared BY
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CHAPTER 1 INTRODUCTION

1.1 Identifying Information

U.S. Army Yuma Proving Ground Integrated Natural Resource Management Plan for Fiscal Years 2022-2026

1.1.2 Location of Proposed Action:

State of Arizona, Yuma and La Paz Counties

1.1.3 Name and Location of Preparing Office:

US Army Garrison, Yuma Proving Ground, Directorate of Public Works, Environmental Sciences Division

1.2 Background

Yuma Proving Ground (YPG) is a Research Test Development and Engineering (RTD&E) installation that has supported weapons systems testing and training activities for over 70 years, testing emerging technologies and equipment to support the Nation's needs in the post-9/11 environment. Today, YPG is in the forefront of ensuring the Army's weapon systems and munitions are fully tested and safe to employ in the 21st century. YPG's mission is dynamic and evolves based on new technology and requirements. YPG maintains vast RTD&E ranges that simulate natural desert conditions. YPG maintains infrastructure for transportation, communication, instrumentation, munitions impact areas, parachute drop zones and specialized test facilities as well as undeveloped land."

The vast undeveloped landscape on YPG provides valuable habitat for a multitude of wildlife and YPG supports AZGFD and FWS efforts to enhance wildlife habitat and manage wildlife. AZGFD manages over 20 wildlife water catchments on YPG that support a variety of species including desert bighorn sheep, Sonoran pronghorn and mule deer. AZGFD has captured desert bighorn sheep from YPG to repopulate struggling sheep herds throughout the state of Arizona. YPG also serves as a release location for an experimental non-essential population of Sonoran pronghorn.

Natural Resource management efforts such as these are complex with many unpredictable variables and outcomes. Implementing these projects on YPG is beneficial because the planning procedures established for YPG are built around flexibility due to our dynamic mission. Our ranges can support low-flying aircraft and occasional heavy equipment requirements with little notice. Furthermore, range infrastructure such as water wells, meteorological monitoring, and range security provide management opportunities that do not exist elsewhere.

1.3 Purpose and Need for Action

The proposed action is to implement the U.S. Army Yuma Proving Ground Integrated Natural Resource Management Plan (INRMP). YPG has managed Natural Resources under an INRMP since 1997. The INRMP was revised in 2012 and updated in 2017. It is reviewed with regard to operation and effect by YPG, AZGFD and USFWS on a regular basis, but not less often than every 5 years.

The purpose of this Integrated Natural Resources Management Plan (INRMP) is to guide and document the manner in which the U.S. Army Yuma Proving Ground (USA YPG or YPG) sustains the military mission on the installation while managing the ecological health of our natural resources pursuant to the Sikes Act, AR 200-1, and DODI 4715.03, the INRMP ensures sound land management, environmental stewardship, and compliance with all relevant laws, regulations, and applicable state and federal management plans, are considered during mission and project planning activities and that no net loss of mission capacity results from meeting our stewardship responsibilities.

The revision is needed to better align our mission and conservation goals with our continuing natural resource management actions. Furthermore, the revision would provide better integration of natural resource management to all YPG activities such as fire, safety, law enforcement, and military mission.

1.4 Decision to be Made

Based on the analysis contained in this EA, the YPG will decide whether or not to approve this Revision to the Integrated Natural Resource Management Plan. The Revised INRMP would be provided to the USFWS and AZGFD for their approval as well.

1.5 Relationship to Statutes, Regulations, Other NEPA Documents

Integration of Natural Resource Management on YPG involves coordination with numerous partners within YPG as well as other federal and state agencies. This INRMP includes references to policy and procedure for law enforcement, fire protection, and military mission. The Programmatic Environmental Impact Statement for Activities and Operations on YPG guides the testing and training mission activities on YPG. The Real Property Management Plan and Environmental Assessment provides the current and future actions needed to manage facilities on YPG. YPG Commander's Policy Statements and YPG Regulations identify YPG specific policy which includes measures for safety and environmental protection.

1.6 Scoping and Issue Identification

YPG coordinates annually with Arizona Game and Fish (AZGFD), US Fish and Wildlife Service (FWS), and Bureau of Land Management on annual review and 5 year updates to the Integrated Natural Resource Management Plan. YPG notified the agency partners of the upcoming revision to the INRMP during the annual review meeting on February 24, 2021. An initial draft of the plan was provided to the USFWS and AZGFD in May 2021. The draft plan is distributed with this EA to the public and Tribes. YPG requested their input on the INRMP as well as input for NEPA analysis.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

2.1 No Action

The No Action Alternative is required under the NEPA process and serves as a benchmark to compare to the Proposed Action and alternatives. Under the No Action Alternative, the Revised INRMP would not be implemented, and management activities under the 2017 INRMP would continue. While this

alternative would meet most regulatory requirements, failure to revise the 2017 INRMP would prevent the opportunity to better align the goals and actions of the plan to better meet the needs of YPG and the partner agencies per the Sikes Act requirement or that of Army Regulation 200-1.

2.2 Proposed Action (Preferred Alternative)

The proposed action would implement the INRMP 2022-2026 revision in its entirety as referenced from Appendix 1. The focus of the INRMP is the implementation of goals, objectives, and natural resources management policies and actions. This management plan is based on ecosystem management with the intention of demonstrating the interrelationships between the military mission and natural resources management. In summary, the goals and objectives of this INRMP are as follows:

| Goal | Objectives | Action Indicators of Target Effectiveness |
|--|---|--|
| 1. No net loss in the capability of military installation lands to support the military mission of the installation. | <i>1a. Find opportunities to leverage unique mission capabilities to support natural resource conservation.</i> | <ul style="list-style-type: none"> • YPG, including Garrison and Mission partners, is providing interagency support with expertise, equipment or other resources typically unavailable to natural resource managers. |
| | <i>1b. Enhance natural resources outside YPG range areas to provide range wide benefits and reduce overall natural resource impact from mission activity.</i> | <ul style="list-style-type: none"> • YPG support of endangered species recovery actions on neighboring lands based on need. • Range-wide approach to species management is used and efforts to ensure maximum benefit to species are balanced with meeting mission requirements. |
| | <i>1c. Build partnerships with neighboring agencies to enhance YPG mission capabilities and regional land management opportunities.</i> | <ul style="list-style-type: none"> • Participation in interagency work projects. • Development of agreements with partners to enhance our capabilities. |
| 2. Provide a benefit to listed species to prevent the establishment of critical habitat on the installation. | <i>2a. Support threatened and endangered (T&E) species recovery.</i> | <ul style="list-style-type: none"> • Collaboration with Sonoran Pronghorn Recovery Team • Implementation of Sonoran pronghorn recovery actions including habitat enhancement for pronghorn such as feeding stations, improvements to watering holes, and enhanced forage plots. |
| | <i>2b. Relocate wildlife to maintain, enhance, or restore viable populations and distributions of native wildlife.</i> | <ul style="list-style-type: none"> • Guidelines followed for Handling Sonoran Desert Tortoises (AZGFD 2014) if moving tortoise from harm's way. • Labor, range/air space, and/or funding for Sonoran pronghorn captive breeding |

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| | | <p>and release efforts in the nonessential experimental population area.</p> <ul style="list-style-type: none"> • Labor, range/air space, and/or funding for capture and relocation for desert bighorn sheep from YPG ranges to aid populations in other areas. |
| 3. Conserve Special Status Species to prevent future listing | <i>3a. Survey, monitor, and analyze trend information and assess habitat needs.</i> | <ul style="list-style-type: none"> • Management of Sonoran Desert Tortoise in accordance with the Candidate Conservation Agreement for Desert Tortoise. • Annual monitoring for long term population trends of Sonoran Desert Tortoise as funding allows. • Identify and map the areas of special concern such as bat roosts, desert washes, mesquite bosques and sand dunes. • Identify habitat and phenology for monarch butterfly on YPG. |
| | <i>3b. actively manage to provide and protect habitat for species of special management concern.</i> | <ul style="list-style-type: none"> • Develop projects to enhance forage for special status species. • Supplemental feeding for pronghorn during critical periods. • Wildlife waters used to support wildlife during extreme drought. • Protect unique habitat features to the extent practical such as dunes, abandoned mines or mesquite bosques. • Maintain and enhance habitat for Monarch butterfly. • Maintain and protect habitat for Mojave Fringe-toed lizards. |
| 4. Provide for conservation of migratory birds and Eagles | <i>4a. protection and enhancement of bird populations and habitat.</i> | <ul style="list-style-type: none"> • Participate in the Arizona Bird Conservation Initiative. • Inventory and monitor for migratory birds and eagles as funding is available. • Support and enhance use of native plants in landscaping within cantonment areas. • Apply FWS Management Guidelines where applicable for conservation migratory birds including eagles. |

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| | <p><i>4b. Protection of nesting birds.</i></p> | <ul style="list-style-type: none"> • Limit vegetation management practices to avoid the breeding season to the extent practical. • Integrate migratory bird breeding season avoidance into project scheduling. • Educate the YPG workforce of the importance of bird conservation and use of best management practices to avoid impacts to migratory birds • Adopt best management practices to avoid impacts to birds in accordance with FWS guidelines. |
| | <p><i>4c. Support and Protect Migrating Birds</i></p> | <ul style="list-style-type: none"> • Consider night-lighting impacts on migrating birds. • Implement appropriate BMPs for tower safety lighting. • Reduce electrocution risks to birds from existing and new power poles. • Coordination with utility providers to proactively minimize risk to migratory birds and eagles. |
| | <p><i>4d. Protection of Bald and Golden Eagles</i></p> | <ul style="list-style-type: none"> • Inventory eagle nesting areas and identify features for avoidance • Protect individual eagles nests, eggs and chicks from disturbance such as Implementing 1000ft buffers to active nests. • Identify active eagle nesting territories. |
| <p>5. Provide for wildlife habitat enhancement or modification.</p> | <p><i>5a. Survey, monitor, and analyze trend information for wildlife populations.</i></p> | <ul style="list-style-type: none"> • Support airspace access needs for monitoring overflights by AZGFD and FWS for pronghorn, bighorn sheep, and mule deer surveys. • Participation in wildlife monitoring surveys. |
| | <p><i>5b. Assess wildlife habitat needs and actively manage to provide, protect, and enhance wildlife habitat.</i></p> | <ul style="list-style-type: none"> • Limit vegetation management practices to avoid the breeding bird season (March 15-September 15) to the extent practical. • Support monitoring and maintenance of wildlife water sources both natural and manmade. • Establish new wildlife water catchments. |

