INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

2018-2023

Anniston Army Depot
Anniston, Alabama 36201

Revision coordinated through ANAD stakeholders

Concurrence provided by:

U. S. Fish and Wildlife Service - Southeast Region
Alabama Ecological Services Field Office
Daphne, Alabama
&
Alabama Department of Conservation
And Natural Resources

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SUMMARY of CHANGE

Anniston Army Depot
Integrated Natural Resources Plan

Major revisions----

This document supersedes the ANAD INRMP 2013-2018. Changes to this document since last revision & review are listed below:

- Changed the title page.
- Added a new point of contact for review and approval from the United States Fish and Wildlife Services on signature page.
- Added a new point of contact for review and approval from the ANAD Directorate of Emergency Services on signature page.
- Changes the font, formatting and number sequence of the entire document.
- The updated table of contents to correspond with recent updates.
- Added section 1.5, Plan Implementation and Review.
- Added previous and current Endangered Species surveys and the 5-YEAR review of the TYG (2013) in Appendix A.
- Added the NEPA review process documentation using ANAD's Environmental Work Request form in Appendix B.
- Added the Natural Resource Projects and Tasks chart in Appendix E.
- Added appointment letters and correspondence section between DRK, Command Staff, USFWS and any outside interested parties in regards to reviews, modifications, and implementation of the INRMP in Appendix F.
- Incorporates a listing of regulations and guidance documents for implementation of the INRMP in Appendix G
- Addition of 2019 TYG annual survey.
- Added Endangered Species Management Plans (App. A-2 through A-6) for various species of T&E and petitioned bats on ANAD.
- Added Alabama Department of Conservation and Natural Resources point of contact for review and concurrence on signature page.

- Added draft (unsigned) copy of FY20 Annual Report on Threatened and Endangered Species
- Added Alabama Department of Conservation and Natural Resources point of contact for review and concurrence on signature page.
- Updated appendix A-6 with chart from Alabama Department of Conservation and Natural Resources listing Federal and State protected species within Calhoun County.
- Updated Stream Management Zone information in section 2.4.3
- Updated Forest Inventory data in section 3.2.2.1 to reflect FY 20 survey completed in March 2020
- Updates to section 3.3.4.2 to reflect condition for prescribed burns vs. dates.
- Updates to section 3.7.1.3 to reflect condition for prescribed burns vs. dates.
- Updates to section 4.4.2.1 to update impacts from deer hunting program

DOCUMENT HISTORY LOG

Record of annual review(s) and proposed revisions to the ANAD Integrated Natural Resources Management Plan that occur between the 5-year reviews and updates.
(Transfer major revisions to the Summary of Change during the 5 year review process)

Revision Number	Date	Section	Summary of Change	Signature
1	16 April 2016	I.F Pg. 3	Removed Defense Distribution Depot, program manager, and replaced with Defense Logistics Agency, Assembled Chemical Weapons Alternatives	Shannon Taylor
2	16 April 2016	II.E Pg. 7	Updated Cemetery Status	Shannon Taylor
3	16 April 2016	III.B.5 (b) Pg. 15	Added Bat Habitat	Shannon Taylor
4	5 October 2017	App A-2	Conducted annual inspection of both sites & report added to binder.	Kevin Guy
5	30 November 2017	App A-2	Conducted annual review of document.	Kevin Guy
6	11 January 2018	All	Started process for 5yr. review/update. Sent a list of questions/ possible updates required to ANAD Stakeholders. (Fire Dept., Forrester, Water Program Mgr. & Div. Chief – Env. Compliance & Restoration)	Kevin Guy
7	20 July 2018	App. A-3	Document added: 5-YEAR review of the TYG (2013)	Kevin Guy
8	1 August 2018	App A-2	2018 Annual Report of Endangered Species sent out for review and signature	Kevin Guy
9	1 August 2018	All	Draft (ver.1) INRMP 2018 sent out for review and comments (USFWS) Electronic and Hard copies sent.	Kevin Guy
10	17 August 2018	All	Change font formatting and number sequence of entire document. Updated table of contents to correspond with recent updates.	Kevin Guy
11	17 August 2018	Sec. 1.5	Added / inserted a new section (Plan Implementation and Review)	Kevin Guy
12	17 August 2018	App E	Added Chart " Natural Resource Projects and Tasks", in App C	Kevin Guy
13	17 August 2018	App F	Added a section for INRMP correspondence between DRK, Command Staff, USFWS and any outside interested parties.	Kevin Guy
14	19 September 2018	App G	Added listing of regulation and guidance documents for implementation of the INRMP.	Kevin Guy
15	25 September 2018	All	Draft (ver.1) INRMP 2018 sent out for review and comments (ADCNR) Electronic copies sent.	Kevin Guy

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16	2 October 2018	All	Created a Summary of Change form to track all major revisions during the 5-year review process. Form is located at the beginning of the INRMP before the signature page.	Kevin Guy
17	4 October 2018	Title page	Updated title page to include dates of INRMP, ANAD logo, and a stakeholder and USFWS coordination statement.	Kevin Guy
18	5 October 2018	All	Draft (ver.2) INRMP 2018 sent out for review and comments (USFWS). Hard copy sent with copies of the IWFMP (2018) & PLS for Bats (2018). Documents sent with a formal review letter. Awaiting USFWS signature before the plan goes to the commander for approval.	Kevin Guy
20	7 October 2019	All	Annual review and continuation of 5 yr. review/update: Formatting changes to entire document.	Kevin Guy
21	7 October 2019	App. A	Annual review and continuation of 5 yr. review/update: Ongoing updates to App. A Endangered Species Management Plans for various species of T&E bats on ANAD.	Kevin Guy
22	7 Oct 2019	App. B	Addition of 2019 TYG annual survey.	Kevin Guy
23	23 Jan 2020	App. A	Completed updates to app. A-2-A-4.	Kevin Guy
24	6 Mar 2020	App. A	Added app. A-5 for Tri-Colored Bats	Kevin Guy
25	13 Mar 2020	App. A	Added app. A-6 for T&E Species Listing & Locations	Kevin Guy
26	13 Mar 2020	Signature page	Added POC for Alabama Department of Conservation and Natural Resources	Kevin Guy
27	13 Mar 2020	App. B	Added “Draft” copy of FY20 Annual Report of T&E Species	Kevin Guy
28	13 Mar 2020	Cover page	Updated Cover page to include Alabama Department of Conservation And Natural Resources	Kevin Guy
29	16 Mar 2020	All	Sent 2020 Draft of INRMP out for concurrence from USFWS & ADCNR	Kevin Guy
30	6 Apr 2020	Signature page	Received signed page (concurrence) from USFWS	Kevin Guy
31	16 April 2020	ALL	Received comments from ADCNR	Kevin Guy
32	17 April 2020	App. A-6	Update with chart from ADNCR: include state protected species	Kevin Guy
33	20 April 2020	Sec 3.2.1.2	Updated wording	Kevin Guy

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(Transfer major revisions to the Summary of Change during the 5 year review process)

Revision Number	Date	Section	Summary of Change	Signature
33	20 April 2020	Sec 3.2.1.2	Updated wording	Kevin Guy
34	20 April 2020	Sec 3.2.2.1	Updated forest inv. Info to reflect FY 20 survey completed March 2020.	Kevin Guy
35	20 April 2020	Sec 3.3.4.2	Updates prescribed burning timeframe with conditions to burn.	Kevin Guy
36	20 April 2020	Sec 3.7.1.3	Updates prescribed burning timeframe with conditions to burn.	Kevin Guy
37	20 April 2020	Sec. 4.4.2.1	Updates to hunting impacts on deer herds.	Kevin Guy
38	20 April 2020	TOC	Updated TOC to reflect recent changes.	Kevin Guy
39	20 April 2020	ALL	Provided a reply to ADCNR's comments / INRMP review.	Kevin Guy
40	30 April 2020	Sec 4.5.9	Removed Figure 4.10	Kevin Guy
41	21 May 2020	All	Received signed INRMP from Col. Walker's office.	Kevin Guy
42	26 May 2020	All	Compiled Final version files for document printing and distribution to external agencies	Kevin Guy
43	26 May 2020	All	Final version of INRMP sent to USFWS and ADCNR via email (DoD SAFE)	Kevin Guy
44	26 May 2020	All	Final version of INRMP published on ANAD intranet page	Kevin Guy
45	17 Sep 2020	All	Submitted funding in INCOM AWP for contracted updates to INRMP in FY25	Kevin Guy
46	17 Sep 2020	All	Submitted funding in INCOM AWP for PLSs (FY21-Flora, Fauna, and T&E) (FY22- Migratory Bird Mgmt. Plan)	Kevin Guy
48	18 Sep 2020	App B.	Addition of 2020 TYG annual survey.	Kevin Guy
49	18 Sep 2020	App. G	Addition of Army Climate Resilience Handbook, Aug. 2020 to Implementation Regs. & Guidance Document listing (No hard copy)	Kevin Guy
50	7 October 2020	App. H	Added appendix H, ANAD Deer Hunting SOP (INACTIVE).	Kevin Guy
51	7 October 2020	All	Updates published to ANAD Intranet	Kevin Guy

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INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN (INRMP)
FOR
ANNISTON ARMY DEPOT

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App. A-4 – Endangered Species Management Plan for Northern Long-Eared Bats
App. A-5 – Endangered Species Management Plan for Tri-Colored Bats
App. A-6 – Threatened and Endangered Species Listing & Locations

Appendix B – Annual Surveys, Reports, and NEPA Review

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App. C-1 – Tennessee Yellow-Eyed Grass 5-Year Review: (USFWS- March 14)
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1.0 GENERAL.

1.1 Purpose: The purpose of the Integrated Natural Resource Management Plan (INRMP) is to provide guidelines for managing the natural resources in support of the military mission while meeting all applicable laws and regulations. Incorporated in the plan for Anniston Army Depot (ANAD) is a balanced approach to land-use management of natural resources, which recognizes the needs of the military. Natural resources include forest and fire management, fish and wildlife management, threatened and endangered species management, outdoor recreation and soil and water conservation. This multiple-use approach to resource management means the effects on each resource will be considered when making resource decisions. The forest ecosystem will be managed to provide sustainability and health into perpetuity. Uses will be well coordinated and adjusted to meet installation requirements. The INRMP includes a five-year plan that will be updated annually, by pen and ink corrections and submission of new information. The Sikes Improvements Act of 1997 requires an INRMP for each Department of Defense (DOD) Installation. It also requires several planning level surveys to be performed and a five-year review of the INRMP.

1.2 Description: ANAD is located on the northwest side of the Talladega Mountains and into the Ridge and Valley Province in the eastern portion of north central Alabama. The Depot consists of 15,319.60 acres and is located 10 miles west of Anniston, 50 miles east of Birmingham, and about four miles north of Interstate-20.

1.2.1. Topography - The eastern portion of the installation is gently rolling, but changes to hills and steep slopes to the west and northwest. Elevation ranges from 600 feet to 1000 feet.

1.2.2. Soils - The soils are mostly well drained to moderately well drained, cherty and stony on ridge tops and steep slopes, and local alluvium on toe slopes, foot of ridges and in draws or hollows (Clarksville-Fullerton).

There is a lesser amount of deep, well-drained soil on rolling terrain underlain by limestone and shale (Anniston-Allen-Decatur-Cumberland). According to the local Federal Natural Resource Conservation Office, approximately 75-80 percent of our area has a high potential for soil erosion. The 2003 soil survey for ANAD, and copies of old U.S. Soil Conservation Surveys for Calhoun and Talladega Counties, are available from the Directorate of Risk Management.

1.2.3 Climate - The average annual rainfall is about 50 inches. The rain is generally distributed so that most rainfall occurs in fall, winter and spring. The extreme temperature range is from -10 degrees F. (February 1897) to 105 degrees F. (July 1980). The first killing frost occurs around November 1, with frosts continuing until about the first of April. The average frost-free growing period is 218 days.

1.3. Natural Resource Management Structure: The primary mission of ANAD is national defense; however, development and stewardship of natural resources are

recognized as top priorities in environmental quality and sustainability. This stewardship is also highly important to the nation's security and welfare. The overall responsibility for the management of ANAD's natural resources is with the Directorate of Risk Management (DRK).

The Chief, Environmental Management and Restoration Division within DRK provides oversight of the management of the Depot's natural resources through implementation of the INRMP. An Installation Natural Resources Coordinator has been delegated in writing by the Commander and is assigned to DRK. The Installation forester is assigned to the Directorate of Public Works.

1.4 Plan Structure: The plan is subdivided into four functional areas. These areas are land management, forest management, fish and wildlife management, and outdoor recreation. Each functional area is discussed in terms of purpose and objectives, resource description, and management standards and guidelines. Appendices are used for additional information.

1.5 Implementation and Plan Review: As at other military installations (USFWS 2006), legal authority for DOD conservation actions at ANAD are provided under a ruling approved September 15, 1960, and commonly referred to as the "Sikes Act." The stated purpose of the act is "to promote effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations." All conservation actions and measures, Standards and Guidelines (S&Gs), BMPs, projects, and tasks, outlined in this INRMP are implemented pursuant to this overarching requirement.

INRMP's must demonstrate the mutual agreement of the U.S. Fish and Wildlife Service (USFWS) and the appropriate State fish and wildlife agency concerning conservation, protection and management of fish and wildlife resources. In Alabama, this agency is the Alabama Department of Conservation and Natural Resources (ADCNR).

NEPA requires Federal agencies to prepare a statement of environmental impact in advance of each major action that may significantly affect the quality of the human environment. The Council on Environmental Quality (CEQ), which was created with the inception of NEPA, provides regulations to implement the procedural provisions of NEPA.

AR 200-1 provides a brief outline of environmental laws and requirements; sets guidelines to complement Federal, State, and local environmental laws and regulations; and incorporates pollution prevention, natural and cultural resources protection, and the NEPA requirements into the Army Environmental Program (AR 200-1).

AR 200-1 also sets forth policy, procedures, and responsibilities for the preservation and management of natural resources consistent with military operations. Concerning program requirements for integrated natural resources management, AR 200-1 states, "Develop and implement an integrated natural resources management plan in accordance with 16 USC 670a in cooperation with the USFWS and the State fish and

wildlife agency unless significant natural resources are absent." AR 200-1 also provides for the implementation of INRMPs by requiring that "sufficient numbers of professionally trained natural resources management personnel are available to perform the tasks required by the INRMP" (AR 200-1).