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| | | <ul style="list-style-type: none"> • Enhance water storage capacity at wildlife water sites. |
| | <i>5c. Maintain or restore geographic continuity and minimize population isolation among native wildlife populations</i> | <ul style="list-style-type: none"> • Mapping of vegetation communities, riparian/xeroriparian areas, wildlife waters, wildlife home ranges, and features, such as fences and roads that have potential to cause habitat fragmentation. • Implement best management practices for construction of fences, roads, or other infrastructure to minimize habitat fragmentation and promote connectivity. |
| | <i>5d. Protect abandoned mine features or other potential bat roost locations</i> | <ul style="list-style-type: none"> • Map potential bat roost locations. • Install bat gates or similar protection devices to prevent unauthorized human entry to abandoned mines. |
| 6. Promote healthy native vegetation and ecosystem function | <i>6a. Promote and restore native plant communities</i> | <ul style="list-style-type: none"> • Removal of invasive species. • Native vegetation restoration or enhancement. • Managing or reducing project footprints to maximize native vegetation. • Washing and maintaining equipment to prevent the spread of invasive species. |
| | <i>6b. Protect plants identified under the Arizona Plant Law and promote salvage to preserve those plants on YPG</i> | <ul style="list-style-type: none"> • Identify salvage locations where salvaged plants would be desirable. • Seek partnerships with agencies or companies with the knowledge and ability to successfully transplant cacti if needed. |
| | <i>6c. Protect desert washes and natural storm water flow</i> | <ul style="list-style-type: none"> • Limit ground disturbing activity within washes. • Maintaining natural wash flow. |
| 7. Prevent injury to personnel or damage to equipment and infrastructure from nuisance wildlife or other animal related hazards. | <i>7a. Manage wild horse and burro populations at or below the Appropriate Management Levels in coordination with the Bureau of Land Management (BLM) (Bureau of Land Management 2010)</i> | <ul style="list-style-type: none"> • Coordination with neighboring agencies to identify horse and burro issues and solutions. • Share burro location information with partners to enable effective horse and burro management across boundaries with neighboring wildlife refuges. • Aid BLM in site specific surveys and identification of sites for management actions. |

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| | | <ul style="list-style-type: none"> • Support Horse and burro gather activities. • Construction of horse and burro exclusion fencing as necessary to protect natural resources and facilities from damage. |
| | <i>7b. Manage nuisance wildlife in accordance with the YPG Integrated Pest Management Plan</i> | <ul style="list-style-type: none"> • Seek technical guidance from AZGFD and FWS for best techniques for managing nuisance wildlife. • Employ hunting as a technique for reducing human/animal conflict when appropriate. • Ensure nuisance wildlife relocation is accomplished in a way to maximize the likelihood of survival and prevent disease transmission. • Partner with local organizations for animal rehabilitation for injured wildlife. |
| | <i>7c. Manage wildlife-aircraft strike hazards (WASHs) in accordance with the YPG WASH plan</i> | <ul style="list-style-type: none"> • Work with Airfield personnel to manage wildlife incidents. • Report wildlife strikes through the Federal Aviation Administration. • Actively work to reduce wildlife attractants near the airfield. |
| 8. Installation access and use by the public and tribes of natural resources to the extent such use is not inconsistent with safety, security, mission needs, and natural resources management. | <i>8a. Provide Hunting access to approved areas on YPG.</i> | <ul style="list-style-type: none"> • Coordinate with Range Operations, Safety and Security to ensure hunt areas do not conflict with safety, security or mission. • Permits are administered so that hunters are informed of safety and notification procedures. • Hunters and hunting parties receive appropriate background vetting prior to entry to the installation. |
| | <i>8b. Provide access for special group events based on safety, security, and mission requirements.</i> | <ul style="list-style-type: none"> • Coordinate with Range Operations, Safety and Security to ensure that any group activity occurs in an area and at a time that does not conflict with safety, security and mission. • Group activities are evaluated to ensure that the use will not damage the environment and are compatible with the use of nearby facilities. |

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| | | <ul style="list-style-type: none"> • Participants must receive appropriate vetting prior to entry to the installation. |
| | <i>8c. Provide access to Native American tribes for traditional gathering.</i> | <ul style="list-style-type: none"> • Contribute to open dialogue and consultation with the Tribes. • Assist with technical expertise on locations of valued resources. • Provide field escort as appropriate. |
| | <i>8d. Coordinate YPG test activities to ensure the safety of persons on YPG as well as those in neighboring areas.</i> | <ul style="list-style-type: none"> • Coordinate temporary safety closures with adjoining land management agencies as appropriate. • Coordinate closures with law enforcement, fire to prevent disruptions of emergency access. • Provide community notification for road closures. • Notify potential visitors in advance of planned closures of hunting areas. |
| 9. Enforcement of applicable natural resource laws and regulations. | <i>9a. Minimize illegal wildlife take and habitat degradation in remote areas.</i> | <ul style="list-style-type: none"> • Protect natural and cultural resources from damage, trespass, vandalism and theft. • Coordination and mutual aid with neighboring resource law enforcement (e.g., BLM, AZGFD, FWS). • Be available to serve as a first responder for incidents involving injury, property destruction, search and rescue when needed. • Enforcement of State and Federal Wildlife laws including game violations. • Trespass and security violations are reduced. • Destruction or theft of natural or cultural resources does not occur. • Unauthorized ground disturbance or construction does not occur. • Unauthorized Off-Road vehicle use does not occur. |
| | <i>9b. Enforce violations of state, federal, and regulations to include local and USA YPG regulations.</i> | <ul style="list-style-type: none"> • Regular patrols of YPG ranges. • Make contact with individuals downrange (hunters, recreationist, or employees) • Citations for violations |

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| | | <ul style="list-style-type: none"> • Resolve illegal/trespass vehicle travel on YPG and adjoining lands with appropriate land management agency. |
| 10. Integration of, and consistency among, the various activities conducted under the INRMP. | <i>10a. Use best available scientific knowledge and techniques to manage wildlife and plants</i> | <ul style="list-style-type: none"> • Coordination and networking with Subject Mater Experts with Federal, State, local agencies, and institutions. • Coordination among the various YPG Directorates and Divisions including DPW, Range Control, Police, and Mission partners to ensure consistency between our plans and Standard Operating Procedures (SOPs) |
| | <i>10b. Continuous coordination with AZGFD and FWS</i> | <ul style="list-style-type: none"> • Collaboration on joint projects. • Provide and receive technical assistance. • Early involvement in planning projects. |
| | <i>10c. Continuous coordination within all YPG Directorates</i> | <ul style="list-style-type: none"> • Review of Records of Environmental Consideration, Work Orders, Dig Permits. • Provide technical assistance to proponents for environmental requirements. |
| | <i>10d. Training and outreach for YPG workforce</i> | <ul style="list-style-type: none"> • Briefings to YPG Test Divisions for environmental requirements. • Safety training for workforce and residents for living and working around wildlife. • Public affairs articles and social media posting for Natural Resources. (quarterly) |
| 11. Review of INRMP as to operation and effect by the parties on a regular basis, but not less often than every 5 years. | <i>11a. Maintain frequent communication with AZGFD and FWS in planning and implementation of natural resource projects.</i> | <ul style="list-style-type: none"> • Documentation of annual INRMP reviews and 5 year updates. • Progress reporting for implementation are completed by February each year. • Present project deliverables to the team. |
| | <i>11b. Provide updates to the INRMP as needed</i> | <ul style="list-style-type: none"> • Maintain track changes errata to facilitate INRMP updates. |

Implementation Plan

The INRMP includes a five year implementation plan that lists projects needed in order to meet the priorities or challenges faced by the coordinating agencies. This plan is used as a tool to aid YPG in

seeking funding, contracts, and agreements needed to execute projects. YPG, in coordination with AZGFD and FWS, will review this list annually as part of the INRMP review and make changes as necessary. Projects on the list would be implemented as funding is available.

| INRMP Objective | Driver (Law/Reg/Policy) | Proposed Project Title | Execution Timeframe | Effectiveness Indicator | Reporting |
|------------------------|--------------------------------------|---|--|--|----------------------------------|
| 1,2,3,5 | ESA Section 7a(1) SWAP | Wildlife Water Monitoring, Maintenance, and Hauling | Continuous | Critical Wildlife Waters do not go dry | Email and phone calls |
| 1,2,3,5 | ESA Section 7a(1) SWAP | Construction of New Wildlife Waters | 4 new water catchments by 2027 | New Catchments are built as funding becomes available | During Annual INRPMP review |
| 1,2,3,5 | ESA Section 7a(1) SWAP | Existing Catchment Storage Enhancement | As needs are identified by AZGFD | Critical wildlife waters do not go dry, Reduction in emergency water hauling | During Annual INRMP Review |
| 1,2,3,5 | ESA Section 7a(2) SWAP | Sonoran pronghorn captive breeding/release assistance | Annual | Pronghorn released to wild | Monthly status reports from AZGD |
| 1,2,3,5 | ESA Section 7a(2) SWAP | Sonoran pronghorn monitoring | Monthly | Meeting Recovery plan population goals | Monthly status reports |
| 2,3 | SDT Candidate Conservation Agreement | Sonoran Desert Tortoise Monitoring | Annual as funding allows | Establish long term monitoring plot | Annual report |
| 1,3, 5 | SWAP | Desert Bighorn Sheep Monitoring | 3 year cycle by GMU | Air Space is supported | During Annual INRMP Review |
| 1,3,5 | SWAP | Desert Bighorn Sheep Capture/Relocation | Based on population and statewide conservation goals | Air Space is supported | During Annual INRMP Review |