32 CFR Part 651 sets forth policy, responsibilities, and procedures for integrating environmental considerations into Army planning and decision-making and implementing NEPA. 32 CFR Part 651 states: "Environmental analyses and documentation required by this regulation will be integrated as much as practical with other environmental reviews, laws, and executive orders (40 CFR 1502.25) and…installation management plans, particularly those that deal directly with the environment. These include the Natural Resource Management Plans (Fish and Wildlife Management Plan, Forest Management Plan, and Range Improvement or Maintenance Plan)" (32 CFR Part 651).

Additional laws and regulations pertaining to natural resources management are referenced throughout the document.

Command support is essential to implementing this plan. ANAD's Commander, as well as the installation's senior leadership should ensure that this plan is properly implemented to the degree that it further enhances ecosystem management, protects, and enhances ecosystem components. This shall occur in harmony with fulfilling ANAD's mission, providing the American War-fighters the best equipment and weapon systems available. Furthermore, management of natural resources on the installation will be done while considering the ecosystems that extend beyond ANAD's boundaries and in cooperation with the USFWS and the Alabama Department of Environmental Management. The ANAD Command is dedicated to preserving and improving natural resources while meeting military mission goals and recognizes that this INRMP is a means to that end.

All stakeholders, especially the Sikes Act cooperators and mission personnel, should evaluate the INRMP, being a programmatic document, periodically. Whenever significant changes in Army, USFWS, or State policies or regulations might affect the goals and objectives or standards and guidelines herein, a more formal re-evaluation may be necessary. To the extent that projects, tasks, best management practices are being implemented and applied routinely and effectively in the balanced sustainment of the military and stewardship missions, then informal reviews, typically annually, are sufficient.

1.6 Plan Goals: Within the framework of our military mission, goals for natural resource management are:

1.6.1. Manage natural resources to support the military mission.

1.6.2. Preserve important historic, cultural, and archaeological features found on the depot.

1.6.3 Protect and, where possible, enhance soil productivity by minimizing soil erosion and stabilizing and rehabilitating areas exposed to erosion.

1.6.4. Provide diversity of plants and animals and place renewed emphasis on ecosystem management. Maintain viable populations of native plants and animals.

1.6.5. Manage wildlife habitat and population numbers in order to maintain good animal health.

1.6.6. Manage forests through vegetation manipulations to maintain health, good growing conditions, sequestering of carbon dioxide, and biodiversity.

1.6.7. Implement integrated pest management practices that will reduce the chance of unacceptable resource losses from insect and disease. (refer to Installation Pest Management Plan.)

1.6.8. Maintain close working relationship with The Natural Resources Conservation Service, Alabama Forestry Commission, Alabama Department of Conservation and Natural Resources, Auburn University, U. S. Fish and Wildlife Service (USFWS), U. S. Forest Service (USFS), and other federal, state, and local government resource conservation agencies.

1.6.9. Protect threatened and endangered species and their habitat.

1.7. History: The early settlers in Calhoun and Talladega counties probably found much of the land covered with trees. The stream bottoms and surrounding bottom lands were covered with large hardwood trees. The ridge tops and south facing slopes were mostly stocked with pines. Areas between the bottoms and ridgetops were mixed forests of pines and hardwoods. As settlements grew, the rich and level bottomlands were cleared and used for growing crops, building roads, towns, and other agricultural and industrial purposes.

The land remained in this type condition with the lower elevations being used for farming and growing cattle, and the upper elevations being used for growing wildlife and timber. When the installation was purchased by fee simple in 1941, fire burned much of the woodland annually and the timber had been mostly cut over. The installation was established, and is used, for ammunition storage, equipment storage, small arms repair and storage, tank repair and refurbishment, and as a supply depot. Initial natural resource management was directed towards fire prevention, suppression and protection, reforestation, and wildlife enhancement through stocking, water hole construction, and establishment of Wildlife openings. Cattle grazing under out-lease permits began in 1948 and ended in 1989. The first professional forester was hired in late 1966. Since that time, there has been increased intensity of forest management. Continued improvements have been made in the wildlife and fish programs through the coordinated efforts with biologists from state conservation and fish agencies. Timber sales increased and timber was managed under an all-aged scheme of management until 1987.

Currently, ANAD is known as the “DOD Center of Excellence for Ground Combat Vehicles” and ranks among the largest U.S. ammunition storage facilities. ANAD is designated as the Center of Industrial and Technical Excellence (CITE) for combat vehicles (wheeled and tracked)(except Bradley) including assault bridging, artillery and small caliber weapons. Systems include the M1 Abrams Tank and maintenance on heavy, medium, and light-tracked and wheeled combat vehicles. A large industrial area, known as the “Nichols Industrial Complex,” is located in the southeastern portion of the Depot and supports the vehicle rebuild activity. The Depot has assumed responsibility for the towed and self-propelled artillery maintenance and repair. Under partnership agreements, a wide range of vehicle conversions and upgrades are now underway. Major tenant organizations include Defense Distribution Depot Anniston, Program Manager for Chemical Demilitarization, and Anniston Munitions Center (ANMC). We also have several partnership agreements with defense industrial contractors who operate within the depot.

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2.0. LAND MANAGEMENT.

2.1 Purpose and Objective: The real property (land) of ANAD will be managed and maintained by applying sound conservation practices, which will protect and develop this resource.

2.2 Classification and Description: All land and water acreage for which the installation commander is responsible is divided into two categories:

2.2.1. Improved Grounds - Land in this category will receive intensive maintenance annually. Activities may include fertilization, watering, mowing, pruning, trimming, landscaping, and other intensive management practices IAW this plan. Also included in this category are lands that will receive periodic and recurring maintenance. Normal activities will include bush-hogging, use of herbicides, and drainage maintenance. Vegetation on earth covered ammunition storage igloos, road shoulders, clear zones, and fences in the restricted area will be maintained by treating with herbicides and mowing.

Road shoulders, powerlines, gas lines, and igloo yards will be mowed about twice a year, once in the summer and once in the fall of the year, after a killing frost. Occasionally, hard to control plants will require use of additional herbicides on small areas. Fence lines, railroad rights-of-way (R-O-W) and tracks will receive an annual treatment.

Mowing will be done as needed to keep the grasses less than eight inches high. The fence line area will be treated twice annually for grass and weed removal for six inches on each side of the fence. Herbicides approved for use are listed in the Integrated Pest Management Plan for ANAD.

2.2.2. Unimproved Grounds – This category includes land not classified as improved, and also includes forest land. Activities are generally non-periodic and include but are not limited to such as insect epidemics control, forest fire suppression, timber sales, wildlife population control, and soil erosion control.

2.2.3. Installation Acreage –

Table 2.1

Improved Grounds		3,793.00
Unimproved Grounds		11,488.88
TOTAL		15,319.60

Total includes the Prisoner of War (POW) and military cemetery transferred from Ft. McClellan to ANAD.

2.3 Landscape Management: The following guidance will be followed in planning landscapes and plantings. Maximum use will be made of ground covers and shrubs/trees that require limited maintenance and pruning. Plants chosen for landscaping will be acclimated to this agricultural Zone (7B). Other items that must be considered when selecting plants for landscaping include size, shape, water needs, pruning, nutrient

requirements, life span, habitat, and size/shape of plant at maturity. Native species are preferred and no invasive species will be used. All landscape planning will be done IAW this plan.

Trees, shrubs, ground covers, and turf comprise the elements in planting compositions. Use of limited number of plants is encouraged to assist in the establishment of a common depot image. Because of the scale of most spaces on the depot, mass planting of a few species is more appropriate than mixed species planting.

Consistent application of high quality planting material will accomplish more than extensive and unplanned application of low quality plant material. This may seem obvious, yet the appeal of planting ten small trees is often more compelling than the opportunity to plant three very good, medium size trees. Plants capable of thriving with low maintenance under actual site conditions and that are able to produce the desired effects should be chosen. Species of plants currently found thriving at ANAD are likely to be successful in future planting designs.

2.3.1. Types of Plants Used in Landscaping: The following discusses various types of plants and the different uses of plants at ANAD:

2.3.1.1 Trees and Shrubs: To assure maximum effectiveness with the lowest maintenance, emphasis should be placed on the use of trees instead of the extensive use of shrubs. Properly selected trees will ultimately be less expensive to maintain than shrubs and they are more effective for environmental concerns. Clean, simple, but effective planting designs can be achieved with trees and lawns, and the judicious use of shrubs. Deciduous trees offer a wide variety of effects because of seasonal changes, flowers, berries, fruit, and color and texture of bark. Evergreen trees are advantageous because they provide green color and contrasting background when deciduous plants are leafless.

2.3.1.2 Ground Cover: Low growing ground covers have a variety of functions in the landscape. They are most effectively used in areas that are inaccessible or difficult for mowing equipment to reach. Typical planting applications include steep slopes and parking lot islands. Ground covers are also appropriate in pedestrian spaces such as at building entrances and courtyards. Plant selection charts have been specifically developed for the Alabama landscape. These charts are available from the Alabama Cooperative Extension Service. Consideration has been given to plant availability, maintenance requirements and compatibility with the surrounding environment.

2.3.2 Typical Uses: Landscaping will preserve and enhance the image of buildings, streets, open areas, and dumpsters, thus improving the overall image of the installation. Plantings will emphasize positive visual elements, such as framing scenic views, and minimize negative conditions by screening unsightly features. Other uses include planting open areas (to reduce mowing), entrances, walkways, parking lots, and around buildings to improve aesthetics. Plantings will also enhance energy conservation by shading buildings in the summer and providing wind break in winter.

2.3.3. Program Implementation:

2.3.3.1 A landscape plan must be approved for an area, or building, before planting begins. Concurrence/approval signatures are required from the Installation forester and Chief, Roads and Grounds Division. The plan must state the planting objective, types of plants, and a drawing showing plants and spacing. The procedure is outlined in the ANAD Installation Design Guide.

2.3.3.2 An approved plan can be performed either through the self-help program, contract, or DPW in-house personnel (Roads and Grounds Division). Small projects can be accomplished through self-help. Large projects will either be performed in-house by DPW Roads and Grounds Division, Job Order contracting, or Facility Engineering Project (FEP) Contracting. The Planning and Resources Office, in the Directorate of Public Works, will decide whether to do large projects in-house or by contract. The approved plan will be used as a basis for ordering and planting trees, shrubs, and ground covers through the self-help program and planting by the users.

2.3.4. Conclusions: Planning and design are two of the most important elements in landscaping. Plants must be compatible with the environment in which they will be grown. The temperature, rain, soil, sun exposure, and fertility are extremely important factors to consider when selecting plants. Plants must be chosen which will require little pruning, and have resistance to insects, disease, and drought and are non-invasive.
Proper spacing of trees and other plants is important so they won't need to be cut and pruned when they reach maturity. The landscape plan will be kept in the Forestry Office files. Maps will be updated and kept current.

2.4 Management Standards and Guidelines:

2.4.1 The grass, ground cover plants, shrubs, and trees will be maintained in such a way as to provide a pleasant appearance. Additional plantings will be designed to improve aesthetics, reduce erosion, abate noise, serve as a windbreak, provide screening, and energy savings. Most plantings and maintenance will occur on improved grounds around administrative buildings, main traffic arteries, and the connecting road between the east and west industrial areas.

2.4.2 Grass in the improved grounds areas will be mowed so that the maximum height will be 4 inches. Bare areas will be reestablished in grass cover and some grass areas will be planted with wildflowers as needed and per the Installation Design Guide. Regular maintenance will include some fertilization. Problem areas will receive lime, fertilizer, and mulch as needed to result in healthy stands of grass. Maximum grass and weed height in the clear zones around the installation boundary will be eight inches. Soil sample analysis will be used to determine application rates when fertilizer or lime is needed. Mowing along travel routes and clear zones in the ammunition restricted area will be done twice a year. Additional cuttings along main access roads for safety reasons will be done as needed during the summer months. These additional cuttings will be restricted to a

12-14 foot, strip along each side of the roadway. The two annual cutting will include adjacent fields and open areas. Cuttings will protect ground nesters via visual avoidance during spring nesting season (March through May).

2.4.3 DRK's stream restoration program addresses degradation that has occurred due to industrial operations. As a component of that plan, the following guidelines are to be followed while performing regular maintenance in or around ephemeral, intermittent, and perennial streams on the installation, to include but not limited to Dry Creek and Coosa Gate Stream. Mechanical processes for removal of weeds along or inside banks of waterways will be utilized unless such actions are unsafe or not cost-effective. In the event of herbicide usage along or inside the banks of waterways, only those approved for aquatic areas will be used and the application will be done IAW Alabama's NPDES Pesticide General Permit AL870000 and the installation's Pest Management Plan. Regular mechanical cutting and maintenance should follow the same streamside management zones as with timber harvesting activities with the exception of a mechanical cutting every 2 or 3 years, outside of the stream management zone, if needed to remove saplings. Such cuttings should get approval from DRK's Natural Resource Manager and Water Program Manager prior to commencement of activities via the Environmental office's EWR process. Streamside management zones, varying in width based on soil erodibility and percent slope, have been established to protect ephemeral, intermittent, and perennial streams. Generally, a minimum SMZ width of 50 feet on each side of the stream is adequate where the stream-side slope is 10 percent or less. For each additional 10 percent of increased slope, add 20 feet of width for the SMZ:

2.4.4 Trees and shrubs which have been planted as part of the landscape design for the depot will be inspected, cultivated, fertilized, and mulched each spring, if needed. Pruning will take place after blooms have matured (flowering species) and during the dormant season for the rest of the shrubs. Insects and diseases will be routinely scouted. Control measures are specified in the Pest Management Plan. Difficult and unusual problems will be coordinated with the State Cooperative Extension agent. All bare soil areas will be seeded and mulched within 14 days of exposure.

2.5 Cemeteries:

2.5.1 Post (none).

2.5.2 The following table provides data on private cemeteries located on depot property.

Table 2.2

Cemeteries	Number Acres	Public Access	Burials	Active	Inactive
4	3	3 Open	Allowable	1	3

2.5.3 Maintenance is performed IAW AR 200-1, Chapter 6. All cemeteries are fenced.

2.5.4 In addition to cemeteries listed above, ANAD performs maintenance and coordinates visitation for the New Bethel Cemetery. Access is from Fort McClellan's Pelham Range, property adjacent to ANAD's northern boundary. Maintenance includes access road, two-strand barbed wire fence, and all other requirements IAW AR 200-1.

2.6. Erosion Control: Soil erosion results from surface water run-off on bare areas and is usually minor, but can become serious in some areas. Erosion along security fences is controlled by ditching and culverts. For severe areas, crushed concrete or gravel may be used; such use will be coordinated with DRK and the DPW planning division. Security patrol roads maintained by DPW will have water bars or diversions on slopes to prevent gullying. DRK and DPW planning division will collaborate on identifying and prioritizing areas needing erosion control measures. These measures are to be implemented as funding becomes available. Natural vegetation is used and encouraged on high-ditch banks. Planting kudzu has been discontinued for many years; however, some steep road banks will continue to be covered with kudzu.

These areas will be trimmed along the top and bottom of the slope face to keep the vegetative growth under control. Most erosion control efforts occur on boundary fence clear zones, roads, burning ground, and demolition pit. Past management practices for maintaining clear zones along the installation boundary with graders and dozers, have been discontinued. These practices resulted in an excessive amount of bare soil which resulted in soil movement. The operation of the burning ground and demolition pit has resulted in soil erosion. Past maintenance work on roads and ditches have also resulted in erosion in some areas. Some Defense Logistics Agency storage fields have erosion and require maintenance. A depot erosion control plan is at Appendix B.

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3.0 FOREST MANAGEMENT.

3.1. Purpose: This plan provides the primary guide for forest resource management. It incorporates and coordinates multiple-use ideas, military needs, healthy timber growth, fish and wildlife needs, conservation of soil and water, protection from wild fire and insects and disease, recreation, and other uses. Implementing multiple-use concepts in forest ecosystem management will be performed using the following guidelines:

- long-term productivity and sustainability will not be impaired;
- consideration will be given to the interrelationships between plants, animals, water, soil, air, and other environmental factors within the ecosystems;
- timber growth rates will be maintained as near optimum as possible;
- wildlife habitat will be maintained or improved;
- acceptable visual quality will be maintained in the forest landscape;
- elements of economic efficiency will be used;
- good silvicultural practices are followed;
- maintain healthy, sustainable, ecosystems;
- reestablish longleaf pine on longleaf sites that can be prescribed burned safely.

Uses will be well coordinated and modified by installation mission requirements. Provisions for management flexibility and plan revision are found in AR 200-1.

3.2. Description of Timber Resource:

3.2.1. History:

3.2.1.1 In addition to protecting the renewable resources from trespass and fire, reforesting open areas, and establishing wildlife openings, forest management during the period from 1941 to 1981 generally involved selective thinning (single tree selection) of natural and planted pine stands on an eight-year cutting cycle.
During this period, hardwood was harvested heavily and saplings were injected with herbicide in an attempt to control hardwoods in favor of pine reproduction.

3.2.1.2 The stated objective for timber management until 1987 was all-aged management (except for pine plantations which were to be managed as even-aged stands). Prescribed burning was not practiced before 1987. However, after 1987, prescribed burning was performed because it is recognized as an excellent management tool for hardwood control, fuel reduction, and wildlife habitat improvements. Where selective harvests were applied at cutting cycle intervals, space remained adequate for proper tree crown development. Sunlight could penetrate the openings, permitting some establishment of pine seedlings and wildlife food plants. However, without burning, or any other effective method of control, dense brushy hardwood growth and heavy accumulations of litter, contributed to establishment of low grade hardwoods and brush, rather than pine reproduction and improved wildlife habitat. This condition is most

prevalent in the pine types. Hardwood control by girdling and chemical injection was attempted on several hundred acres with limited success since these measures incorporated no provisions for controlling the small diameter stems, brush, reproduction and litter. Grazing by cattle contributed to a reduction in the fire hazard, but was detrimental to pine regeneration and wildlife food plants.

3.2.1.3 The markets for forest products are active in the local area, within the state of Alabama. There is a strong demand for saw timber sized trees, chip-n-saw sized trees, and pulpwood. The market for hardwood saw timber is slow, but the demand for hardwood pulpwood has increased. Two hardwood chip mills are within the commuting area. Hickory remains non-merchantable for all practical purposes. The only demand for hickory has been the firewood market. A limited firewood program is in operation IAW the local regulation, ANADR 420-75.

3.2.2 Forest Types and Stand Condition:

3.2.2 1 Loblolly (Pinus taeda), Shortleaf Pine (Pinus echinata) and Longleaf (Pinus palustris) are the native pine species and are best suited to installation soils. Pine management will continue to favor these species. Hardwood (Oak-hickory type) exists and will be encouraged and managed on hardwood sites, with special attention given to White Oak (Quercus alba), Southern Red Oak (Quercus falcata), Northern Red Oak (Quercus rubra), Yellow Poplar (Liriodendron tulipifera), Sweet Gum, (Liquidambar styraciflua), and Hickories (Carya). Black Walnut (Juglans nigra) is limited to a few trees on old home sites. A forest inventory is completed every 10 years. The most recent conducted in FY 20 (March 2020) indicates the following breakdown of forest types: 40 percent hardwoods, 25 percent mixed pine/hardwood, and 35 percent pine. Descriptions for inventorying forest cover types and stand conditions classes are found in Section 4.

3.2.2 2 While all-aged management was the stated regulatory system since 1941, present stand conditions indicate that many stands were treated as even-aged, resulting in stand compositions made up of two basic age classes, rather than three or more. Several factors contributing to this condition are: (1) lack of effective hardwood competition control (preventing adequate regeneration); (2) harvesting to a diameter limit in lieu of individual tree selection; (3) salvage operations resulting from southern pine beetle (SPB) damage, annosus root rot (Fomes annosus), and little leaf disease; (4) absence of prescribed fire and cattle grazing; and (5) thinning from below for spacing control.

3.2.3 Compartment and Cutting Unit:

3.2.3 1 The installation is divided into 13 compartments of approximate equal acres. This division is very compatible with a 10-year order of entry since four compartments are unregulated acres. Compartments are numbered one through 13, which allows easy identification of the scheduled entry to determine the ecosystem needs for the current period. Only one compartment is harvested each year. In preparation for that year's harvest, a field investigation of resource needs is conducted and an inventory is

developed for each element of the natural resources, i.e., Timber Stand Improvements (TSI), wildlife work, erosion control, water yields, etc. The inventory will indicate the needs of the ecosystem. This planning tool will describe work before and after any vegetative manipulation to maintain the ecosystem health and sustainability into perpetuity.

3.2.3 2 Compartments are subdivided into stands, based on timber type and stand conditions class. Normally, minimum stand size is 10 acres. However, stand size may be smaller if needed for other than timber reasons (i.e. wildlife areas). Stands are identified numerically within the compartment. The depot Forester keeps the compartment map in the Forestry office. The map shows compartments, stands within the compartment, and the forest type and condition class for the existing forest within each stand or community of plants.

3.2.3 3 Compartment boundaries are identified by permanent and semi-permanent physical features such as roads, firebreaks, fences and streams. Stand boundaries are usually timber type changes or physical features.

3.2.3 4 Compartment Entry Schedule: FY18-FY27 (revised due to SPB damage)

Table 3.1

Compartment	**FY**	**Compartment**	**FY**
8	2018	2	2023
5	2019	9	2024
1	2020	11	2025
3	2021	10	2026
4	2022	6	2027
7 12 &13 (Total of 13)	Unregulated acres Unregulated acres	Nichols Industrial Area Community Forests at Cone Reservoir and Improved Grounds	

3.2.4. Forest Inventory (FY07) and Continuous Inventory of Stand Condition (CISC):

3.2.4.1The current inventory, estimated volume of timber is:

Pine Saw timber	42 million board feet (mmbf)
Hardwood Saw timber	17 mmbf
Pine Chip-N-Saw	18,000 cords
Pine Pulpwood	27,000 cords
Hardwood Pulpwood	56,000 cords

These volumes came from three forest types. The forest types and acres are: pine type: 4,124 acres, pine hardwood type: 2,764 acres, and hardwood type: 3,936 acres. The forest types and volumes were identified in a Forest Inventory completed in

FY 07. Corrections for growth, sales, and mortality have been made annually. The next inventory is scheduled for completion between the latter half of FY 18 and the beginning of FY 19.

3.2.4.2 Forest cover types are inventoried as pine forest type if 70 percent or more of the dominant and codominant trees are pine. Pine-hardwood forest type is when 31-69 percent of dominants and codominant are pine. When dominants and codominant are 70 percent or more hardwoods, the stand is classed as hardwood forest type. Forest cover type codes and stand condition class codes used by the USFS are used for classifying stands and condition classes. Other codes used in the USFS Silviculture Practices Handbook may be used. Stand condition classes coded to be used in prescription work will be 01-in regeneration, 02-damaged pulpwood, 03-damaged saw timber, 04-shortleaf, little leaf disease, 05-sparse pulpwood, 06-sparse saw timber, 07-low quality pulpwood, 08-low quality saw timber, 09-mature pulpwood, 10-mature saw timber, 11-immature pulpwood, 12-immature saw timber, 13-stocked seedlings and saplings, 14-inadequately stocked seedlings and saplings, and 15-nonstocked with a merchantable species. Discussions and descriptions for these stand condition class codes and forest type codes are found in the USFS Handbook on silviculture, which is kept in the forester's office.

3.2.4. 3 Net annual growth volume can be calculated each year by applying the net growth percent to the volumes. When adjustments are made for ingrowth and mortality, the net annual growth percent becomes 1.6 percent for pine saw timber, 1.9 percent for pine Chip-N-Saw (C-N-S), 2.8 percent for pine pulpwood, 2 percent for hardwood saw timber, and 2.2 percent for hardwood pulpwood. These growth rates are slightly lower than average for this area due to the competition for water and nutrients with mid-story trees and dense understory. Changes to these percentages will be indicated in future inventories.

3.2.5. Special Areas, Species, and Treatments Required:

3.2.5.1 Demolition Pit Safety Area: The area within a 2,500 foot (ft.) radius of the Open Demolition pit is considered hazardous due to possible existence of unexploded munitions, and is excluded from normal timber management and harvesting operations. The area comprises approximately 490 acres within Compartment 3. Pine stands within this area range from adequate to over-stocked, and many trees are mature to over-mature. There is a 1,250-foot (ft.) buffer around the burning ground also in this compartment. Some of these pine stands are high-hazard sites for southern pine beetles, and problems are anticipated within the next cutting cycle.

3.3 Management Guides and Direction:

3.3.1 Pine and pine-hardwood forest types will be managed by modified even-aged management. Options available in this modified management system include intermediate thinning, TSI and release, salvage and sanitation cuts and regeneration cuts by clearcutting, group selection, seed tree or shelter wood methods. The normal method of regeneration will be by group selection or shelter wood methods. Small patch clear-

cutting may also be used to establish an early succession wildlife habitat type. Stand preselection for regeneration will be needed to break up large stands before they attain maturity, and to maintain sustainability. In some cases, stands may be carried beyond maturity. Several factors will be used to determine the health of a stand before any vegetative manipulations occur. A few factors are age, growth rate, and visual health conditions such as evidence of disease, trees being flat topped, leaves thinning out, excessive seed production, and stages of decline. The main idea is to keep a healthy, thrifty growing forest with stand structure and all ages represented in the ecosystem.

3.3.2 Hardwood management will be uneven-aged. This uneven-aged system calls for cuts using single tree selection and group selection. Thinning will provide better species composition, remove high-risk trees, provide for dens, and in general, will improve the spacing and growing conditions. Timber will be sold through commercial sale. Stand structure will be provided for neotropical migrant birds. A small number of trees or small areas may be sold for firewood.

3.3.3 Silvicultural prescriptions will be performed in a compartment every 10 years to document resource condition and to schedule needed work. Codes found in the USDA Forest Service Silvicultural Examination and Prescription Field Book will be used. Prescription write-ups will include discussion on soil and water, wildlife, timber, and grazing. An acreage summary will be included in each compartment. Total acres will be broken into regulated acres and unregulated (non-forest) acres.

3.3.4 The timber program is conducted under the following guidelines:

3.3.4.1 Hardwood and pine snags will be retained at the rate of one snag per acre. If available, each four acres should contain one snag 6 inches -10 inches diameter breast height (DBH) - 4-1/2 feet above ground , one snag 10 inches-14 inches, and two snags 14 inches -- 20 inches DBH.

3.3.4.2 No prescribed burning will occur during the nesting season for ground nesters. Climate conditions, for the surrounding seasons, will be considered.

3.3.4.3 A minimum of 1/2 chain (33 Feet) equipment exclusion zone will be observed around gullies.

3.3.4.4 Earth disturbing activities including firebreaks and security roads that need erosion control will have water-bars or water-spreaders installed within 2 weeks and will be revegetated (reseeded) within 14 days.

3.3.4.5 Pine will be regenerated naturally, where possible. Regeneration areas will range from 10-50 acres. The average sized regeneration area should be approximately 20-25 acres.

3.3.4.6 Two acres of mast producing hardwoods will be left for each 20 acres of pine regeneration. It will be left in clumps or travel ways.

3.3.4.7 Leave a 10 chain wide stand of trees between regeneration areas where possible (5 chain minimum).

3.3.4.8 Areas adjacent to regeneration harvest units will not be scheduled for a regeneration cut until there is a 10-year age difference or the adjacent stand is 20 feet tall.

3.3.4.9 Herbicides, hand tools, or mechanical equipment may be used in TSI and reforestation projects. Approved herbicides are listed in the Pest Management Plan in the Forester's office.

3.3.4.10 Streamside management zones, varying in width based on soil erodibility and percent slope, have been established to protect ephemeral, intermittent, and perennial streams. The minimum horizontal distance will be 33 feet. This would be for a slight erosion hazard and zero to 5 percent slope. Other distances are:

Percent Slope	0	10	20	30	40	50
Erosion Hazard	Distance (in feet)					
Slight	33’	55’	80’	100’	130’	150’
Moderate	40’	75’	100’	140’	170’	200’
Severe	50’	90’	130’	170’	210’	250’

3.3.4.11 Other practices will be IAW "Alabama's Best Management Practices for Forestry, 2007."

3.3.4.12 When cutout SPB spots are less than stand size, a small amount of green trees will be cut around the spot to make it stand size. No compartment should have over 30 percent of acres in the 0-10 age class, except for disasters such as SPB infestation, hurricanes, and tornados. An average of 80 acres will be regenerated annually to keep all age classes represented in the forest. These actions will provide for sustainable forests into the future.