| INRMP Objective | Driver (Law/Reg/Policy) | Proposed Project Title | Execution Timeframe | Effectiveness Indicator | Reporting |
|------------------------|--|---|---|---|---|
| 3,4 | MBTA DoD & FWS MOU | Planning level surveys for migratory birds | As funding allows and based on Arizona Bird Conservation Initiative | Projects executed to identify Migratory bird habitat for target species | During Annual INRMP Review |
| 1,2,3,4,5,6 | MBTA DoD & FWS MOU SWAP | Native vegetation restoration and enhancement | Annual as funding allows | Project executed, Acres of habitat enhanced | During Annual INRMP Review |
| 1,2,3,4,5,6 | 7 U.S.C. § 2801 EO 13112 | Invasive Species Control | Annual as funding allows | Project Executed | During Annual INRMP Review |
| 7 | Wild Horse and Burro Protection Act YPG R 385-1 | Wild Horse and Burro nuisance gather | Based on safety hazards and damage | Reduction in safety hazards and damage to facilities and habitat | During Annual INRMP review |
| 7 | Animal Damage Control Act YPG R 385-1 | Management of nuisance wildlife | continuous | Reduction in safety hazards and damage to facilities and habitat | Annual reporting per MBTA permit and Wildlife Service License |
| 8 | Sikes Act DoDI 4715.03 | Administer YPG hunting program | Sept-Feb Annually | Number of permits issued/compliance of hunters | During Annual INRMP Review |
| 8 | Sikes Act DoDI 4715.03 | Special Access Request | As needed | Activities do not conflict with safety, security, or mission. | During Annual INRMP Review |
| 9 | DoDI 5525.17 10 U.S.C. §2671 | CLEO Patrols | Continuous | Reduction in Natural and Cultural resource Damage | During Annual INRPM Review |

| INRMP Objective | Driver (Law/Reg/Policy) | Proposed Project Title | Execution Timeframe | Effectiveness Indicator | Reporting |
|------------------------|--|--|----------------------------|--|---|
| 10 | <i>National Environmental Policy Act ESA Section 7a(2)</i> | <i>DPW Workflow Reviews (Record of Environmental Consideration, Work Order, Dig Permit</i> | <i>Continuous</i> | <i>All proposed projects on YPG are reviewed for Natural Resources within project timeframe.</i> | <i>Annual EQ data call, Monthly Work Order reviews by DPW</i> |
| 11 | <i>Sikes Act Sikes Act Tripartite MOU DoDI 4715.03</i> | <i>Annual INRMP Review</i> | <i>annual</i> | <i>Annual INRMP Review</i> | <i>Annual INRMP Review</i> |

Pursuant to the Sikes Act, this INRMP must be reviewed as to operation and effect on a regular basis, but no less often than every 5 years by YPG, AZGFD and FWS. This review must be documented and signed by these agencies. The INRMP would receive routine updates to provide clarity or new information. Updates would not undergo further NEPA analysis. If the changes to the INRMP would result in any new natural resources management actions necessitated by changes to the military mission, the condition of the land, or the status of the species present and not previously considered, then additional NEPA analysis would be required.

CHAPTER 3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing conditions relevant to the issues presented in Table 1: Issues Identified for Detailed Analysis and discloses the potential impacts of the alternatives on those issues.

3.1 Resources and Uses

Effects on environmental resources consider the context, frequency and intensity of the impact. For the purposes of this analysis, levels of effects are described as follows:

- Adverse. A negative net impact.
- Beneficial. A positive net impact.
- Negligible. Impacts are so low that they are not perceptible or measurable.
- Minor. Short-term but measurable impacts are expected. The resource would recover in a relatively short period of time (days to months).
- Moderate. Measureable and long-term impacts that may not remain localized, but are considered less than significant. Recovery may require several years or decades.
- Significant. Based on context and intensity, impacts would result in substantial change or loss of a resource. This applies to both beneficial and adverse impacts.

Table 1 outlines the resources considered by YPG, indicates whether the Proposed Action has the potential to result in a change in each, relative to existing conditions, and provides the rationale for eliminating or carrying each resource forward for further analysis.

Those resources or uses determined not to be present or that are present but would not be affected by the Proposed Action need not be evaluated in detail or discussed further. Only those resources identified as present in the proposed impact area and that may be affected may be carried forward in the document if there are issues which necessitate a detailed analysis. A brief rationale is provided explaining some resources were dismissed from further analysis. Resources and resource uses that were determined to warrant detailed analysis are analyzed in section 3.2.

Table 1. Resources and Rationale for Elimination or Detailed Analysis

| RESOURCE/ USE | PRESENT YES/NO | MAY BE AFFECTED YES/NO | RATIONALE |
|--------------------|-------------------|------------------------------|--|
| Air Quality | Yes | Yes | Negligible impacts to air quality are expected. Some activities would result emissions such as fugitive dust and vehicle and equipment exhaust. Equipment usages associated with INRMP projects are limited to small habitat improvement or monitoring projects with limited footprint and duration. Proposed emissions would be significantly below the <i>de-minimis</i> thresholds for Yuma and La Paz counties. Pesticide application would result in negligible, temporary impacts to air quality. Overall, impacts would be less than significant and would not contribute significant emissions to local or regional air quality. |
| Cultural Resources | Yes | Yes | See Cultural Resources section. |

| RESOURCE/ USE | PRESENT YES/NO | MAY BE AFFECTED YES/NO | RATIONALE |
|--------------------------|-------------------|------------------------------|--|
| Environmental Justice | Yes | No | <p>Executive Order 12898, <i>Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations</i>, requires federal agencies to analyze potential impacts to minority and low-income populations, including human health and environmental effects, resulting from their activities. The goal of Executive Order 12898 is to ensure activities that affect human health and the environment do not discriminate against minority or low-income populations. Executive Order 13045, <i>Protection of Children from Environmental Health Risks and Safety Risks</i>, requires that federal agencies evaluate environmental health or safety risks that could disproportionately affect children.</p> <p>The Proposed Action would occur within YPG, on remote land that is restricted from the public. Only authorized personnel are authorized access to YPG. Activities proposed would not disproportionately affect minority or low-income populations, and/or children through substantial degradation of air quality, water quality, or exposure to hazardous materials, substances, or waste. Therefore, this resource is not carried forward for detailed analysis.</p> |
| Farmlands – Prime/Unique | No | No | <p>The Farmland Protection Policy Act protects prime or unique farmlands from unnecessary and irreversible conversion to non-agricultural uses. YPG does not contain prime farmlands; therefore, no activities associated with the Proposed Action will affect any prime farmland and this resource is not carried forward for detailed analysis.</p> |
| Floodplains | No | No | <p>Executive Order 11988 <i>Floodplain Management</i> restricts federal agencies from constructing in a floodplain. No construction or other modification of a floodplain area is proposed.</p> |

| RESOURCE/ USE | PRESENT YES/NO | MAY BE AFFECTED YES/NO | RATIONALE |
|--------------------------------------|-------------------|------------------------------|--|
| Hazardous Materials and Wastes | Yes | Yes | Negligible impacts from the use or storage of hazardous materials and waste are expected. Pesticides may be used to manage nonnative and invasive plant species. Fire suppressants may be used to mitigate fire danger following a Wildland Fire Management Plan. All use of pesticide and fire suppressants would be minor and infrequent and would follow all regulations and guidelines. |
| Health and Safety | Yes | Yes | Health and safety impacts are expected to be beneficial. Law enforcement patrols would increase the safety of the public by limiting access to unexploded ordnance, live-fire testing/training, etc. Wildlife aircraft strike hazard management, wildland fire management, and nuisance animal control would contribute to safety benefits. All personnel associated with the implementation of the Proposed Action would be required to comply with applicable health and safety regulations. |
| Land Use and Recreation | Yes | No | No impacts to land use are expected. Programs and projects proposed would not change land use and would not result in any new land use incompatibilities. Proposed natural resources management projects would benefit current land use by improving the quality of the YPG test ranges. This resource will not be analyzed in detail. |
| Noise | Yes | No | The INRMP would not result in an increase in noise on the installation. Infrequent noise would occur associated with the vehicles or aircraft accessing the range for natural resource surveys and other wildlife management activities. The frequency and intensity would be far less than that generated as typical military range operations. This resource will not be analyzed in detail. |

| RESOURCE/ USE | PRESENT YES/NO | MAY BE AFFECTED YES/NO | RATIONALE |
|-----------------------------------|---------------------------|---------------------------------------|---|
| Socioeconomic Values | No | No | No impacts to socioeconomics are expected. No permanent residents live on or adjacent to the range and the implementation of the Proposed Action would have no significant impacts on the local economy. This resource will not be analyzed in detail. |
| Soil Resources | Yes | Yes | Beneficial impacts to soils are expected from implementation of the INRMP. Integration of natural resource management to YPG actions ensure that appropriate best management practices are implemented for all military testing/training and construction action. Soil-disturbing activities from operations related to habitat restoration projects have potential for erosion from wind or storm events in the project areas but are limited to very small project areas. Restoration of native vegetation, and erosion controls such as slope protection and mulching would have beneficial impacts. |
| Transportation and Infrastructure | No | No | No significant impacts to transportation and circulation are expected. A negligible, short-term increase in traffic would occur during the implementation of natural resource surveys, but this would not result in any significant impacts. This resource will not be analyzed in detail. |
| Vegetation | Yes | Yes | See Biological Resources section. |
| Visual Resources | Yes | No | Due to the lack of population or development, it would be unlikely for the public to perceive a change from development and use of the impact area. The Proposed Action would not obstruct, damage, dominate, or substantially modify a scenic view from public viewing areas and would not have a substantial adverse effect on a scenic vista. Therefore, this resource is eliminated from detailed analysis. |

| RESOURCE/ USE | PRESENT YES/NO | MAY BE AFFECTED YES/NO | RATIONALE |
|---------------------------------------|-------------------|------------------------------|--|
| Hydrological or Water Resources | Yes | No | No impacts to hydrological or water resources are expected. YPG does not contain natural open-water sources. Artificial water sources (wildlife water catchments) are maintained in accordance with the Proposed Action. This resource will not be analyzed in detail. |
| Wildlife | Yes | Yes | See Biological Resources section. |

3.2 Resources Brought Forward for Analysis

The ID Team evaluated potential impacts from the Proposed Action and Alternatives to determine which resources, and resource uses (as listed in the tables above) to determine if detailed analysis would be necessary. Through this process, the ID team determined the following resources warrant detailed analysis in this EA.

3.2.1 Biological Resources

Affected Environment

The INRMP provides a detailed description of the biological resources affected and an abbreviated version is provided below to assist in understanding the context of potential environmental consequences.

Vegetation

Vegetation in the Yuma area is within the Lower Colorado Valley Subdivision of the Sonoran Desert, the largest and most arid portion of the desert. Figure 4 shows biotic communities of the Sonoran Desert. The extreme aridity characterizing this region is reflected in open plains covered sparsely with drought-tolerant shrubs, grasses, and cacti. Most common is the creosote bush, found in widespread stands or mixed with combinations of ocotillo (*Fouquieria splendens*), bursage (*Ambrosia spp.*), teddy bear cholla cactus (*Cylindropuntia bigelovii*), and foothills paloverde trees (*Parkinsonia spp.*), depending on landform features (Turner and Brown 1994; Shreve and Wiggins 1964).

Sandy soil formations support big galleta grass (*Pleuraphis rigida*) plant communities along with foothill paloverde trees (*Parkinsonia microphylla*), honey mesquite trees (*Prosopis glandulosa*), or bursage (*Ambrosia spp.*). Hillsides support brittlebush (*Encelia farinosa*) in various combinations with other plants such as cacti, in particular the saguaro cactus (*Carnegiea gigantea*). Foothills and mountains provide habitat for mixed shrubs. Desert washes and channel banks support many trees and shrubs, including blue paloverde (*Parkinsonia florida*), ironwood (*Olneya tesota*), smoke tree (*Psoralea spinosus*), mesquite (*Prosopis spp.*), and catclaw acacia (*Acacia greggii*). Vegetation found on the highest mountain slopes appears similar to Arizona Upland Subdivision portions of the desert. Exposed rocky slopes provide habitat for saguaros and other cacti, and paloverde trees (*Parkinsonia spp.*). Mesquite bosques (woodlands) are a particularly valuable habitat type on YPG.

These isolated woodland patches usually occur in otherwise monotypic creosote plains, and provide food and cover for wildlife.

Wildlife

YPG wildlife is typical for Sonoran desert scrub habitat. Lists of wildlife species known to occur in the vicinity of YPG are included in Appendix C to the INRMP. Desert wildlife may be endemic to the extremes of hot and dry conditions or may be varieties or races of widespread species showing slight variations aiding in adaptations to arid environments. Mammals include desert bighorn sheep (*Ovis canadensis mexicana*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), kit fox (*Vulpes macrotis*), badger (*Taxidea taxus*), and jackrabbits (*Lepus californicus*) as well as many smaller mammal species such as bats, mice, wood rats, and ground squirrels. Over 30 species of reptiles and amphibians include have been identified on YPG.

Lizards, such as the desert horned lizard (*Phrynosoma platyrhinos*), western whiptail (*Aspidoscelis tigris*), and side-blotched lizard (*Uta stansburiana*), are commonly seen throughout YPG. Couch’s spadefoot (*Scaphiopus couchi*), red-spotted toad (*Anaxyrus punctatus*), and Colorado River toad (*Incilius alvarius*) comprise YPG’s three amphibian species.

Species of Special Management Concern

Species of special management concern are those that are federally listed or proposed for listing under the Endangered Species Act and those that are ranked as Species of Greatest Conservation Need 1a and 1b by AGFD. The Department recognizes rare wildlife as Wildlife of Special Concern (WSC) whose occurrence may be in jeopardy or with known or perceived threats or population declines (AGFD 1996).

Federally listed or candidate species on YPG include Sonoran pronghorn (Endangered 10j population) and Sonoran desert tortoise (candidate). Several listed species occur along the Colorado River and associated wetlands just west of YPG. Those include Ridgeway’s rail, and yellow-billed cuckoo. While it is possible for individual birds to fly onto YPG, there is not adequate habitat to support these species on the installation.

Table 4 lists federally listed species and AZGFD species of concern that have been confirmed or observed on YPG, or have potential to occur based on available habitat or known migratory corridors. A comprehensive list of species that have been confirmed on or near the installation are included in Appendix C of the INRMP.

Table 4: Federally Listed Species and Arizona Species of Greatest Conservation Need Expected to Occur on YPG

| Species | Federal Status | State Status | Occurrence on YPG | Comments |
|--|----------------|--------------|-------------------|---|
| AMPHIBIAN | | | | |
| Sonoran desert toad <i>Incilius alvarius</i> | None | 1b | O | Infrequently encountered on YPG; usually found near water catchments. ⁽¹⁾⁽²⁾ |
| Lowland Leopard Frog <i>Rana yavapaiensis</i> | None | 1a | P | Occupies wetlands. Not present on YPG |
| BIRDS | | | | |

| Species | Federal Status | State Status | Occurrence on YPG | Comments |
|--|--------------------|--------------|-------------------|--|
| Sprague's pipit <i>Anthus spragueii</i> | BCC | 1a | NE | Observed outside boundaries of YPG. No habitat on YPG supports this species |
| Southwestern willow flycatcher <i>Empidonax trailii extimus</i> | FE | 1a | NE | Habitat occurs west of YPG along Colorado River |
| Yellow-billed cuckoo (western) <i>Coccyzus americanus</i> | FT | 1a | NE | Habitat occurs west of YPG along Colorado River |
| Yuma Ridgeway's Rail <i>Rallus obsoletus yumanensis</i> | FE | 1a | | Habitat occurs west of YPG along Colorado River |
| Bald eagle <i>Haliaeetus leucocephalus</i> | FD BGPA MBTA | 1a | O | Observed along Colorado River, west of YPG |
| Golden eagle <i>Aquila chrysaetos</i> | BGPA MBTA | 1b | O | Observed in flight on YPG. Appropriate nesting structures have been found, but to date have not found golden eagle nesting on YPG. |
| Western burrowing owl <i>Athene cunicularia hypugaea</i> | BCC | 1b | O | Observed on the installation |
| Ferruginous hawk <i>Buteo regalis</i> | BCC | 1b | O | Observed outside boundaries but likely migrates through |
| Gilded flicker <i>Colaptes chrysoides</i> | BCC | 1b | O | Breeds on installation |
| Lincoln's sparrow <i>Melospiza lincolnii</i> | None | 1b | P | Observed outside boundaries |
| Gila woodpecker <i>Melanerpes uropygialis</i> | BCC | 1b | O | Breeds on installation |
| Savannah sparrow <i>Passerculus sandwichensis</i> | | 1b | P | Observed outside boundaries. Belding's Savannah Sparrow is a BCC however they do not occur on YPG. |
| Abert's towhee <i>Melospiza aberti</i> | MBTA | 1b | O | Breeds on installation |
| Le Conte's thrasher <i>Toxostoma lecontei</i> | BCC | 1b | O | Breeds on installation |
| Bendire's thrasher <i>Toxostoma bendirei</i> | BCC | 1c | P | EBird shows records nearby |
| Pacific wren <i>Troglodytes pacificus</i> | MBTA | 1b | P | Unknown |
| Arizona Bell's vireo <i>Vireo bellii arizonae</i> | MBTA | 1b | O? | Detected, subspecies not determined. ⁽¹⁾ |
| Peregrine falcon <i>Falco peregrinus</i> | FD | 1a | O | Observed occasionally on YPG; cliff nesting habitat limited on YPG |
| Prairie Falcon | BCC | 1c | O | Breeds on installation |

| Species | Federal Status | State Status | Occurrence on YPG | Comments |
|--|----------------|--------------|-------------------|---|
| Crested caracara <i>Caracara cheriway</i> | None | | NE | Observed at Cibola National Wildlife Refuge |
| MAMMALS | | | | |
| Harris' antelope squirrel, <i>Ammospermophilus harrisi</i> | None | 1b | O | Commonly observed on YPG |
| Sonoran pronghorn <i>Antilocapra americana sonoriensis</i> | FE | 1a | O | Pronghorn currently occupy portions of the Kofa firing range. |
| Desert bighorn sheep <i>Ovis canadensis mexicana</i> | None | 1b | O | Occupy rugged mountainous areas on YPG |
| Arizona pocket mouse <i>Perognathus amplus</i> | None | 1b | O | ⁽¹⁾ Observed on YPG during previous surveys |
| Little pocket mouse <i>Perognathus longimembris</i> | None | 1b | O | ⁽¹⁾ Observed on YPG during previous surveys |
| Colorado river cotton rat <i>Sigmodon arizonae plenus</i> | None | 1b | P | Associated with river drainages found along the river near Ehrenburg. Not on YPG |
| Yuma hispid cotton rat <i>Sigmodon hispidus eremicus</i> | None | 1b | P | Given their association with riparian vegetation (e.g., cattail, water hyacinths, sedges, rushes, etc.), the likelihood of occupancy on the withdrawal area is considered low |
| Harquahala southern pocket gopher <i>Thomomys bottae subsimilis</i> | None | 1b | P | Unknown |
| Kit fox <i>Vulpes macrotis</i> | None | 1b | O | ⁽¹⁾ Observed on YPG |
| Pale Townsend's big-eared bat <i>Corynorhinus townsendii pallescens</i> | None | 1b | P | Observed on YPG |
| Greater western mastiff bat <i>Eumops perotis californicus</i> | None | 1b | P | Observed at Cibola National Wildlife Refuge and Imperial National Wildlife Refuge |
| Western red bat <i>Lasiurus blossevillii</i> | None | 1b | P | Observed at Cibola National Wildlife Refuge |
| California leaf-nosed bat <i>Macrotus californicus</i> | None | 1b | O | Roosts in abandoned mines ⁽⁴⁾ |
| Western yellow bat <i>Lasiurus xanthinus</i> | None | 1b | O | Observed on YPG |
| Cave myotis <i>Myotis velifer</i> | None | 1b | P | Large roosts (250 or more individuals) have been found in the Kofa Wildlife Refuge. ⁽⁴⁾ Potential habitat exists on YPG |
| Yuma myotis | None | 1b | O | ⁽³⁾ Observed on YPG |

| Species | Federal Status | State Status | Occurrence on YPG | Comments |
|---|-------------------------|--------------|--|---|
| <i>Myotis yumanensis</i> | | | | |
| Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i> | None | 1b | P | Detected on Kofa NWR. Potentially on YPG |
| Big free-tailed bat <i>Nyctinomops macrotis</i> | None | None | P | Detected acoustically at Imperial National Wildlife Refuge |
| Brazilian (Mexican) free-tailed bat <i>Tadarida brasiliensis</i> | None | 1b | O | ⁽³⁾ Observed on YPG |
| REPTILES | | | | |
| Sonoran desert tortoise <i>Gopherus agassizii</i> , now <i>G. morafkai</i> | Unwarranted for listing | 1a | O | ⁽⁴⁾ Tortoise have been observed on YPG. YPG signed a Candidate Conservation Agreement for Sonoran Desert Tortoise in 2015. |
| Gila monster <i>Heloderma suspectum</i> | None | 1a | O | Photographed on the East Arm. Habitat types documented on the installation. ⁽¹⁾ |
| Sonoran coral snake <i>Micruroides euryxanthus</i> | None | 1b | O | ⁽⁵⁾ There are no known occurrences for this species on YPG although suitable habitat may be present |
| Variable sand snake <i>Chilomeniscus stramineus</i> | None | 1b | P | Unknown |
| Sonoran collared lizard <i>Crotaphytus nebrius</i> | None | 1b | P | Unknown |
| Mohave fringe-toed lizard <i>Uma scoparia</i> | None | 1b | O | Population present in sand dune complex in northwest Cibola Range. ⁽⁴⁾ |
| INSECTS | | | | |
| Monarch butterfly | C | None | O | Observed on YPG |
| PLANTS | | | | |
| Nichol's Turk's head cactus <i>Echinocactus horizonthalonius</i> var. <i>nicholii</i> | FE | NONE | NE | Reported to have been photographed on YPG in 1995; plant not relocated, though not expected to occur on YPG, included for historic reasons. |
| Federal and State Status FE-Listed Federally Endangered FT-Listed Federally Threatened C-Candidate for federal listing FD-Delisted BCC- Birds of Conservation Concern Tier 1a and 1b refers to AZGFD state wildlife action plan This list does not identify all migratory birds protected by MBTA. Only those with SGCN or BCC status. | | | Occurrence on YPG O-Observed P-Potential NE-Not Expected ⁽¹⁾ Ough and deVos 1986 ⁽²⁾ deVos and Ough 1986 ⁽³⁾ Castner et al. 1995 ⁽⁴⁾ AZGFD 2008 ⁽⁵⁾ Palmer 1986 | |