3.3.5 Timber Sales and Close Out Procedure:

3.3.5 1 The Director of Public Works will approve the annual master availability (AMA) for timber sales for the Installation Commander An information copy is sent to the U.S. Army Corps of Engineers (USACE) Office in Mobile, AL. Individual availabilities for a timber sale are submitted to USACE Resident Forester’s Office for advertising, awarding, and administering the timber sales. Actual timber cutting dates will be adjusted to accommodate mission requirements. The Installation forester attends timber sale pre-work conferences and relays mission information, evacuations, etc., and any other pertinent information not mentioned in the COE timber sale contract. The installation forester also coordinates very closely with the Resident Forester on timber sale administration.

3.3.5 2 A final inspection is performed when a timber sale is complete. Any items needing to be corrected are coordinated with the USACE Resident Forester. When sale

area is acceptable, the installation forester sends a letter to the USACE Resident Forester recommending sale closure.

3.4 Insect and Disease Control: The installation forester is responsible for controlling forest tree insects and diseases IAW the General Permit for Pesticide Application and ANAD Pest Management Plan. The US Department of Agriculture (USDA) Forest Service is charged with the responsibilities of prevention, detection, and evaluation of forest insects and diseases on all federal lands, as provided by the Cooperative Forestry Assistance Act of 1978. The unit serving ANAD is USDA Forest Service, Forest Pest Management (FPM), in Pineville, LA. DA submits to USFS as one Army Unit, with each installation as a line item. Under this agreement, the installation forester requests suppression funds from the USFS. Army Materiel Command (AMC) submits an annual budget to Department of Army (DA). The USFS will make a field evaluation and provide funding as needed for control.

3.5 Wetlands:

3.5.1 Earth disturbing activities are performed within the parameters and guidelines listed in the publication, “Alabama’s Best Management Practices for Forestry, 2007”. Included in this publication are 15 Federal baseline Best Management Practices (BMPs) for roads and stream crossings within wetlands and other waters of the United States. Any project that might have an effect on wetlands or waters of the U.S. must have a jurisdictional determination performed by the USACE, Mobile District.

3.5.2 The U.S. Fish and Wildlife Service completed an inventory of wetlands on ANAD in 2011. The results show ANAD has 111.73 acres of wetlands and 15,471.53 acres of uplands. The update wetlands map and wetland delineation completed in 2018 is located in the installation water program manager’s office within the directorate of risk management.

3.6 Urban Forestry: The urban forest ecosystem encompasses open lands, water, and vegetated areas in and adjacent to improved and semi-improved grounds. The urban forest includes individual trees, and groupings of trees and shrubs, within the dominant landscape. The major value of the urban forest is non-consumptive. The contributions are to our everyday lives, environment, and aesthetics in the environment in which we live. Details to consider in landscape designs include professional standards for nursery stock and plantings, technical specifications, and requirements for actions influencing the planting, growth, pruning, and survival of trees within the urban forest ecosystem. Emphasis will be on street trees, shrubs, small flowering trees, and tree maintenance. Forested areas in improved grounds are now referred to as a Community Forest.

3.7 Fire Protection: Fire protection is the responsibility of the Chief, Fire and Emergency Services Division, Directorate of Emergency Services (DES) who is responsible for prevention and suppression of unplanned installation fires. The installation forester assists on grass, brush, and forest fires. The Roads and Grounds Division assists as needed.

3.7.1 Categories of Fire Protection:

3.7.1.1 Prevention: Annual inspections of existing firebreaks are made by the installation forester to determine accessibility and general condition. Firebreak maintenance is conducted annually, in the fall, by Roads and Grounds Division personnel only. No other tenant or depot organization will be authorized to maintain firebreaks. The results of firebreak inspections are reported to the Fire Chief. Fire records and damage appraisal reports are prepared by the Fire and Emergency Services Division IAW AR 420-1. Firebreaks are maintained by removing fallen trees and bush hogging saplings. Spot erosion areas are repaired by seeding and water bars for slopes on firebreaks as needed. DRK and DPW planning division will collaborate on identifying and prioritizing firebreak areas needing maintenance/repairs measures. These measures will be implemented as funding becomes available.

3.7.1.2 Fire Danger: Fire Chief issues warnings during periods of high fire danger. Warning statements are distributed depot-wide though the email system. Employees are reminded to be extremely careful with fire in all forms. Fire safety is stressed in safety meetings at all levels on the depot.

3.7.1.3 Prescribed/controlled burning must be coordinated through the Fire Chief, Safety office, the installation forester, and DPW and approved by the Command Group. The Air program manager will make a courtesy call to ADEM. This call is merely to provide a heads up with the likelihood they may receive calls or complaints of the smoke. The burning notification call list and the annual burning plan are routed through Safety, Fire and Emergency Services Division, DRK, DPW, ADMC, Public Affairs Office and Command Group. The burn plan is on file at the Fire and Emergency Services Division and a copy kept in the Installation forester's office. Prescribed fire is used to reduce hazardous fuel build-up, improve wildlife habitat, site preparation, and improve timber growing conditions. Control burns if implemented would normally occur between the timeframe of 1 August through 1 April, but will be conducted according to climate conditions for the surrounding seasons. Approximately 4,400 acres are available for prescribed burning. Prescribed/controlled burning will be managed by the Fire Department. If needed, the Fire Department may receive assistance from the Installation forester, and the Roads and Grounds Division. A typical crew is organized as follows:

1 Senior Fire Officer - Captain or above
3-4 torch operators from Roads and Grounds and Fire and Emergency Services Division, if firefighters are available.
1 4x4 tanker truck with driver and helper from Fire and Emergency Services Division
1 550 dozer/blade and operator from Roads and Grounds
1 Forester

3.7.1.4 Prior to initiating a prescribed burn, a burning schedule is prepared by the Fire & Emergency Services Division, with assistance from the installation forester and Safety Office. A burning permit number is obtained from the Alabama Forestry

Commission by calling 1-800-572-2017, and a burn permit is obtained by the Fire and Emergency Services Division. General parameters for burning include:

Mixing Height > 2,500 feet, transport winds > 8 miles per hour (mph), relative humidity 20-70 percent, predictable ground winds 5-18 mph, max afternoon temp < 70°, no fire within 50 feet of an igloo, and protect outdoor telephones from fire.

3.7.2 Preparedness:

Organization Chart

Table 3.2

Position	**Phone**
Fire Marshall (Chief)*	6171
Assistant Chief	6171
Assistant Chief	6171
Assistant Chief	6171
Natural Resources Specialist	3051
Forester	5808

* Incident Commander (IC) for Forest Fires

3.7.3 Training:

3.7.3.1 Refresher training is scheduled as necessary, but at least annually by Fire and Emergency Services Division. Subjects covered are basic forest fire fighting, fire behavior, fire weather, equipment, suppression tactics, safety, prescribed burning, and other related subjects.

3.7.3.2 Training sessions or workshops for key personnel may include but are not limited to those held by federal, state, and private industry fire prevention and suppression organizations.

3.7.3.3 Training films are used to the maximum extent possible. The primary source of these films is the US Forest Service, Washington D.C.

3.7.3.4 On-the-job-training for personnel assisting in annual prescribed / controlled burning.

3.7.3.5 Prescribed/controlled burning crews are briefed on proper methods of job performance with emphasis placed on safety. Subjects covered include: purpose for the burn, physical fitness of personnel, proper clothing, shoes, hard hats, transportation of personnel, transportation of tools, use of tools, work shifts, and rest periods, first aid, burning procedures (i.e., use of torch, cutting snags and trees, avoiding being trapped, hazards associated with heavy fuels, etc.)

3.7.3.6 Civilian, contractor and emergency service personnel involved in wildland fire management must possess certification appropriate for their expected level of involvement in the wildland fire organization.

3.7.4 Detection System:

3.7.4 1 The reporting of fires is dependent upon ground and air observation by personnel engaged in routine duties. DES is delegated primary responsibility due to their round-the clock patrols; which facilitates pinpointing the location of any fire on the depot. However, fires may be sighted and reported by any employee who works on the installation. Report road names, fire trails, buildings, magazines, and igloos number when calling in a fire location. See Section 5 for reporting procedures.

3.7.4 2 Detection Facilities:

3.7.4 2.1 Lookout stations: There are no lookout stations or fire towers on ANAD or the adjoining property of Pelham Range. State fire towers located in Calhoun and Talladega Counties are not manned. The State uses aerial surveillance by flying daily when the Fire Danger Class reaches "2" or above.

3.7.4 2.2 Helicopters and light planes: State of Alabama - 1 light plane with radios

3.7.4 2.3 Ground patrols: Fires will be detected and reported by personnel engaged in normal routine duties. Organizations involved are: Security Division, DES, ANMC, Roads and Grounds Division, and Installation forester. Personnel assigned to these organizations are equipped with radios.

3.7.5 Communications Systems: Primary communications are by cellular telephone, telephone, and radio. Fires are reported to the Fire Prevention and Emergency Services Division by either or both of the primary systems as follows:

3.7.5.1 General Public:	911 Emergency Line
3.7.5.2 Security Division:	Class A telephones and radios, Fire and Emergency Services Division net 381
3.7.5.3 ADMC:	Range phones or radio telephone relay
3.7.5.4 Roads and Grounds Division:	Range phones and radios on 381 net Fire Station. Facility net can be monitored by DPW and the Fire and Emergency Services Division. Information is relayed on fire net (382).
3.7.5.5 State:	FM Radio/telephone relay

3.7.6 Transportation System:

3.7.6.1 Firebreak, road, and trail system: ANAD 90 miles (firebreak).All roads and some trails are passable with light and heavy-duty two-wheel drive vehicles. Most

firebreaks and woods roads can be traveled in a pickup truck but some trails require four-wheel drives. Firebreaks are maintained as needed to keep trees and saplings from stopping vehicle travel. Grass and weed growth is encouraged; bare soil and erosion are to be avoided. Firebreaks are used for control points.

3.7.6.2 Transportation equipment:

Table 3.3

Fire and Emergency Services Division	One	4x4, 1-Ton utility truck w/pump and 250 gallon water tank
Fire and Emergency Services Division	One	4x4, ¾-Ton pickup for transporting hand tools and equipment including torches, fuel, and back-pack pumps
Fire and Emergency Services Division	Two	½-Ton pickups for transporting personnel/equipment
DPW	One	J.D. 550 crawler tractor with fire plow
DPW	One	D-7 dozer with blade and winch (2 additional available) with tractor-trailer
Fire and Emergency Services Division	One	6x6 trucks / 1,200 gallon tank and pump

3.7.7 Tools, supplies, and equipment: Fire rakes, shovels, fire flaps, axes, pulaski's, chain saws, and other needed supplies are stored in Building 18.

3.7.8. Suppression:

3.7.8.1 Action following report of forest fire. Fires on depot property are reported to the Fire and Emergency Services Division Dispatcher. ANAD central emergency number is 911. The Fire Chief, or Senior Fire Officer, is notified who in turn notifies the Director of Emergency Services with available information as reported. Personnel and equipment are dispatched to the fire to initiate suppression procedures and request additional personnel/equipment if needed. Requests for suppression of fires originating off-depot are made IAW mutual aid agreements between applicable federal, state, and municipal agencies and the ANAD Fire and Emergency Services Division. The mutual aid agreements are maintained and kept on file in Fire Station Number 1.

3.7.8.2 Methods of attack: The Chief, Fire and Emergency Services Division will act as IC. In his absence, the Senior Fire Officer on duty will be in charge. Other qualified people will be assigned fire duties by the chief or his assistants. The designated IC on the fire directs suppression efforts after first making a survey (size-up) of the area and planning the initial attack. If conditions are such that in-house personnel and equipment are not sufficient to suppress the fire, assistance will be requested from cooperation agencies IAW mutual aid agreements. Tactics will vary with the fire danger class, size of fire, fuel, topography, location (in relation to storage facilities and other improvements), availability of personnel, and equipment.

In general, the following minimum units will be dispatched:

Table 3.4

Fire Danger Class	Unit Dispatched
1 & 2 (low)	One 4x4 pickup/tank, radio, drip torches, backpack pumps, and hand tools, and J. D. 550 with fire plow. Three men including driver and leader, and one-ton brush truck w/250 water.
3 (medium)	All equipment and personnel listed for class 1 and 2, plus: one D-7 dozer w/blade. One 6x6 truck/1,200 gallon tank and pump. Six men including drivers, operators, fire fighters, and incident commander.
4 & 5 (high & extreme)	All equipment and personnel listed for class 3, with the following on stand-by: two dozers, one 6x6 truck w/2,500 gallons of water and pump, all available roads and grounds personnel and firemen with necessary tools.

3.7.8.3 Mopping up: No fire will be abandoned until mop up is completed. The Fire and Emergency Services Division inspects the entire perimeter before releasing crews.

4.0 FISH AND WILDLIFE MANAGEMENT:

4.1 Purpose: Fish and wildlife management provides the basis for a sound program, conducted within the goals of the depot's missions, and integrated with the total natural resources management program. It is developed around current and accepted scientific management principles and practices and will be implemented with the full cooperation of applicable state and federal fish and wildlife agencies.

4.1.1 The annual plan of work outlines specific work designed to meet the long-range goal of optimum habitat, populations, and general good health and condition of animals.

4.1.2 All phases of this plan's implementation emphasize: protection and conservation of existing fish and wildlife; ecological development of habitat; harvest numbers based on populations relative to the capacity of available habitat; natural beauty protection, improvement and enhancement; and recreational benefits for depot personnel and visitors.

4.2 Fish and Wildlife Areas: Areas available for fish and wildlife management are the Ammunition Limited Area, tank farm, land from state road 202 north to the railroad, the little fishing lakes, and Cone Reservoir.

4.2.1 Native Wildlife Species of Food and Cover Plants:

Table 4.1

Common Name	Scientific Name
Switch Grass	Panicum virgatum
Eastern Needle Grass	Piptochaetium avenaceum
Eastern Wild Rye	Elymus virginicus
Downy Oat Grass	Danthonia sericea
Turkey-Foot	Andropogon gerardii
Bushy Beard Grass	Andropogon glomeratus
Long-Awn Wood Grass	Brachytrum erectum
Small Reed Grass	Calamagrostis cinnoides
Green Briar	Smilax sp.
Crab Apple	Pyrus sp.
Wild Grape	Vitis sp.
Blackberry	Rubus sp.
Huckleberry	Gaylussacia sp.
Wild Plum	Prunus sp., L.
Persimmon	Diospyros virginiana, L.
Mulberry	Morus rubra
Pecan	Carya illinoensis

Hickory	Carya (hicoria) sp. Nutt, Sweet, Sarg.
Common Name	**Scientific Name**
Black Gum	Nyssa sylvatica, marsh.
Dogwood	Cornus florida, L.
Eastern Red Cedar	Juniperus virginiana, L.
Blackjack Oak	Quercus marilandica, muench
Water Oak	Quercus nigra
Southern Red Oak	Quercus falcata, michx.
Northern Red Oak	Quercus rubra' michx.
White Oak	Quercus alba
Longleaf Pine	Pinus palustris, mill.