Environmental Consequences

No Action

If the No Action Alternative is selected, natural resource management programs, policies, objectives and action items of the Revised INRMP would not be implemented and YPG would retain the 2017 INRMP. The continued implementation of the 2017 INRMP would have similar direct impacts to biological resources as the implementation of the Revised INRMP. Impacts would be minor, temporary, and infrequent and would not present long-term impacts to biological resources.

Proposed Action

The objective of the Revised INRMP is to effectively manage YPG to support the Installation's mission with "no net loss" of military testing and training capability. Physical impacts from INRMP projects are generally divided into three categories: natural resource surveys, habitat enhancement, and vegetation management. Although some minor, adverse impacts are expected as a result of these projects, they would be less than significant and the long-term benefit to the natural environment would outweigh the temporary adverse impacts.

Natural resources surveys would be conducted by traversing habitat. Capturing animals for collaring or relocation may require trapping or use of aircraft. Impacts may include trampled vegetation or invertebrates, noise disturbances to nesting birds and other wildlife, soil erosion and compaction, and creation of fugitive dust. These impacts, however, would be minor, temporary, and infrequent and would not any present long-term impacts to biological resources.

Habitat enhancement often consists of the construction of water catchments, exclusion fencing, vegetation removal and recontouring the project sites. Impacts may include trampled vegetation or invertebrates, noise disturbances to nesting birds and other wildlife, soil erosion and compaction, and creation of fugitive dust. This type of work would have temporary and minor adverse impacts to the habitat, but once completed would benefit overall habitat quality and biological resources.

Vegetation management would be performed by physical, mechanical, and/or chemical means; all three methods could temporarily impact biological resources. Physical removal would include personnel or contractors traversing weed infested areas to hand pull vegetation, possibly disturbing non-target vegetation, invertebrates, and other wildlife. Mechanical removal would involve using gas-powered machinery, such as weed whackers and mowers, which would create noise disturbances to wildlife and disturb soils. Chemical treatment would be conducted in accordance with the Installation's Integrated Pest Management Plan and applicable federal, state, and local laws and regulations. In the event of a petroleum or chemical spill, the Installation would enact its Spill Plans to contain and clean up the spilled material. Overall, nonnative and invasive species removal would provide long-term, beneficial impacts by eradicating pest and invasive species that damage or destroy native species.

Overall impacts to biological resources from implementation of the proposed action would be less than significant.

Conservation Measures

Conservation measures are tailored to the nature of the proposed action, its anticipated effects, and the density and expected response of wildlife to the action. Since each proposed action is different, the development of an appropriate conservation actions may require coordination with AZGFD and USFWS. Peer reviews in the Record of Environmental Consideration (REC) and Dig Permits reviewed by YPG ESD effectively address potential impacts before they occur. In addition to using these ESD tools, the following actions will be taken:

- To the extent practicable, avoid and minimize disturbance during the breeding and nesting season of sensitive species to prevent injury and mortality of the young.
- Avoid trimming trees during the breeding and migrating season (March 15th to September 15th).
- To the extent practicable, project activities within desert tortoise habitat should be scheduled when tortoises are inactive (typically November 1 to March 1). Note that few tortoises have been observed on YPG within the past decade, and tortoise habitat on the installation remains to be mapped.
- Notify USFWS and AGFD if dead or injured Sonoran pronghorn are observed on the installation. Coordinate with the Sonoran Pronghorn Recovery Team to provide access to pronghorn carcass for investigation.
- To the extent practicable, avoid construction activities on mountaintops during the bighorn sheep lambing season (primarily January 1 to April 30).
- Conduct project-specific environmental reviews to identify natural resources that may be affected.
- Modify project boundaries or location, if feasible, to avoid impacting sensitive species and habitats.
- Cover or cap any vertical open pipes to prevent wildlife entrapment.
- Properly slope any excavation or provide wildlife escape ramps to open pits or trenches. Inspect excavation before backfilling to ensure no wildlife is trapped.
- Limit vehicle use to existing roads and facilities to the extent practicable.
- Following project completion, restoration efforts should be tailored to the characteristics of the site and the nature of project impacts identified in the mitigation plan.
- Conduct plant surveys for rare natives and plants listed in the Arizona Plant Law, and, when feasible, protect in situ or remove and plant elsewhere if military activities will result in death of vegetation.
- Vehicles used to implement INRMP may carry weed seeds, particularly if soil clings to the tires or body of the vehicle. Assess the actual occurrence of weed seed vectoring and institute vehicle wash stations, if cost of weeds exceeds cost of prevention measures.
- For bald and golden eagles, the installation uses a 1000 ft. buffer around nests to minimize disturbance.

3.2.2 Cultural Resources

Affected Environment

Per DoD Instruction 4715.16, historic properties are any prehistoric or historic district, site, building, structure, or object eligible for inclusion in, the National Register of Historic Places, whether or not such eligibility has been formally determined. This includes artifacts, records, and material remains related to such a property or resource.

The cultural history of the region surrounding YPG typically has been divided into five broad eras: Paleoindian (10,000 to 8,500 B.C.), Archaic (7,000 B.C. to A.D. 300/700), Ceramic (Patayan Complex A.D. 700 to A.D. 1900), Ethnohistoric (1450 to 1760), and Historic (1760 to 1970).

The historic period for the YPG area includes early European exploration (1500s-1849), the mining period (1849-1942), and the military presence (1942-present). The Integrated Cultural Resource Management Plan (ICRMP) provides detailed descriptions of these eras and how they influenced the cultural development in the region.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires that federal agencies with jurisdiction over a proposed federal project take into account the effect of the undertaking on cultural resources listed, or eligible for listing, on the NRHP, and afford the State Historic Preservation Officers (SHPOs) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment with regard to the undertaking. To facilitate this, YPG has performed numerous archaeological surveys to identify potential cultural resources.

Figure 9 depicts the areas surveyed on YPG from 1981 through December 2010 and comprises approximately 171,289 acres. Survey plots range in size from less than 1 acre to 17,192 acres (Source: YPG GIS spatial data attributes table).

The information provided below is a summary of the cultural resources setting on the installation. Additional information regarding cultural resources and their management can be found in the YPG *Integrated Cultural Resources Management Plan* (U.S. Department of the Army Yuma Proving Ground 2017). The ICRMP provides a discussion of the prehistoric and historic periods in the Yuma area including the military development of YPG and detailed information about the laws and regulations applicable to the management of cultural resources.

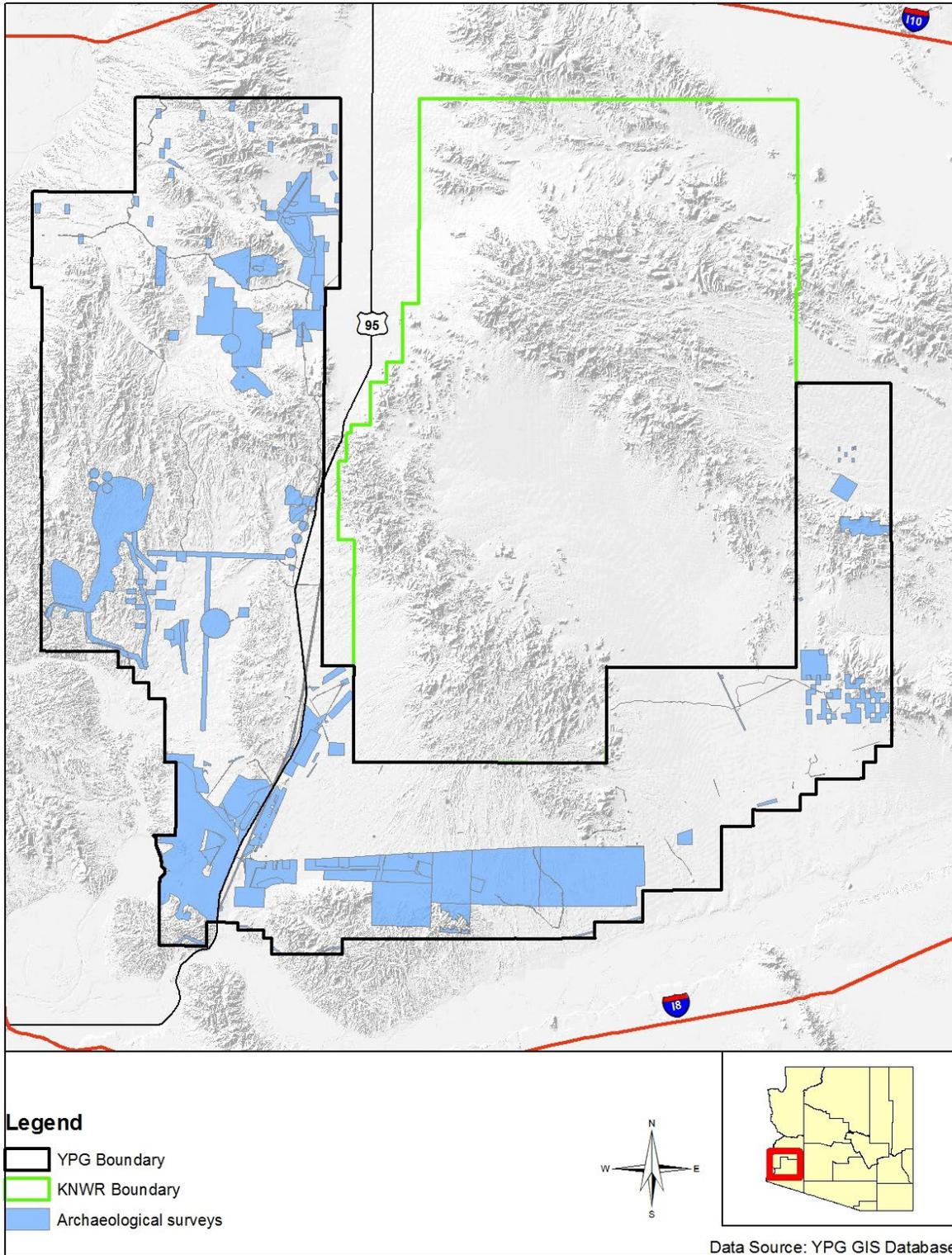


Figure 9: Cultural Surveys Completed at Yuma Proving Ground from 1981 to 2010

Historic Properties

YPG has 763 sites that have been determined eligible for the NRHP. In addition, 476 known sites remain unevaluated for their eligibility in the NRHP and must be treated as eligible until an evaluation is completed.

Architectural Surveys

YPG has commissioned several historic architectural surveys of buildings and structures on the installation (Bischoff, 1999; Brenner, 1984; JRP Historical Consulting, 2009), but as of 2010, no historic buildings or structures were determined to be eligible for NRHP listing. Although Building 2 (old Post Headquarters/YPG Heritage Center), was recommended as eligible for inclusion in the National Register (Bischoff, 1999), a detailed historic context study completed in 2009 showed that it did not have the requisite historic importance to mission-related activities to warrant that recommendation (JRP Historical Consulting, 2009). In addition, an enclave of 26 military residences had also previously been determined eligible for inclusion in the National Register, but these buildings fall within the Program Comment for Capehart-Wherry (Advisory Council on Historic Preservation, 2002) constructed Army residences, and no further compliance measures are required for them. The ICRMP provides additional details regarding historic buildings and structures on the installation.

Access Procedures

To comply with legislative requirements outlined in the American Indian Religious Freedom Act to provide access to sacred and ceremonial sites by Native American tribes, consultation should address the expected frequency and regularity of access requests; size of the group that will need access; lead time for YPG to process access requests; and any special conditions required by YPG with respect to security or safety during site visits.

Because of the potential that unexploded ordnance (UXO) is present within YPG, access to many areas of the installation requires coordination with YPG and permission from YPG's Range Control and Security offices. Written guidance for access to YPG is based on YPG SOP YPY-RO-P1000, which pertains to general range control precautions and personnel safety. This guidance has been applied to Native American access as well, in particular for access to the White Tanks Conservation Area. Access is coordinated through the Cultural Resources Manager in consultation with YPG Range Control, the Installation Commander, and the Public Affairs Officer.

YPG has established a program that grants access to sacred sites for the observance and practice of religious or traditional ceremonies or for the collection of natural resources. Native American tribes are also permitted to gather and collect downed and dead mesquite and ironwood used to fuel kilns for historic and traditional pottery making. Access is granted upon request from the tribe to collect mesquite and/or ironwood. A Hold Harmless Agreement must be completed for each participant. Additionally, they must be escorted by YPG personnel, may collect only dead, downed trees, and collect no more than two cords.

Environmental Consequences

No Action

If the No Action Alternative is selected, natural resource management programs, policies, objectives and action items of the Revised INRMP would not be implemented and YPG would retain the 2017 INRMP. The continued implementation of the 2017 INRMP would have similar direct impacts to cultural

resources as the implementation of the Revised INRMP. Impacts would be minor, temporary, and infrequent and would not present long-term impacts to cultural resources.

Proposed Action

Physical impacts from INRMP projects are generally divided into three categories: natural resource surveys, habitat enhancement, and vegetation management. The impacts could occur from ground disturbing activity such as:

- Construction and maintenance of wildlife water catchments.
- Walking to overland
- Staging vehicles and equipment or aircraft
- Vegetation removal, mechanical and chemical.

These types of activities could damage or displace cultural artifacts. Ground disturbing activities can also create trails that inadvertently attract unauthorized persons to enter an area. All undertakings would be subject to Section 106 of the National Historic Preservation Act including consultation with the Arizona SHPO and Native American Tribes.

There is always the potential for inadvertent discovery of previously unidentified archaeological deposits not discovered during the initial inventory process. Workers will take the following actions if archaeological materials are discovered during construction or excavation activities.

Per Appendix M, SOP #5 of YPG's ICRMP, in the event that archaeological deposits are encountered during any construction or excavation activities, the activity shall stop and the YPG CRM shall be notified. Because of the potential of each archaeological deposit to contain Native American human remains or cultural materials, failure to report discovery of archaeological deposits may result in violation of the Native American Graves Protection and Repatriation Act (NAGPRA), the Archaeological Resources Protection Act (ARPA), and other related federal and state laws resulting in fines and penalties against YPG and its Commander. If it is determined that human remains encountered during a project appear to be the victim of a recent crime or accidental death, the appropriate law enforcement authorities will be notified for further action.

Best Management Practices

- Conduct project-specific environmental review to identify any cultural resources that may be affected.
- Modify project boundaries or location, if feasible, to avoid cultural resources. Brief construction personnel on the procedures and policy should cultural resources be inadvertently discovered at a project location.
 - If avoidance is not feasible, mitigation of effects and consultation with the SHPO and Native American Tribes is required.
- In the event of an unanticipated archaeological or historical cultural resource are discovered, cease all activity in the area until the discovery has been evaluated by a qualified archaeologist and consultation with the SHPO and Tribes has been completed.
- Follow guidance in YPG ICRMP

- In the event of an unanticipated archaeological or historical cultural resource discovery, all activity shall stop, the YPG Cultural Resources Manager notified, and materials shall undergo review as required under the NHPA.
- In the event that Native American human remains or items of cultural patrimony are discovered, federal law (NAGPRA) directs specific procedures that must be followed and establishes criminal and civil penalties for noncompliance. If human remains are encountered, all project activity on or near the discovery site shall cease immediately. The human remains shall be protected from further disturbance, and the Cultural Resources Manager notified immediately.
- If it is determined that human remains encountered during a project are not of Native American origin, then the Emergency Services Directorate will be notified immediately. This office will contact the County Medical Examiner or Coroner for further action.

3.2.3 Air Resources

Affected Environment

The Clean Air Act (CAA), as amended, is the Federal law that regulates the protection of ambient air quality. National Ambient Air Quality Standards (NAAQS) were established by the Environmental Protection Agency (EPA) to control criteria air pollutants. The Arizona Department of Environmental Quality (ADEQ) has adopted the federal NAAQS shown in Table 2 and enforcement is performed through their Air Quality Division.

Table 2: National Ambient Air Quality Standards

| Pollutant | Primary Standards | | Secondary Standards | |
|---|---------------------------------------|---|------------------------|-----------------------|
| | Level | Averaging Time | Level | Averaging Time |
| Carbon Monoxide | 9 ppm (10 mg/m ³) | 8-hour ⁽¹⁾ | None | |
| Lead | 35 ppm (40 mg/m ³) | 1-hour ⁽¹⁾ | Same as Primary | |
| Nitrogen Dioxide | 0.15 µg/m ³ ⁽²⁾ | Rolling 3-Month Average | Same as Primary | |
| | 53 ppb ⁽³⁾ | Annual (Arithmetic Average) | Same as Primary | |
| | 100 ppb | 1 hour (98% of 1-hour daily max concentration, averaged over 3 years) | None | |
| Particulate Matter (PM ₁₀) | 100 ppb | 1-hour ⁽⁴⁾ | None | |
| | 150 µg/m ³ | 24-hour ⁽⁵⁾ | Same as Primary | |
| Particulate Matter (PM _{2.5}) | 12 µg/m ³ | Annual ⁽⁶⁾ (Arithmetic Average) | 15.0 µg/m ³ | |
| | 35 µg/m ³ | 24-hour ⁽⁷⁾ | Same as Primary | |
| Ozone | 0.070 ppm (2008 std) | 8-hour ⁽⁸⁾ | Same as Primary | |
| | 0.08 ppm (1997 std) | 8-hour ⁽⁹⁾ | Same as Primary | |
| | 0.12 ppm | 1-hour ⁽¹⁰⁾ | Same as Primary | |
| Sulfur Dioxide | 0.03 ppm ⁽¹¹⁾ (1971 std) | Annual (Arithmetic Average) | 0.5 ppm | 3-hour ⁽¹⁾ |
| | 0.14 ppm ⁽¹¹⁾ (1971 std) | 24-hour ⁽¹⁾ | | |
| | 75 ppb ⁽¹²⁾ | 1-hour | None | |

(1) Not to be exceeded more than once per year.

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- (2) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- (3) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard
- (4) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).
- (5) Not to be exceeded more than once per year on average over 3 years.
- (6) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 12.0 µg/m³.
- (7) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
- (8) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective December 28, 2015)
- (9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
- (b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
- (c) EPA is in the process of reconsidering these standards (set in March 2008).
- (10) (a) EPA revoked the [1-hour ozone standard](#) in all areas, although some areas have continuing obligations under that standard (“anti-backsliding”).
- (b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.
- (11) The 1971 sulfur dioxide standards remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- (12) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.
-
- Source: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>
-

Nonattainment of NAAQS and Conformity Determination

The ADEQ, in conjunction with the EPA, has defined areas of the State that are and are not in attainment of the NAAQS and portions of Yuma County were designated a Moderate PM₁₀ nonattainment area for the 24-hour standard. The Yuma PM₁₀ Nonattainment Area is located in the southwestern part of Yuma County comprising about 456 square miles or 300,000 acres. The nonattainment area is defined by the following townships (40 CFR § 81.303):

- T7S- R21W, R22W
- T8S-R21W, R22W, R23W, R24W
- T9S-R21W, R22W, R23W, R24W, R25W
- T10S-R21W, R22W, R23W, R24W, R25W

The portions of YPG located in Township 7S and Range 21W fall within the Yuma PM₁₀ Nonattainment Area, as shown Figure 3.

A State Implementation Plan (SIP) revision was submitted in 1991, and a supplement was submitted in 1994 adopting a range of PM₁₀ control measures and demonstrating attainment with the NAAQS. Data indicate that the entire county has moved into attainment with the 24-hour PM₁₀ standard; however, USEPA has not approved the ADEQ Yuma County PM₁₀ Maintenance Plan (ADEQ, 2006) and this area remains classified as nonattainment.