4.2.2 Fishing Lakes: The two fishing lakes, Little Lakes (5 acres) and Cone Reservoir (30 acres), are located outside restricted area. Cone Reservoir is at full pool and has been stocked with bass, bream, catfish, and white amur (grass carp). Fishing in Cone Reservoir began in 2005.

4.3 Management History:

4.3.1 General: Management of fish and wildlife has not been intensive. The restrictive nature of some aspects of the installation's mission restricts the range of hunting practices. During the period from acquisition in 1941 until 1966, management practices were implemented under the dedicated leadership of the Chief, Grounds and Entomology Section. Wildlife openings were established, water holes were constructed, deer were stocked, lakes were stocked, and timber management decisions included fish and wildlife considerations. Later in 1968, the depot hired the first professional forest manager, and with continued cooperation of State and Federal fish and wildlife agencies, improved the program. Although fishing was possible earlier in the two lakes, hunting season allowed taking of small game only, but soon included deer and turkey as the populations grew to hunt able numbers.

4.3.2. Cooperation: Throughout the period since inception, a high level of cooperation has existed with both state and federal fish and wildlife agencies. There was a separate tri-party agreement between Department of Army, State of Alabama, and Department of Interior, for the conservation and development of fish and wildlife resources on Anniston Army Depot. The INRMP now takes the place of the old tri-party agreement. In addition, depot organizations composed of sportsmen and conservationists, Directorate of Family Morale, Welfare, and Recreation (DFMWR), and other interested people, have contributed time and energy to help develop and maintain our wildlife population.

4.3.3. Use:

4.3.3.1 In the past, hunting and fishing were limited to depot military and civilian employees and certain guests. Access to the general public was and is not feasible due to the nature of the depot's mission. Privately owned vehicles are not allowed in the Ammunition Limited Area (ALA). A current National Agency Check with Inquiries (NACI) check is also required for un-escorted access in the restricted area. Military use of the larger portion of land managed for wildlife includes, but is not limited to, storage of munitions and other explosives and materials, ammunition workshops, demolition site and facilities, powder burning grounds and a pyrotechnic range.

4.3.3.2 The depot submitted a waiver request to hunt in the ALA (stores category I and II ammo) in 2005; waiver was approved for bow hunting only. In 2013, the installation hosted a Wounded Warrior Hunt also using shotguns. This will be an ongoing program that provides hunting opportunities to Purple Heart Metal recipients. Revenue generated from it go to funded the program and future Wounded Warrior Programs or accessible equipment.

4.4 Fish and Wildlife Potentials:

4.4.1 Habitat Trends:

4.4.1.1 Prudent forest ecosystem management determines the availability of good wildlife habitat. The depot's forest management program gives careful consideration to wildlife needs.
Pine timber is regulated under an even-aged system which results in harvest cuts that create "openings" for several years. These well dispersed openings, clear cuts and seed tree areas, together with roads, trails, firebreaks, storage igloo aprons and clear zones, old home sites, and utility corridors, create a desirable diversity within the forest. Much of the woodland is composed of pine/hardwoods and hardwood types which are favorable habitat for squirrel and deer. In addition, many small "patch" clear cuttings are made in pine stands following outbreaks of the southern pine beetle infestations. These scattered openings are presently occupied by native seed producing grasses, honeysuckle, briars, etc., and are providing food and cover for quail, deer, turkey, and other non-game species of birds and animals.
The openings, for the most part, have been naturally regenerated to pine/hardwoods, but will continue to contribute to the wildlife habitat for several more years. Regeneration areas will be separated by a minimum of 10 chains of wooded area. Timber stands adjacent to regeneration areas will be at least 10 years old. Regeneration areas will be shaped to control the width of the new stand to less than 1,320 feet and to maximize the amount of edge. This practice is undergoing evaluation and may be changed as research indicates the needs of neo-tropical migrants and other nongame species. Additional changes may be needed as more information develops about ecosystem management.

4.4.1.2 Wildlife openings and strips are planted to provide browse and additional nutrients in lean years of low hard mast availability. This also helps in years when

droughts are experienced. Most plantings contain an annual rye (grain), winter wheat, grass, and a clover. The waterlines, gas lines, road shoulders, and power lines will be planted with the green field mixes mentioned above.

4.4.2 Population Trends:

4.4.2.1 Deer: The deer population has steadily increased since stocking in 1952. Hunting was initiated in 1974-1975, and herds have been kept at acceptable, healthy levels. Unless hunter pressure is consistently applied, the deer herd rapidly over populates. Harvest objectives are set through a cooperative effort with a state wildlife biologist. Our population objective is one deer per 30 acres. Habitat conditions and population numbers help in establishing harvest quotas each year.

Historically, the depot has been active in the State of Alabama Deer Management Program (DMP). As a participant in the DMP, both antlered and antlerless deer were harvested. Sex ratios were improved by removing does. The current deer herd population is at, or very near, carrying capacity.

Approval to hunt must be acquired every year. According to an article by Dr. William Davidson and Gary Doster of the Southeast Animal Disease Study Group, College of Veterinary Medicine, University of Georgia, “Without population control (hunting) the following four steps will take place in an unmanaged deer herd:

Step one-- Unmanaged (no hunting) populations are characterized by:

- Unrestricted growth due to no hunting;
- An eventual density that exceeds nutritional carrying capacity;
- Age structure skewed towards older adults;
- Eventual rapid decline in deer health and habitat quality.

Step two-- Relationship of deer density to herd health:

- High deer density is generally accepted as favoring increased levels of disease and related morbidity or mortality;
- Increased physiological stress due to lower nutrition, which lowers resistance and increases the deer’s susceptibility to disease. (Eve 1981);
- the three chronological phases of deer herd health are: Phase 1 --virtually no disease, growth, normal body weight, antler development good, carrying capacity well above herd density, etc.; Phase 2 -- acute overpopulation, rapid herd growth over short duration, parasite counts are high to very high, no visible problems in the herd but disease is present, herd density above carrying capacity, abomasa parasite count (APCs) high; Phase 3 -- this occurs about two years after phase 2, chronic overpopulation, visible disease in evidence, unusually high loss (mortality) of adults and fawns, poor condition, lesions of internal organs, and APC’s excessively high and rapid decline of population.

Step three-- Diseases of White-Tailed Deer in the southeastern (SE) U.S.:

- SE Wildlife Disease Study at University of Georgia has been doing research since 1957. They have discovered that from over 100 different parasites, infections, and diseases that two diseases are major herd-type problems;
- hemorrhagic diseases are the first group, epizootic hemorrhagic disease virus (EHDV) and bluetongue virus (BTV) are the two viruses, EHDV accounts for about 80% of deaths from viruses;
- malnutrition and parasite syndrome is the second group- as population increases so does parasite numbers resulting in a poor and weakened condition that leads to death.

Step four- Overview/Conclusion:

- Significant mortality among white-tailed deer in unmanaged condition are due to two major problems: namely hemorrhagic disease and malnutrition/parasite syndrome. Both are brought on by a density/habitat phenomenon:
- Deterioration in herd health is a consequence of high deer density.
- A characteristic of an unmanaged deer herd is that the herd health will be compromised when compared to those held at lower densities by regulated harvests.

Limited bow hunting, which began in 2005, had little impact on the deer herd. Limited bow hunting continued thru 2012. The only deer hunting that has been allowed, since 2012, has been a Wounded Warrior Hunt. This is only for one weekend each year.

4.4.2.2 Turkey: The turkey population is good with apparent increases over previous years. There is a free interchange between depot turkeys and established surrounding flocks. The large numbers of turkeys observed flying across the depot fences indicate that the depot is probably providing stocking to surrounding lands. There are plans for future hunts on the installation.

4.4.2.3 Quail: The quail population is low to medium. Populations are stable and probably will not increase. This condition exists in the surrounding areas. There are no plans for future hunts at this time.

4.4.2.4 Dove: Successful hunts have been conducted in past years. There are no plans for future hunts at this time.

4.4.2.5 Squirrel: The total fox and gray squirrel populations are still low to medium and are not expected to significantly increase. There are no plans for future hunts at this time.

4.4.2.6 Rabbits: The rabbit population is low. The coyote population is large and is apparently keeping the population from increasing significantly. There are no plans for future hunts at this time.

4.4.2.7 Nongame and Migratory Birds: Research and monitoring programs indicate that populations of neo-tropical migrant birds are continuing to decline. To do the most good for the fastest declining species, the installation will maintain the old growth hardwoods located in the northwest (NW) corner of the restricted area intact (deep forest habitat). The area spans l,000-1,200 acres and will be managed by the uneven age system, with essentially no harvest planned until research is completed on how to manage forests for neo-tropical migrants. The latest information from the USFWS indicated that stand structure should be provided in the older stands. No planned actions will result in an intentional take of any migratory birds listed in 50 Code of Federal Regulation (CFR) 10.13. The Region 4 Office of the USFWS does not issue incidental or unintentional take permits for federal actions. The probability of an unintentional take associated with timber harvest is very low due to the non-nesting of neo-tropical birds in Alabama, since they nest farther to the north. Migratory fowl are not hunted on ANAD. The installation will comply with the Executive Order signed 10 January 2001, which covers federal agencies' responsibilities to protect migratory birds. In 2009, a migratory bird inventory, which included four surveys and I different observation sites was conducted over the four seasons that year. During the four surveys, 73 bird species were identified and categorized into year-round resident, seasonal, and migrant species. The overall study found that the installation's current forest management practices appeared to be compatible with the habitat requirements for Neotropical species. The full report can be found in the installation's Migratory Bird Management Plan retained in the Directorate of Risk Management.

4.4.3 Threatened and Endangered Species (T&E):

4.4.3.1 Chapter 4 of AR 200-1 establishes a goal to systematically conserve biological diversity on military lands and to do so requires protecting and sustaining naturally occurring organisms and their habitats. Conservation and restoration of biological diversity on Army lands can be expected to minimize the number of species that must be protected under the ESA and therefore preclude impacts to mission requirements. It is the goal of this plan to maintain and protect biological diversity on ANAD through the management of ecologically significant communities. These Ecologically Sensitive Areas are significant or rare natural communities which may also support "species of concern". Species of concern are federally or state listed species and otherwise identified as imperiled. The protection, management, and recovery of species of concern populations through discretionary management and responsible planning is considered preferable to mandatory requirements under the ESA. On ANAD, species of concern encompass multiple categories of protection. Species federally protected under the ESA include those currently listed as endangered or threatened, as well as candidate and petitioned species. See figure 4.1 for location of species of concern that are listed as threatened or endangered on ANAD.

Candidate species, both proposed and former proposed, are those species for which the USFWS has sufficient information to propose them as endangered or threatened under the ESA, but for which development of a listing regulation is precluded by other higher priority activities. Petitioned species refer to those species that have been petitioned for listing under the ESA and for which the Service has found substantial information indicating that listing may be warranted. State Status categories include species protected by state laws as well as species identified as imperiled to varying degrees; the Alabama State Wildlife Action Plan (SWAP) is also available for determining ANAD's species of concern.

In hopes of avoiding federal listing of additional species, ANAD considers ways to minimize or eliminate threats to the non-federally listed species that occur on its property. The T&E Species Program at ANAD can be categorized into three functional areas: protection, management, and monitoring. The first line of defense for T&E species, and the most important tool to avoid "take," is protection of threatened and endangered species (individuals and populations) and their habitats from mission impacts. For most T&E species on the Installation, this protection comes in the form of restricted access to a particular area, restrictions on the type of activities in particular area, and restriction on the time-frame that certain activities that may occur within a given area. Areas where activity is restricted due to the presence of threatened or endangered species are clearly delineated with signs, fencing, or other obvious markings. Protective measures for each species are specified in their respective sections in this document.

4.4.3.2 There are several species of concern present in Calhoun County where ANAD is located. These species consist of:

Table 4.2

Common Name	**Scientific Name**	**Listing Status / Location**
Tennessee Yellow-eyed grass	Xyris Tennesseensisi	Endangered / on ANAD
Indiana Bat	Myotis sodalist	Endangered / on ANAD
Gray Bat	Myotis grisescens	Endangered / on ANAD
Northern Long-eared bat	Myotis septentrionalis	Threatened / on ANAD
Tri-colored bat	Perimyotis subflavus	Petitioned for listing / on ANAD
Mohr's Barbara's button	Marshallia mohrii	Threatened / presumed to be on ANAD by the USFWS
White fringeless orchid	Platanthera integrilabia	Threatened / presumed to be on ANAD by the USFWS

Southern Acornshell	Epioblasma othcaloogensis	Endangered / off ANAD
Common Name	**Scientific Name**	**Listing Status / Location**
Upland Combshell	Epioblasma metastriata	Endangered / off ANAD
Fine-lined pocketbook	Hamiota altilis	Threatened / off ANAD
Ovate Clubshell	Pleurobema perovatum	Endangered / off ANAD
Triangular Kidneyshell	Ptychobranchus greenii	Endangered / off ANAD
Coosa Moccasinshell	Medionidus parvulus	Endangered / off ANAD
Southern Pigtoe	Pleurobema georgianum	Endangered / off ANAD
Blue Shiner	Cyprinella caerulea	Threatened / off ANAD
Green Pitcher-plant	Sarracenia oreophila	Endangered / off ANAD
Alabama Leather Flower	Clematis socialis	Endangered / off ANAD
Painted Rocksnail	Leptoxis taeniata	Threatened / off ANAD
Red-cockaded Woodpecker	Leuconotopicus borealis	Endangered / off ANAD
Pygmy Sculpin	Cottus paulus	Threatened / off ANAD

The Anniston Army depot has two colonies of Tennessee Yellow-eyed grass which are both located in the ammo-limited area (ALA). The TYG colonies were identified during a survey in 1994. Both colonies are in areas safe from day to day activities. One colony is on a border fence with Pelham range and split between the facilities.

Figure 4.1

The Tri-colored bat which is being petitioned for listing as an at-risk species has been sighted on ANAD. There has been sightings of one tri-colored bat in a cave located on the south-western edge of the installation. Protection and management of the tri-colored bat will be addressed in appendix A of this INRMP.