The CAA contains general conformity requirements that currently apply to federal agency related activities, except transportation projects, in the Yuma Moderate PM₁₀ Nonattainment Area (40 CFR 93.150-160). The regulations are intended to ensure federal actions are consistent with state and local air quality planning. Therefore, any construction that takes place within the nonattainment area on YPG must be evaluated for conformity under the CAA section 176 in accordance with 40 CFR 51.

A conformity analysis must clearly demonstrate that federal projects will not: 1) cause or contribute to any new violations of the NAAQS; 2) interfere with provisions in the applicable SIP for compliance

with the NAAQS; or 3) increase the frequency or severity of NAAQS violations. Any federal agency engaging, sponsoring, permitting, or approving an action in the Yuma Nonattainment Area is responsible for making the conformity determination, in consultation with ADEQ. Those federal agencies in the Yuma area that must comply with the general conformity requirements are the BLM, Bureau of Reclamation (Reclamation), Federal Aviation Administration (FAA), Department of Homeland Security, MCAS), and the U.S. Army Yuma Proving Grounds.

Construction and Operating Permits

Regulations for the implementation of construction permitting programs are mandated under Title I of the CAA and regulations for the implementation of operating permit programs are mandated under Title V of the CAA. ADEQ has combined these programs and requires that a facility with emissions obtain a construction/operating permit for all existing stationary sources of air emissions and any future stationary sources of air emissions.

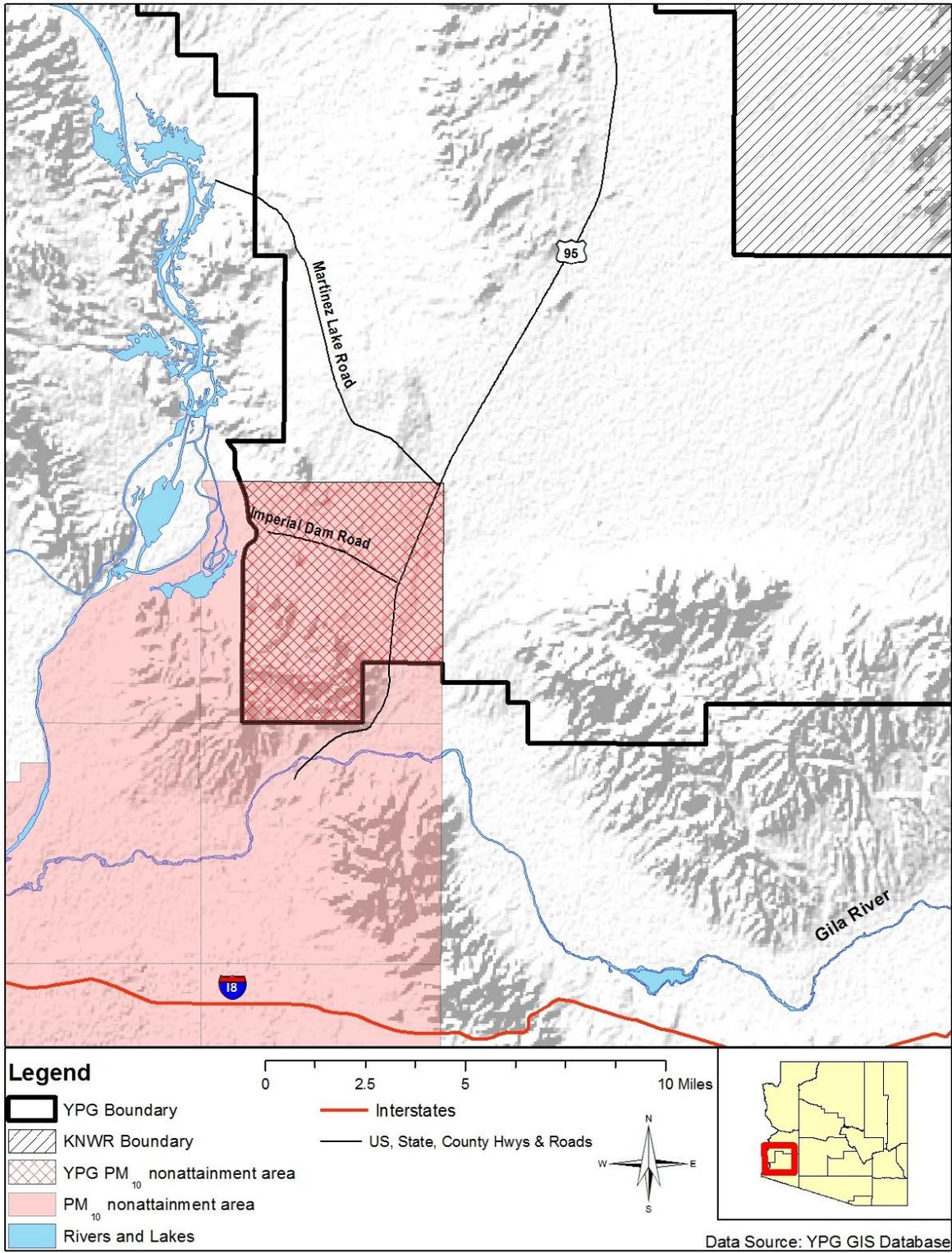


Figure 1: PM_{10} nonattainment area on YPG

YPG is classified as a Class II Synthetic Minor Source pursuant to Arizona Administrative Code (A.A.C.) R18-2-101.64. Under the current Class II permit, YPG is authorized to carry out activities such as:

- operation of Boilers/heaters and generators
- fire training
- surface coating/miscellaneous chemical use
- waste disposal
- welding operations
-
- open burning and detonation
- deflagration testing
- petroleum product storage/transfers
- carpentry/woodworking activities
- abrasive-blasting
- handling of refrigerants
-

Air emissions that are tracked on the installation consist of criteria air pollutants, VOCs, hazardous air pollutants (HAPs), ozone-depleting chemicals (ODCs), and smokes and obscurants. YPG submits an annual air emissions inventory to ADEQ.

Environmental Consequences

No Action

Under the no action alternative, if an updated INRMP is not implemented, new habitat restoration projects are not likely to occur. This would mean that windblown dust could continue to occur in areas where exiting erosion of surface crusts have occurred.

Proposed Action

Negligible impacts to air quality are expected from implementation of natural resource management activities. Some activities would result emissions such as fugitive dust and vehicle and equipment exhaust. Equipment usages associated with INRMP projects are limited to small habitat improvement or monitoring projects with limited footprint and duration. Proposed emissions would be notably below the *de-minimis* thresholds for Yuma and La Paz counties. Pesticide application would result in negligible, temporary impacts to air quality. Overall, impacts would be negligible and would not contribute significant emissions to local or regional air quality.

Integration of natural resource management principals with YPG testing/training, construction and operations would have a benefit to air resources as best management practices can be incorporated into project planning to reduce impacts of all YPG actions.

3.2.4 Hazardous Materials and Wastes

Affected Environment

At YPG, industrial processes, routine maintenance activities, testing, and support activities are the primary operations using hazardous substances and generating wastes. Additional hazardous substances present at YPG are lead and asbestos. Renovation of residences and other buildings is gradually eliminating these materials from buildings on YPG.

Environmental programs at YPG use aggressive management practices to minimize the use of hazardous substances and reduce resultant waste streams. Strict spill-prevention requirements offer additional protection to human health and to the environment. Hazardous substances are stored according to Army regulations and all applicable federal, state, and local ordinances. For further information on hazardous substances and waste management and a listing of hazardous substances stored onsite, refer to the Spill Prevention, Control, and Countermeasures (SPCC) and Integrated Contingency Plan (ICP) (U.S. Army Yuma Proving Ground, 2010)

YPG has a Hazardous Waste Tracking System for all hazardous wastes generated through industrial activities. Hazardous wastes generated at YPG have been managed successfully using the existing 90-Day Hazardous Waste Storage Yard, located in the YTC area. Hazardous wastes and expired hazardous substances accumulate at this location while awaiting disposal. No wastes from outside YPG are accepted at the 90-Day Yard. No treatment is conducted and no wastes are disposed at the 90-Day Yard

Environmental Consequences

No action

YPG does not currently use hazardous or toxic substances extensively as part of the natural resources management program; therefore, adverse impacts would not occur under the no action alternative.

Proposed Action

The use of pesticides/herbicides in and around YPG could affect wildlife and habitat. However, herbicides would be used only in limited quantities to control invasive species and pesticides and would be used in accordance with the YPG Integrated Pest Management Plan and the Army's pesticide reduction goals. Pesticide use by Military housing contractors is not regulated by these policies.

Vehicles and/or other equipment used during surveys, mapping, construction of wildlife waters, or other activities may potentially release (or spill) fuels, hydraulic fluids, and lubricants. However, spills or releases would be small and localized. Best Management Practices (BMPs) listed in the Spill Prevention, Control, and Countermeasures Plan (SPCCP) and Installation Spill Contingency Plan (ISCP) and the YPG Integrated Pest Management Plan would be implemented to minimize the potential for accidents to occur. Accidental spills would result in a less than significant impact to public health and the environment; therefore, the proposed action would not result in significant impacts.

3.2.5 Health and Safety

Affected Environment

The standards applicable to the evaluation of health and safety effects differ for workers and the public. The Occupational Safety and Health Administration (OSHA) is responsible for protecting worker health and safety in nonmilitary workplaces. Regulations that specify and implement safety procedures for Army operations and activities at YPG and are applicable to the proposed action are:

- YPG Standing Operating Procedure for Range Operations YPY-RO-P-1000(April, 2016) prescribes general range control procedures, instructions, and information necessary for safe conduct of all types of test operations, demonstrations, training, and ground and airspace utilization at YPG

- YPG Regulation 385-1 (June 2014) provides specific guidance for all safety programs at YPG and applies to all personnel working and living at YPG to include military, civilian, contractor, tenant personnel, and dependents
- AR 385-63 (January 2012) prescribes Army-wide range safety policies and responsibilities for firing ammunition, lasers, guided missiles, and rockets and provides guidance for the application of risk management in range operations

CERCLA/RCRA

A number of sites regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and its extension, the Superfund Amendments and Reauthorization Act, and the Resource Conservation and Recovery Act (RCRA) occur on YPG.

Although YPG has conducted Phase I, II, and III site investigations for portions of the installation, a few of the CERCLA and RCRA sites have not been fully investigated and characterized. In areas where Phase I, II, or III investigations have not been conducted, site-specific determinations will be made by the YPG ESD to specify any requirements and limitations.

All biological surveys or other natural resource related projects will be coordinated through the YPG ESD and the Garrison Safety Office to determine if the activities will occur on an identified CERCLA or RCRA site, which would identify potential risks to workers and outline restrictions to minimize risks to health and safety. A checklist outlining site restrictions will be prepared for any proposed activities within CERCLA or RCRA sites.

A number of UXO sites are present on the installation. All natural resources management activities will also be coordinated through the YPG Range Safety and Operations offices to determine if the sites are located in areas of known or potential UXO contamination and the level of escort required from explosives ordnance disposal prior to initiating any natural resources management activities associated with the INRMP.

All personnel performing natural resources work are required to participate in a range safety briefing, and this along with the standard practices set forth for CERCLA or RCRA sites will minimize risks to the health and safety of those working on natural resources projects.

Wildland Fire

Wildfires on YPG are generally too infrequent and limited in extent to pose a significant threat to safety sensitive ecosystems, cultural sites, and testing/training lands of USAG YPG. The vast majority of USAG YPG is unburnable except under extreme vegetation growth conditions. However, following unusual periods of excessive rainfall, such as occurred in 2005, very large and destructive wildfires are possible due to the prodigious vegetation that can be produced following such precipitation events. If and when fires of this magnitude do occur, they can be a hindrance to operations (YPG 2016).

YPG does not implement any prescribed burning or fuel breaks on the installation because there are generally not enough fuels to spread fires. YPG does maintain mutual aid agreements with other fire agencies in the region.

As described in the INRMP, YPG uses a comprehensive approach to avoiding unwanted wildfires and managing them when they occur to reduce associated costs and damages. This comprehensive approach is described in the 2017 Integrated Wildland Fire Management Plan. Due to the apparent low risk of wildland fires and the lack of prescribed burning, YPG plans to submit a waiver for having an IWFMP in the future, in accordance with the 2021 Army Installation Wildland Fire Program Implementation Guidance.

Pest Management

Some Wildlife can pose a safety risk to YPG equipment, infrastructure and personnel. The Natural Resources program at YPG evaluates these risks and works with proponents and tenants to manage risks in balance with the needs for conservation. Wildlife damage control is addressed through our Integrated Pest Management Plan (INRMP Appendix B).

Wildlife Aircraft Strike Hazard

Wildlife Aircraft Strike Hazards (WASH) are managed in accordance with IMCOM Pamphlet 385-90-1. The YPG Wildlife Aircraft Strike Hazard Management Plan (Appendix B) provides guidance to minimize the risk to aircraft from bird or other animal strikes.

Environmental Consequences

No Action

Adverse impacts to health and safety could occur if an updated INRMP is not implemented because natural resources management activities proposed by YPG or partner agencies would not be coordinated effectively and could result in information essential to securing the safety of workers and the public not being exchanged. In example, it is essential that wild horse and burro round up projects be coordinated early with YPG range control and safety office to determine the potential to encounter UXO during activities and thereby ensuring the safety of personnel involved in the round up.

Proposed Action

Health and safety impacts are expected to be beneficial. Law enforcement patrols would increase the safety of the public by limiting access to unexploded ordnance, live-fire testing/training, etc. Wildlife aircraft strike hazard management, wildland fire management, and nuisance animal control would contribute to safety benefits. All personnel associated with the implementation of the Proposed Action would be required to comply with applicable health and safety regulations. In areas where UXO may be encountered, site-specific determinations will be made by the YPG ESD to determine requirements or mitigation measures necessary to avoid or minimize to the potential for adverse effects on the health and safety of YPG personnel or the public.

The INRMP outlines resources required to address wildland fire on YPG as well as procedures and risk for wildfire in this ecosystem. This plan allows better monitoring and control of wildland fire on YPG and provides a beneficial effect to the fire management program.

Conservation Measures

The following are examples of best management practices implemented on YPG:

- All natural resources management activities will be coordinated through the YPG Range Safety and Operations offices to determine if the sites are located in areas of known or potential UXO contamination and the level of escort required from explosives ordnance

disposal prior to initiating any natural resources management activities associated with the INRMP

- Explosive ordinance disposal (EOD) escort will be used in areas with high potential to encounter UXO
- All personnel performing natural resources work are required to participate in a range safety briefing, and this along with the standard practices set forth for CERCLA or RCRA sites will minimize risks to the health and safety of survey crews

Overall, implementation of the INRMP would result in less than significant effects on health and safety.

3.2.6 Land Use and Recreation

Affected Environment

The Yuma area's diverse ecological surroundings and proximity to Mexico and California offer numerous recreational activities. Citizens and visitors are afforded year-round availability of venues for all their outdoor recreational needs. YPG is surrounded by public lands administered by Bureau of Land Management as well as three National Wildlife Refuges. MCAS-Yuma hosts a recreational facility at Martinez Lake for the local military and their families, including YPG personnel. Picacho State Recreation Area along the Colorado River provides opportunity for various activities – fishing, boating, hiking, camping, swimming, birding, and sightseeing. Imperial Sand Dunes Recreation Area is a 40-mile-long dune system with picturesque scenery and areas for ORVs.

Recreational use on YPG is regulated to the extent necessary to safeguard public health and safety, to provide for national security and the military mission of YPG, and to preserve environmental quality and other natural and cultural resource values.

Public access is permitted for hunting within specific hunting areas on YPG. These areas have been reviewed by YPG safety and range personnel to ensure safety, security, and compatibility with the YPG mission. All hunters accessing YPG must be permitted in accordance with the YPG hunting regulation as referenced in the INRMP.

Other recreational activities, such as organized group events, may be authorized by the Senior Commander pending appropriate coordination with ESD, mission stakeholders, and range operations. Anyone entering the installation to participate in such events must adhere to range access procedures as determined by DoD.

Environmental Consequences

No Action

If the INRMP is not revised, then management of recreation and public access would remain as it currently stands and would have no significant effect.

Proposed Action

The INRMP revision continues the longstanding practice of hunting on the installation. Due to YPG's unique test mission, military activity is dynamic as range uses change frequently. As such YPG range control must manage people's whereabouts on the range. To date, YPG has been able to accommodate

the public demand for hunting access without burdening the mission as we only issue about 200 permits per year.

Implementing a revised INRMP would be beneficial for land use and recreation as the plan provides additional support and guidelines to aid Conservation Law Enforcement and interdepartmental coordination to support recreational demand. Since the revised INRMP would alter current land use and recreation, implementation of the proposed action would not result in significant impacts to land use and recreation.

3.2.7 Soil Resources

Affected Environment

The predominant soils in deserts belong to the Aridisol Soil Order. Aridisols are soils defined primarily by the lack of plants-indicating the available soil moisture for most of the growing season (Natural Resource Conservation Service 1999). Over time, these dry conditions give rise to characteristic accumulations of soluble salts, carbonates, and clay, but organic matter deposition is minimal or lacking. As these soils mature, cemented soil layers of the salts and carbonate, commonly known as caliches and hardpans, may form. In addition, such soils generally develop some sort of surface mantle such as desert pavement as they age (King et al. 2004). Younger soils present in deserts, primarily dry Entisols, can be common in areas subject to wind and runoff. These soils are not in place long enough for pedogenic (soil forming) processes to develop distinctive horizons (Natural Resource Conservation Service 1999). Biological crusts bind particles under desert pavement and in most undisturbed soils without desert pavement.

The surface soils of YPG were surveyed, mapped, and described by the Natural Resources Conservation Service (formerly the Soil Conservation Service) in 1991 and have been classified by the U.S. Department of Agriculture as aridic and hyperthermic with lithic and typic torriorthents on the hills and mountains. The survey combines one or more soil types into mapping units at a management level scale of 1:24000. At that scale, it is impractical to separate closely aligned soil types such as the Carrizo family soil found in active wash channels and the Riverbend family soil found in the adjacent banks, and benches within the wash floodplain and is instead displayed as Map Unit 1 (see Figure 10 of the INRMP).

Table 6 contains a summary of Map Unit Numbers, soil families included in the mapping unit, and landforms most commonly associated with those soils.

Environmental Consequences

No Action

New habitat restoration activities, such as re-vegetation of currently disturbed soil would not occur under the no action alternative; therefore, soil erosion could occur at a greater pace in some areas.

Proposed Action

Less than significant beneficial impacts to soils are expected from implementation of the INRMP. Integration of natural resource management to YPG actions ensure that appropriate best management

practices are implemented for all military testing/training and construction action. Soil-disturbing activities from operations related to habitat restoration projects have potential for erosion from wind or storm events in the project areas but are limited to very small project areas. Restoration of native vegetation, and erosion controls such as slope protection and mulching would have beneficial impacts. Vehicles and equipment used in restoration, survey, or monitoring activities may release pollutants that could contaminate soils, such as oils or other fluids. To avoid or minimize potential impacts personnel will use the following BMPs and equipment used will be maintained in good working condition.

Best Management Practices:

- Use existing access roads to access projects areas the extent practicable
- Preserve native vegetation to the maximum extent practicable and re-vegetate disturbed areas, when possible
- Use standard erosion controls, such as mulching, slope protection, and temporary silt fencing

CHAPTER 4 CONSULTATION AND COORDINATION

YPG coordinated with technical experts and natural resource managers with AZGFD, USFWS, BLM, Air Force, and Marine Corps in preparation of this EA and associated INRMP. YPG sought input from the Tribes through government to government consultation. We also provided the INRMP, EA/Draft FONSI for public review and comment for a 30 day review period. All documents were made available on the YPG Environmental public website.

Persons, Groups, or Agencies Consulted

| AGENCY/GROUP | PERSON(S) CONTACTED |
|---|---------------------|
| Arizona Game and Fish Department Region IV | Tyler Williford |
| Arizona Game and Fish Department Contracts Branch | Michael Ingraldi |
| Kofa National Wildlife Refuge | Chris Lohrengel |
| Imperial National Wildlife Refuge | Elaine Johnson |
| Cibola National Wildlife Refuge | Elaine Johnson |
| Cabeza Prieta National Wildlife Refuge | Sid Slone |
| USFWS Ecological Services | Erin Fernandez |
| USFWS Military Liaison | Allison Arnold |
| Bureau of Land Management | Aron King |
| Marine Corps Air Station Yuma | Randy English |
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REFERENCES

See INRMP 2023 Revision.