Figure 4.2

In 2017, a bat survey was conducted in several areas on ANAD. This survey identified the presence of the gray bat, the Indiana bat, and the northern log-eared bat through acoustical testing. Mist netting was deployed during this survey, but there were no positive takes through this means.

Figure 4.3

Figure 4.4

Figure 4.5

The Mohr's Barbara's button and the White fringeless orchid are presumed to be on ANAD by the FWS. These plants are not identified on previous planning level surveys, but are found in several areas within Calhoun County in close proximity to ANAD. ANAD has areas that may potentially support the growth of these plants. Future surveys will focus on verifying the presence of these plants.

Figure 4.6

Figure 4.7

Figure 4.8

The depot is also within the range of the red-cockaded woodpecker (RCW). Field operations and forest activities have not revealed any abandoned colonies, cavity or nesting trees. No new start holes have been observed. Management of these species is addressed in appendix A of this INRMP.

4.4.3.3 In June 1994, the installation completed an inventory contract with the state field office of the Nature Conservancy's Science Division working in the Alabama Natural Heritage Program. The inventory identified federally listed species of T&E and candidate species. State-listed species of plants and animals were also checked. An endangered

plant, the Tennessee Yellow-eyed grass (Xyris Tennesseensisi) (TYG) was found on ANAD by the Alabama Heritage Program personnel. A contact was made with the USFWS in Daphne, Alabama, to let them know of the discovery. Alabama Heritage did a biological evaluation. A Recovery Plan has been prepared for the TYG by the USFWS personnel in the Jackson, Mississippi office and has been added to this INRMP as Appendix A. Recovery efforts of the TYG in Alabama are now under the control of the Alabama Ecological Services Field Office in Daphne, AL. A 5-YEAR review of the species was conducted in 2013 and published. A copy of this review was added to Appendix A along with the recovery plan. An annual report on the status of T&E is submitted to the installation commander for approval. Management plans are coordinated with the State of Alabama Department of Natural Resources and the Recovery Office for the U.S. Fish and Wildlife Service, Jackson, MS.

4.4.3.4 Informal and Formal Consultations with the USFWS are made with the Field Supervisor's Office in Daphne, Alabama. A letter dated 26 March 1990, added the pygmy sculpin as a threatened species. The pygmy sculpin does not exist on ANAD; however, it does exist in Coldwater Springs, approximately three miles from the ANAD's East Industrial Area. The concern is that the pygmy sculpin will exhibit negative impacts due to the contamination existing in the underground water supply at Coldwater Springs. This concern is being mitigated IAW CERCLA regulations. ANAD is conducting studies to ascertain that cleanup levels are appropriately protective of this species. Records of consultations are kept on file in the installation environmental office.

Figure 4.9

4.4.4 Hunting/Fishing Potential:

4.4.4.1 Hunting: All potential depot hunters do not hunt on depot property due to its operational procedures. The availability of much less restrictive land is readily accessible outside. The deer population and land area can support heavier hunting pressure, but the ammunition mission and workload usually limits the days or weekends when hunting is allowed. When hunting is allowed, the depot charges a hunting fee. These Sikes Act funds (21x account) will supply increased funds for our wildlife program. Additionally, the Installation forester prepares procedures and training for hunters when hunting is allowed. These procedures are coordinated and approved through appropriate depot organizations.

4.4.4.2 Fishing: The little fishing lakes and Cone Reservoir are managed and contain fish at levels near their potential. According to the state fishery biologist who performs our pond balance checks as needed, increased fishing pressure would benefit our lakes.

4.5 Management Guides and Standards: The following management standards and guidelines contribute to a healthy deer herd, turkey population, and habitat improvement:

4.5.1 Initiate three to five dispersed prescribed burns each year. The annual burning size will range between 100-500 acres.

4.5.2 Prepare, seed, and fertilize approximately 10 well dispersed wildlife openings with clover, peas, winter wheat, rye (grain) and corn.

4.5.3 Use old fire break and utility lines and corridors as linear wildlife openings.

4.5.4 Control predators including coyotes, wild dogs, etc., if, populations warrant such measures.

4.5.5 Manage Cone Reservoir and Little Lake IAW recommendations of the Wildlife and Freshwater Fisheries Division, Fisheries Section. Pond balance and stocking checks are made by the management fisheries biologist from the Eastaboga State Fish Hatchery Office.

4.5.6 Liming, fertilization, etc., will be performed by Roads and Grounds Division personnel under direction of the depot forester.

4.5.7 When trapping is needed for population control or predator control, it is performed by Roads and Grounds Division personnel under direction of the installation forester. Trapping will be performed by pest control.

4.5.8 Food plot locations, seed to be planted, and when to plant is performed by Roads and Grounds Division, through the work order/service order system.

4.5.9 It is mutually agreed that Alabama Department of Conservation and Natural Resources officials, who are in possession of valid Federal commissions, and Fish and Wildlife Service law enforcement agents shall be permitted to enter the interior of the installation for the purpose of enforcing state and federal wildlife and fishery laws. This agreement may be revised or amended only upon agreement of all parties hereto. Requests for revisions or amendments may originate with either party. All revisions or amendments will be reported approved using the date of the last reviewer. This plan will be reviewed at least once every 5 years and updated or revised when all parties agree.

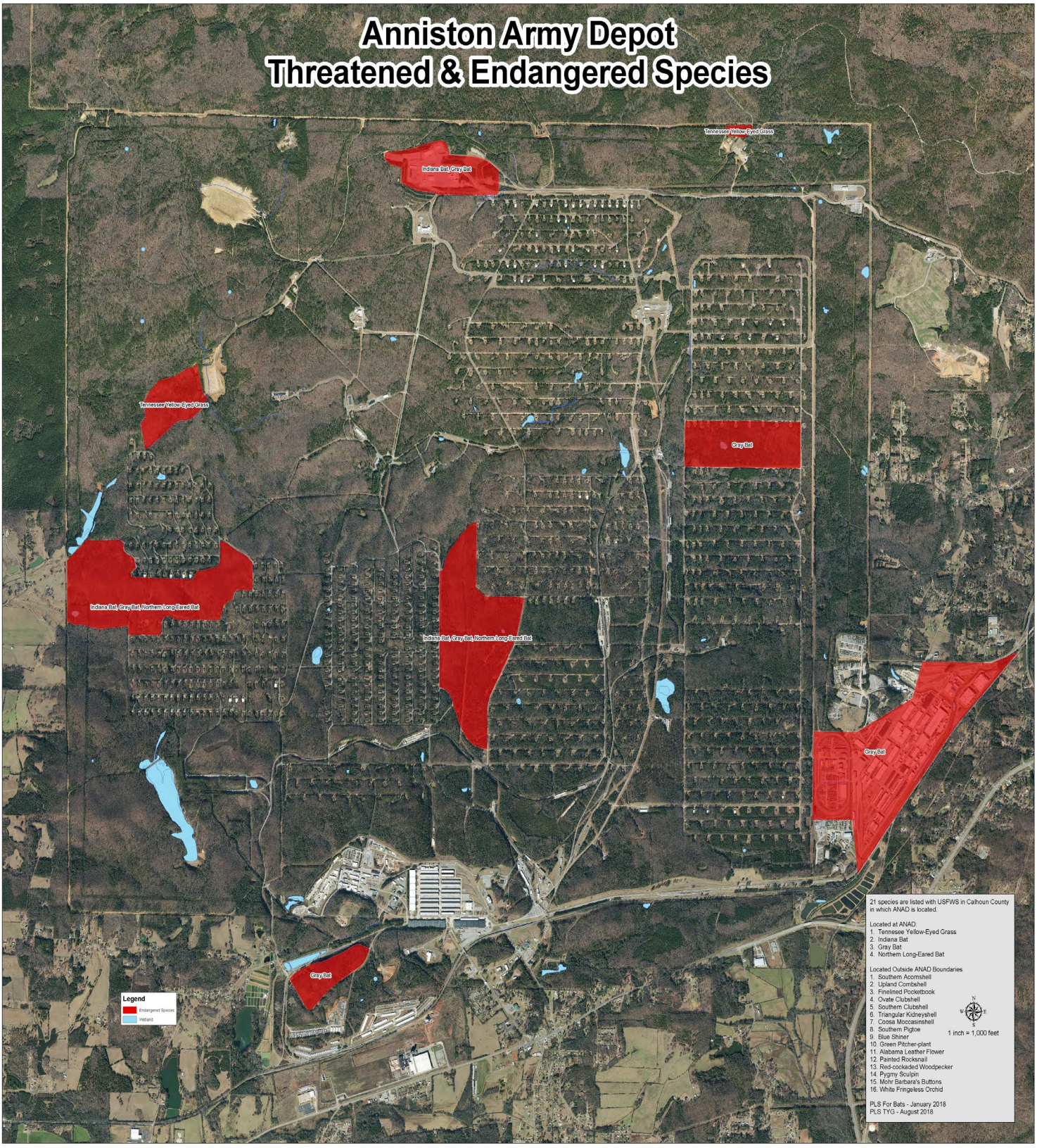
Anniston Army Depot
Threatened & Endangered Species
Tennessee Yellow-Eyed Grass
Indiana Bat, Gray Bat
Tennessee Yellow-Eyed Grass
Gray Bat
Indiana Bat, Gray Bat, Northern Long-Eared Bat
Indiana Bat, Gray Bat, Northern Long-Eared Bat
Gray Bat
Gray Bat
Legend
Endangered Species
Wetland
21 species are listed with USFWS in Calhoun County in which ANAD is located.
Located at ANAD:
1. Tennessee Yellow-Eyed Grass
2. Indiana Bat
3. Gray Bat
4. Northern Long-Eared Bat
Located Outside ANAD Boundaries
1. Southern Acornshell
2. Upland Combshell
3. Finelined Pocketbook
4. Ovate Clubshell
5. Southern Clubshell
6. Triangular Kidneyshell
7. Coosa Moccasinshell
8. Southern Pigtoe
9. Blue Shiner
10. Green Pitcher-plant
11. Alabama Leather Flower
12. Painted Rocksnail
13. Red-cockaded Woodpecker
14. Pygmy Sculpin
15. Mohr Barbara's Buttons
16. White Fringeless Orchid
PLS For Bats - January 2018
PLS TYG - August 2018
1 inch = 1,000 feet

Figure 4.10

5.0 OUTDOOR RECREATION: Due to the restrictive and sensitive nature of the depot mission, only limited recreational opportunities are available. Hunting and fishing, as discussed in Section IV, is about the extent of outdoor recreation opportunities. The Directorate of Family, Morale, Welfare, and Recreation provides various sports such as softball, basketball, group and individual exercise, rental campers, camping equipment, craft shop, and boats for employees and assigned military personnel. These programs and equipment are available through the Directorate of Family Morale, Welfare, and Recreation Office. Accommodations for handicap accessibility are available for most outdoor recreation activities on depot. Information on handicap accessibility for outdoor activities can be obtained through the DFMWR Office.

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APPENDIX A

A-1 Endangered Species Management Plan for Tennessee Yellow-Eyed Grass
Figure 1: Distribution of TYG
Figure 2: TYG on ANAD

A-2 Endangered Species Management Plan for Indiana Bats

A-3 Endangered Species Management Plan for Gray Bats

A-4 Endangered Species Management Plan for Northern Long-Eared Bats

A-5 Endangered Species Management Plan for Tri-Colored Bats

A-6 Threatened and Endangered Species Listing & Locations
Table 1: Threatened & Endangered Species Calhoun County
Figure 3: Threatened & Endangered Species on ANAD - MAP

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APPENDIX A-1

Endangered Species Management Plan for
Tennessee Yellow-Eyed Grass, Xyris Tennesseensis (TYG)

Background:

Army Regulation AR 200-1, section 4-3.d.(1)(a), requires the preparation and implementation of Endangered Species Management Components (ESMC) to INRMPs consistent with current policy and guidance for listed and proposed, threatened and endangered species and critical habitat present on installations. All Army land uses are subject to these regulations. Compliance with Chapter 4 of AR 200-1, involves coordination with other Federal agencies responsible for the protection of these species. Failure to implement this management plan can lead to violation section 7 (a)(2) and (a)(2) of the Endangered Species Act of 1973 (ESA) and results in the costly disruption of military operations

The purposes of this Endangered Species Management Plan (ESMP) is to:

(1) Present information on Tennessee yellow-eyed grass, a federally listed endangered species present at Anniston Army Depot;

(2) Discuss the threats it faces on the installation;

(3) Define conservation goals; and

(4) Outline a plan for management of the species and its habitat that will achieve conservation goals. These purposes are consistent with the U.S. Fish and Wildlife Service (USFWS) TYG Recovery Plan, which is located in the Cultural and Natural Resource Manager's Office. This Endangered Species Management Plan (ESMP) is based on, and is consistent with the following laws, regulations, and guidelines: ESA of 1973; Army Regulation (AR) 200-1, The Sikes Act, and the USFWS Tennessee yellow-eyed grass Recovery Plan

Current Species Status:

This section provides a description of the species, including distribution, habitat/ecosystem, life history, evidence for its decline, and conservation measures taken by various agencies or organizations.

Description - TYG is a perennial which typically occurs in clumps of few to many bulbous based individuals. *Xyris is* the only representative of the Xyridaceae, the yellow-eyed grass family, in the Southeast. It is a group of small herbs with grass like basal leaves and leafless, unbranched flowering stalks each bearing a terminal, cone like inflorescence comprised of spirally arranged bracts enclosing small flowers with yellow or occasionally white petals. A more technical description of the species is

provided by the TYG Recovery Plan, which is filed in the Forestry and Natural Resources Office in the Risk Management Directorate. A survey conducted in 2011 found a 10 foot by 35-foot area at Anniston Army Depot that supports approximately 109 spikes of TYG (Figure 2).

Distribution - The TYG species is distributed in 14 colonies at six different sites in three states: Georgia, Alabama, and Tennessee (Figure 1). The sites are present in five localized areas: (1) Northwest Georgia (Bartow and Whitfield Counties - one population each); (2) Northeast Alabama (Calhoun County - two populations), (3) Central Alabama (Bibb County - five populations); (4) Northwest Alabama (Franklin County - one population); and (5) South Central Tennessee (Lewis County - four populations). The most widespread area extends from northwestern Georgia to northeast Alabama and then to central Alabama.

Habitat Requirements and Limiting Factors: TYG habitat requires permanent (all year) moisture regimes, open, sunny conditions, and calcareous bedrock or thin calcareous soils. The primary limiting factor is the use of heavy equipment in an effort to clear vegetation to reduce fire danger from burning ground operations.

Life History: TYG is a perennial, but most other details have not been researched. TYG is a little known species in terms of germination characteristics, seedling mortality, flowering and fruiting characteristics, long term survival rates, and fruiting peaks. Further study of these issues will aid in recovery planning and site management.

Reason for listing: Because of the rarity and perceived threats to Tennessee Yellow-Eyed Grass, it was proposed for Federal listing in July 1991, as an endangered species (U.S. Fish and Wildlife Service l991a) and later approved and officially listed as such (U.S. Fish and Wildlife Service l991b). Population declines have resulted from land use practices as well as the use of heavy machinery and off-road vehicles. Herbicide spraying for weed control may also have contributed to the decline.

Management Objectives: Protection from harmful disturbance and management of the two colonies is the biggest key to the recovery of the species. Consultation with the USFWS for activities that may harm these colonies may also prevent a further population decline.

Monitoring: This plan's effectiveness will be monitored by conducting annual inventories based on the number of TYG spikes. These inventories will be conducted by a qualified outside agency or consultant and documented. All inspection records and pertinent correspondence will be maintained at DRK by the Natural Resource Manager. The flowering spikes are fairly prominent at the center of this community, but they seem to break up into individuals towards the perimeter. The spike count is a good indication of colony health. The larger the density and number of spikes, the better the health of the community. The annual spike count will be the basis for comparison until a change occurs. Plant counts may also be taken. In addition, population boundaries will be marked to indicate expansion of population. To maintain consistency, the future count

will be taken in late August each year. The following is a checklist for the annual inventory:

a. Make sure endangered species signs are legible and in place.
b. Ensure area is effectively protected.
c. Ensure workers are aware of TYG protection efforts.
d. Ensure freedom from competition from other grasses.
e. Ensure site is free from shading caused by woody or herbaceous plants.
f. Ensure high water debris is removed.
g. Ensure current actions are appropriate for the following year.
h. List new action items needed for the following year.
i. Ensure new actions are coordinated with USFWS.

All records from inventories and trends will be maintained by the ANAD Natural Resources personnel.

Conservation Goals:

(1) Anniston Army Depot has a total of five acres suitable for TYG habitat. ANAD will assist the USFWS in delisting by becoming one of 15 adequately protected and managed, self-sustaining populations of the species for.

(2) ANAD will cooperate in recovery efforts with the USFWS, Alabama Heritage Program, Tennessee Natural Heritage Program, and Auburn University.

(3) The current community has been consistent in its numbers over the past few years. The last external inventory conducted in September 2019 found 223 clusters of plants 526 flower heads at the Firing Fan Creek. There were 35 clusters of plants 97 flowering heads were observed at the Burning Ground Seep. The reason for the slight reduction was noted as overcrowding of vegetative competition and increased shading from invading pine saplings. Clearing is set to be done during the winter months that will reduce competing herbs and over-shading pines in an attempt to allow more *Xyris* recruitment.

(4) The installation TYG population goal is to stabilize and possibly increase the current population.

(5) At the present time, there is no need to translocate individuals. Natural expansion of existing populations is expected to be sufficient to promote growth in the region.

Actions Needed: The major steps needed to satisfy management objectives and achieve conservation goals are:

(1) Prohibit grading and bulldozing practices in the area where this species occurs.

(2) ANAD employees shall remove debris deposited in the species' habitat during high water. In addition, pine seedlings will be removed between the first killing frost and before spring growth begins. This period would usually occur from 1 November to 31 January.

(3) Place a few additional endangered species signs along a secondary take line (shown in Figure 2). Signs already exist, but the new signs will be larger and easier to see from a further distance. The site is located within the 2,400 foot buffer zone surrounding the burning ground. Access into this area is very limited. Only people with a need to be in the area such as ammunition workers and security personnel are permitted access. All employees have been made aware of the presence and importance of the TYG sites. No heavy equipment will be allowed inside the secondary take line.

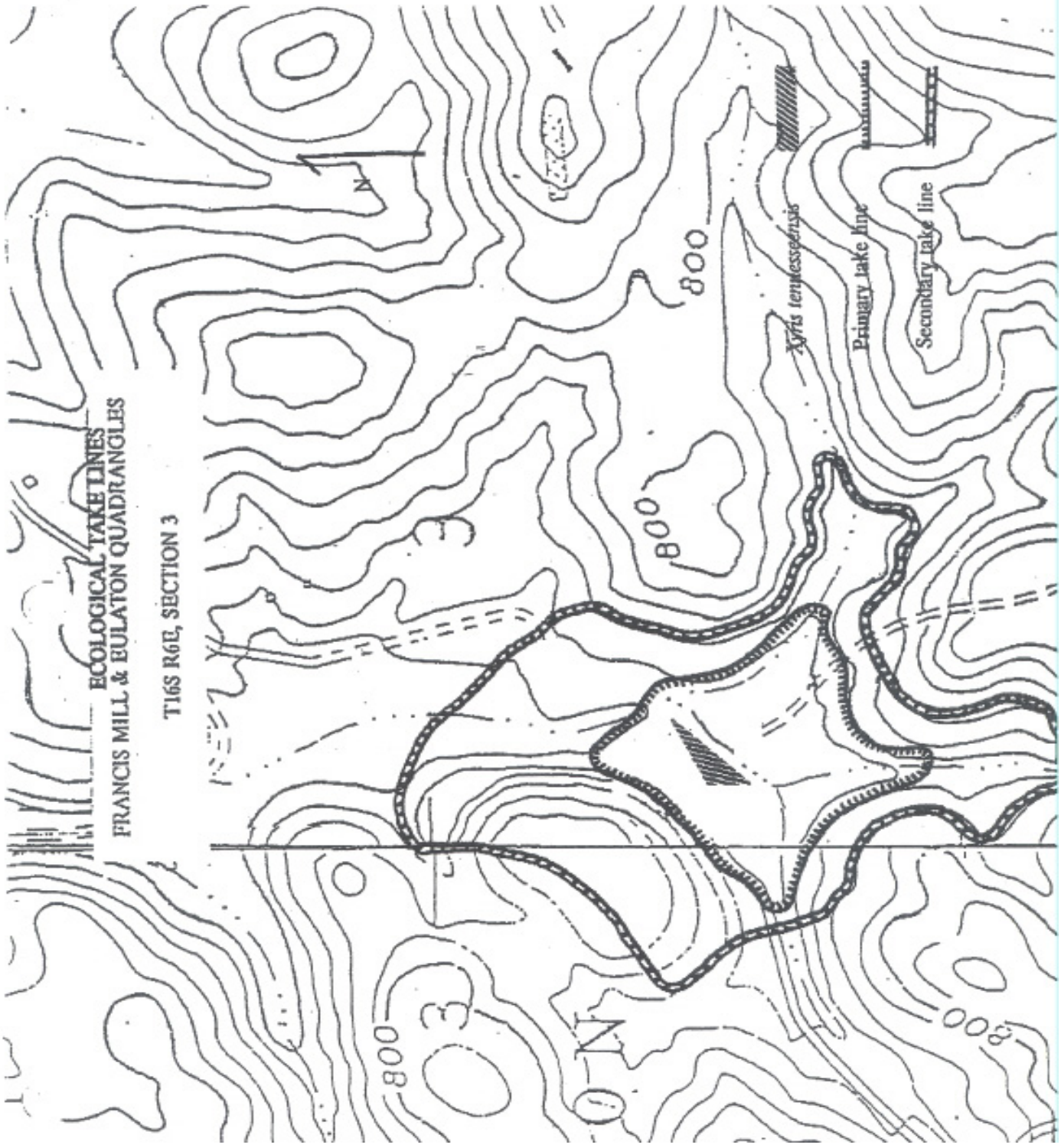
(4) Attempt to reduce competition with other plant species and encourage expansion of this species will be by conducting prescribed burns during the winter months and cutting vegetation during the summer. The USFWS preferred management technique is prescribed burning.

Total Estimated Cost of Conservation Actions: Projected costs for the next 5 years of this plan is $15,000.

END OF PLAN

Figure 1. Current distribution of Tennessee yellow-eyed grass

Figure 2. Tennessee yellow-eyed grass on Anniston Army Depot



APPENDIX A-2

Endangered Species Management Plan for
Indiana Bat, Myotis sodalis

Background:

Army Regulation AR 200-1, section 4-3.d.(1)(a), requires the preparation and implementation of Endangered Species Management Components (ESMC) to INRMPs consistent with current policy and guidance for listed and proposed, threatened and endangered species and critical habitat present on installations. All Army land uses are subject to these regulations. Compliance with Chapter 4 of AR 200-1, involves coordination with other Federal agencies responsible for the protection of these species. Failure to implement this management plan can lead to violation section 7 (a)(2) and (a)(2) of the Endangered Species Act of 1973 (ESA) and results in the costly disruption of military operations. A bat survey that was finalized in January 2018 identified this and other species of bats here on the installation through acoustical monitoring. Correspondence from the USFWS in August 2018 determined that management of this species was necessary on the installation. The implementation of the plan began after that date. Current recovery efforts are being coordinated with the USFWS Southeast Region Alabama Ecological Services Field Office in Daphne, Alabama. The biologist charged with recovery efforts is Mrs. Shannon Holbrook.

Current Species Status:

This section provides a description of the species, including distribution, habitat/ecosystem, life history, evidence for its decline, and conservation measures taken by various agencies or organizations.

Description - The Indiana Bat is listed as endangered by the U.S. Fish and Wildlife Service (USFWS). “These bats are a medium-sized, dull gray bat. The length of its head and body ranges from 1.5 to 2 inches and these bats only weigh about 1/4 of an ounce. Like most bats, they are difficult to distinguish from their cousins unless scrutinized closely.

The Indiana bat was listed as endangered in 1967 and this is believed to be caused by disruption of these bats during their hibernation period. Indiana bats hibernate in very large numbers. They could hibernate in groups ranging from several thousands to tens of thousands of them in very tight clusters on ceilings and walls of caves. Having such large amounts in one area make this species extremely vulnerable to disturbance from humans and disease. Other dangers that have contributed to the Indiana bat’s population deterioration include commercialization of caves, loss of summer habitation, increase use of pesticides and the increased exposure to other contaminants. The most recently and most debilitating factor is a disease known as the white-nose syndrome. On ANAD, the

species is vulnerable due to lack of suitable area for hibernation. There is sufficient roosting habitat on ANAD.

Distribution -The Indiana bat spends summer months living throughout the eastern United States. During winter, however, they cluster and hibernate in only a few caves The range of the Indiana bat can be found in Alabama, Arkansas, Connecticut, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Vermont, Virginia, West Virginia. The larger population of these bats are in Missouri, Indiana, and Illinois during hibernacula.

Habitat/Ecosystem and Limiting Factors - Indiana bats hibernate in colonies during the winter in caves or uninhibited mines. These caves must be humid and maintain a stable temperature, usually ranging under 50° F but above freezing. Very few caves within the distribution range of the species have these conditions. Hibernation without disturbance is key for their survival. If bats are disturbed or cave temperatures increase during the hibernation period they may starve. This is due to the lack bugs needed for food. In spring, reproductive females' travel and form maternity settlements where they bear and raise their young in wooded areas. During the summer months they migrate to wooded areas where they usually roost under loose tree bark on dead or dying trees.). Males and non-reproductive females typically do not settle in colonies and may stay in close proximity to their hibernaculum or travel to summer habitat. Males generally roost alone or in small groups, while females will congregate in larger groups. Indiana bats also feed in or along the edges of forested areas. The primary limiting factor is deforesting or thinning during roosting season of these bats. Both males and females return to hibernacula in late summer or early fall to mate and enter hibernation.

Life History- According to the State of Indiana, these bats live an average of 5 to 10 years, but some have reached 14 years of age. The U.S. Forest Service has observed data from bats the have been tagged and recaptured showing that females live at least 14 years 9 months , while males may live for at least 13 years 10 months.

Reasons for Listing - Population declines have resulted from human disturbance during hibernacula. Deforesting has contributed to the decline in summer roosting areas. An increase use of pesticide spraying for bug control may also have some contribution due to the decline of bugs and the poisoning of the bats. The most damaging cause for population decline is attributed to a disease, white nose syndrome.

Conservation Measures - Protection or management of the hibernaculum is the biggest key to the recovery of the species. The protection needs is dependent upon an understanding of the species' biology and habitat needs of the public who may encounter the species in caves and abandoned mines. Forestry management practices, planning surveys, and consultation with the USFWS for activities that may harm summer roosting areas will also prevent a further population decline.

Management Objectives:

Management prescriptions for the Indiana bat at ANAD include protection of forested habitats. Emphasis is placed safeguarding the size and species of trees that are preferred as roosts as well as on retaining snags that can be used as Indiana bat summer roost sites. Protection of foraging habitat is also an important management action, to provide for a diversity of insects upon which the bats depend. On ANAD, all forested wetlands have been recently identified. These areas will listed as environmentally restricted areas for planning purposes in the ANAD Real Property Master Plan for FY20.

ANAD has begun to collaborate with Fort McClellan to develop a revised Forestry Management Plan and consult with the USFWS regarding the impacts of typical forestry actions on Indiana and northern long-eared bats. In certain hibernacula, Indiana bat populations have greatly decreased since the introduction of WNS and there is great concern for their recovery. The disease has caused the mortality of thousands of hibernating bats throughout their range. Cave access is restricted from use except by ANAD environmental and forestry personnel with a need to enter.

Monitoring:

A partial planning level survey of Anniston Army Depot was completed in 2017 in areas where timber clearing activities would soon take place. No Indiana bats were captured through netting activities however this species was acoustically reported by automated identification software. The locations where the survey focused on and where this species and other T&E bat species where located can be seen in Figure 3.

Presence/absence surveys, in accordance with the most recent Range-wide Indiana Bat Summer Survey Guidelines will be conducted in consult with Installation activities. Installation-wide bat surveys may be planned every few years, depending on funding availability.

Conservation Goals:

The ultimate goal of the USFWS and this Recovery Plan is to remove the species from the Federal list of Endangered and Threatened Wildlife. The intermediate goal is reclassification of Indiana bat from endangered to a threatened status. Steps used to move toward these goals include, but are not limited to the following:

(1) Annually monitor of installation cave for gray, Indiana, and northern long-eared, and tricolored bat occurrences.

(2) ANAD will cooperate in recovery efforts with the USFWS and The Alabama Department of Cultural and Natural Resources or any other organizations designated by these agencies for recovery efforts of this species.

(3) Promote education on effects of environmental disturbance to ANAD workforce through the means of environmental bulletins and ANAD Tracks (newspaper) articles

(4) Conduct maintenance of forested ecologically sensitive areas.

Actions Needed: The steps needed to satisfy management objectives and achieve conservation goals are:

(1) Prohibit land clearing activities in areas that are suitable roosting location for this species unless;
   a. Consultation with the USFWS was conducted
   b. Activities are conducted outside the roosting period.

(2) Prohibit activities in hibernacula areas unless;
   a. Consultation with the USFWS was conducted and determined no significant impacts to the species
   b. Activities to be conducted are for the monitoring, protection, or sustainability of the species
   c. Activities are conducted outside the hibernation period.

(3) Conduct periodic monitoring and planning levels surveys to monitor the presence/absence and/or the current condition of the species.

Total Estimated Cost of Conservation Actions: Projected costs for the next 5 years of this plan can range from $150,000 up to $350,000. This cost includes a planning level survey of multiple species and should be conducted only once during the 5 year period.

END OF PLAN.

APPENDIX A-3

Endangered Species Management Plan for
Gray Bat, Myotis grisescens

Background:

Army Regulation AR 200-1, section 4-3.d.(1)(a), requires the preparation and implementation of Endangered Species Management Components (ESMC) to INRMPs consistent with current policy and guidance for listed and proposed, threatened and endangered species and critical habitat present on installations. All Army land uses are subject to these regulations. Compliance with Chapter 4 of AR 200-1, involves coordination with other Federal agencies responsible for the protection of these species. Failure to implement this management plan can lead to violation section 7 (a)(2) and (a)(2) of the Endangered Species Act of 1973 (ESA) and results in the costly disruption of military operations A bat survey that was finalized in January 2018 identified this and other species of bats here on the installation through acoustical monitoring. Correspondence from the USFWS in August 2018 determined that management of this species was necessary on the installation. The implementation of the plan began after that date. Current recovery efforts are being coordinated with the USFWS Southeast Region Alabama Ecological Services Field Office in Daphne, Alabama. The biologist charged with recovery efforts is Mrs. Shannon Holbrook.

Current Species Status:

This section provides a description of the species, including distribution, habitat/ecosystem, life history, evidence for its decline, and conservation measures taken by various agencies or organizations.

Description - The Gray Bat is listed as endangered by the U.S. Fish and Wildlife Service (USFWS). These bats are usually easy to differentiate from other bats by the unicolored fur on their back. They only weigh around 7-16 grams. Unlike the other bats within this species, the wing membrane connects to its ankle instead of at the toe. The Gray bat was listed as endangered on April 28th, 1976.

Distribution - The gray bat occupies cave regions of Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee. Populations also occur in portions of Florida, Georgia, Kansas, Indiana, Illinois, Oklahoma, Mississippi, Virginia, and possibly North Carolina.

Habitat/Ecosystem and Limiting Factors - With rare exceptions, gray bats live in caves year-round. During the winter, gray bats hibernate in deep, vertical caves. In the summer, they roost in caves which are scattered along rivers. These caves are in limestone karst areas of the southeastern United States. They do not use houses or barns. Females give

birth to only one young in late May or early June. The bats eat a variety of flying water and earthly insects present along rivers or lakes. Mayflies are a major component in the diet, but they will feed on other insect species as well.

Life History- Unknown

Reasons for Listing - The gray bats are one species of bats that dwell in cave all year long. They switch between winter and summer caves. One of the main reasons for the decline in gray bats are believed to be caused by disruption of these bats from humans during hibernation. They are extremely vulnerable to disturbance from humans due to the commercialization of caves. Another cause is improper gating which will prevents access or alters the air flow, temperature, humidity, and amount of light. These are key to the survival of these bats and any drastic changes to these elements is all very harmful to the bats. Human disturbance during their roosting season could cause female bats to drop their flightless young in an attempt to flee from intruders. There are also natural causes that contribute to the gray bat decline such as habitat loss from natural flooding of caves. With limited caves already and then the addition of human activities within the cave make it very difficult for the strictly cave dwelling bats to find a sufficient dwelling.

Conservation Measures - Protection or management of the hibernaculum is the biggest key to the recovery of the species. Consultation with the USFWS for activities that may harm summer roosting areas will also prevent a further population decline.

Management Objectives:

Management prescriptions for the Gray bat at ANAD focus safeguarding the waterways in which they forage at from siltation and chemical contamination such as from the use of pesticides. On ANAD, all forested wetlands have been identified in a 2018 wetland delineation. These areas will listed as environmentally restricted areas for planning purposes in the ANAD Real Property Master Plan for FY20.

Monitoring:

A partial planning level survey of Anniston Army Depot was completed in 2017 in areas where timber clearing activities would soon take place. No Gray bats were captured through netting activities however this species was acoustically reported by automated identification software. The locations where the survey focused on and where this species and other T&E bat species where located can be seen in Figure 3.

Presence/absence surveys, in accordance with the most recent Range-wide Gray Bat Summer Survey Guidelines will be conducted in consult with Installation activities. Installation-wide bat surveys may be planned every few years, depending on funding availability. The one cave on ANAD will be monitored periodically to determine the presence of the gray bat or any other bat species. Currently the only know species to occupy this area is a single tri-colored bat. The ANAD cave has not been identified as a suitable hibernaculum or roosting habitat for this species.

Conservation Goals:

The ultimate goal of the USFWS and this Recovery Plan is to remove the species from the Federal list of Endangered and Threatened Wildlife. The intermediate goal is reclassification of Gray bat from endangered to a threatened status. Steps used to move toward these goals include, but are not limited to the following:

(1) Annually monitor of installation cave for gray, Indiana, and northern long-eared, and tricolored bat occurrences.

(2) ANAD will cooperate in recovery efforts with the USFWS and The Alabama Department of Cultural and Natural Resources or any other organizations designated by these agencies for recovery efforts of this species.

(3) Promote education on effects of environmental disturbance to ANAD workforce through the means of environmental bulletins and ANAD Tracks (newspaper) articles

(4) Conduct maintenance of forested ecologically sensitive areas.

Actions Needed: The major steps needed to satisfy management objectives and achieve conservation goals are:

(1) Conduct periodic monitoring and planning levels surveys to monitor the presence/absence and/or the current condition of the species.

(2) If visual evidence of grey bats have been verified, prohibit activities in hibernacula areas unless;
   a. Consultation with the USFWS was conducted and determined no significant impacts to the species
   b. Activities to be conducted are for the monitoring, protection, or sustainability of the species
   c. Activities are conducted outside the hibernation or roosting periods.

Total Estimated Cost of Conservation Actions: Projected costs for the next 5 years of this plan can range from $150,000 up to $350,000. This cost includes a planning level survey of multiple species and should be conducted only once during the 5 year period.

END OF PLAN.

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APPENDIX A-4

Endangered Species Management Plan for
Northern Long-Eared Bat, Myotis septentrionalis

Background:

Army Regulation AR 200-1, section 4-3.d.(1)(a), requires the preparation and implementation of Endangered Species Management Components (ESMC) to INRMPs consistent with current policy and guidance for listed and proposed, threatened and endangered species and critical habitat present on installations. All Army land uses are subject to these regulations. Compliance with Chapter 4 of AR 200-1, involves coordination with other Federal agencies responsible for the protection of these species. Failure to implement this management plan can lead to violation section 7 (a)(2) and (a)(2) of the Endangered Species Act of 1973 (ESA) and results in the costly disruption of military operations A bat survey that was finalized in January 2018 identified this and other species of bats here on the installation through acoustical monitoring. Correspondence from the USFWS in August 2018 determined that management of this species was necessary on the installation. The implementation of the plan began after that date. Current recovery efforts are being coordinated with the USFWS Southeast Region Alabama Ecological Services Field Office in Daphne, Alabama. The biologist charged with recovery efforts is Mrs. Shannon Holbrook.

Current Species Status:

This section provides a description of the species, including distribution, habitat/ecosystem, life history, evidence for its decline, and conservation measures taken by various agencies or organizations.

Description - The northern long-eared bat has been listed since April 2, 2015 as threatened by the U.S. Fish and Wildlife Service (USFWS). These bats are usually easy to differentiate from other bats in its species by their long ears. The adults' only weigh somewhere between 5 - 8 grams. These bats are generally two-toned. They have a medium to dark brow on their back and a much light shade of brown on their underside.

Distribution - The Northern Long-Eared Bat occupies the District of Columbia and 37 states which include: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. In Canada, they occupy all of the Canadian provinces from the Atlantic Ocean all the way down to the southern Yukon Territory and Eastern British Columbia.

Habitat/Ecosystem and Limiting Factors - During the winter, northern long-eared bat's hibernacula consists of caves and mines. This hibernacula contains constant temperatures with high humidity. They also lack air current. The bats usually find cracks and crevices to burrow down in only leaving their ears and noses exposed. In the summer, they tend to roost booth alone or in colonies underneath the bark or in crevices of living and dead trees. Cooler areas such as caves may be used in the summer months by males and non-reproductive females. These caves are in limestone karst areas of the southeastern United States. They are very flexible, but usually do not use houses or barns to roost. The northern long-eared bats begin breeding late summer or early fall. The females give birth to only one pup in early summer timeframe. This takes place after they have stored sperm all during the hibernation period and then begin their delayed fertilization process right after emerging. The bats eat a variety of moths, flies, leafhoppers, caddisflies, and beetles.

Life History- Their estimated life span is 18.5 years.

Reasons for Listing – The main reason for the northern long-eared bats to be on the threatened species under the federal Endangered Species Act is the rapid spread of the white-nose syndrome. This disease has spread so rapidly among some populations that certain regions of the US have seen close to a 99 percent reduction in the hibernacula counts. There are also other factors that may contributed to the decline in bats, but they are not as easy to verify as the white-nose syndrome. These factors include, but may not be limited to; disturbance to the hibernacula, loss or degradation of summer habitats, and wind farms.

Conservation Measures - Protection or management of the hibernaculum and the summer habitats are the biggest key to the recovery of the species that we can currently control. Presently at this time there is not a plan in place that will effectively prevent a further population decline, but many state and federal agencies, universities, and non-governmental organizations are working and researching to address this.

Management Objectives:

Management prescriptions for the northern long-eared bat at ANAD focus on safeguarding the summer habitat by allowing trees that are either dying or dead in the restricted area to remain in place unless they are causing a safety concern for personnel.

Monitoring:

A partial planning level survey of Anniston Army Depot was completed in 2017 in areas where timber clearing activities would soon take place. No Northern Long-Eared Bats were captured through netting activities however this species was acoustically reported by automated identification software. The locations where the survey focused on and where this species and other T&E bat species where located can be seen in Figure 3.
Presence/absence surveys, in accordance with the most recent Range-wide Northern Long-Eared Bat Summer Survey Guidelines will be conducted when installation activities

are conducted in the areas with suitable habitat. Installation-wide bat surveys may be planned every few years, depending on funding availability. The one cave on ANAD will be monitored periodically to determine the presence of the northern long-eared bat or any other bat species. Currently the only know species to occupy this area is a single tri-colored bat. The ANAD cave has not been identified as a suitable hibernaculum or roosting habitat for this species.

Conservation Goals:

The ultimate goal of the USFWS and this Recovery Plan is to remove the species from the Federal list of Endangered and Threatened Wildlife. The intermediate goal is reclassification of northern long-eared bat from endangered to a threatened status. Steps used to move toward these goals include, but are not limited to the following:

(1) Annually monitor of installation cave for gray, Indiana, and northern long-eared, and tricolored bat occurrences.

(2) ANAD will cooperate in recovery efforts with the USFWS and The Alabama Department of Cultural and Natural Resources or any other organizations designated by these agencies for recovery efforts of this species.

(3) Promote education on effects of environmental disturbance to ANAD workforce through the means of environmental bulletins and ANAD Tracks (newspaper) articles

(4) Conduct maintenance of forested ecologically sensitive areas.

Actions Needed: The major steps needed to satisfy management objectives and achieve conservation goals are:

(1) Conduct periodic monitoring and planning levels surveys to monitor the presence/absence and/or the current condition of the species.

(2) If visual evidence of northern long-eared bat have been verified, prohibit activities in hibernacula or roosting areas unless;
   a. Consultation with the USFWS was conducted and determined no significant impacts to the species
   b. Activities to be conducted are for the monitoring, protection, or sustainability of the species
   c. Activities are conducted outside the hibernation or roosting periods.

Total Estimated Cost of Conservation Actions: Projected costs for the next 5 years of this plan can range from $150,000 up to $350,000. This cost includes a planning level survey of multiple species and should be conducted only once during the 5 year period.

END OF PLAN.

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APPENDIX A-5

Endangered Species Management Plan for
Tri-Colored Bat, Perimyotis subflavus

Background:

Army Regulation AR 200-1, section 4-3.d.(1)(a), requires the preparation and implementation of Endangered Species Management Components (ESMC) to INRMPs consistent with current policy and guidance for listed and proposed, threatened and endangered species and critical habitat present on installations. All Army land uses are subject to these regulations. Compliance with Chapter 4 of AR 200-1, involves coordination with other Federal agencies responsible for the protection of these species. Failure to implement this management plan can lead to violation section 7 (a)(2) and (a)(2) of the Endangered Species Act of 1973 (ESA) and results in the costly disruption of military operations A bat survey that was finalized in January 2018 identified this bat through visual observation and other species of bats through acoustical monitoring. Correspondence from the USFWS in October 2018 determined that management of this species was necessary on the installation due to the species being petitioned for listing under the ESA. Once recovery efforts are determined by the USFWS they will be included in this installation plan. All correspondence concerning protection and recovery of this species will be done through the USFWS Southeast Region Alabama Ecological Services Field Office in Daphne, Alabama.

Current Species Status:

This section provides a description of the species, including distribution, habitat/ecosystem, life history, evidence for its decline, and conservation measures taken by various agencies or organizations.

Description - The tri-colored bat was once known as the eastern pipistrelle (Pipistrellus subflavus). Other names that this bat may be reference by are; brown bat, little brown bat, pipistrelle, pip. These bats are small and only weigh somewhere between 5 - 8 grams. Their average wingspan is 8 to 10 inches. These bats are three-toned. Their fur has a bark brown color at the base and tips, but has a yellowish brown color in the middle. Characteristics that stands out on this species is the pink skin on their radius bone and their feet which are large when compared to the overall body size.

Distribution - Tri-colored bats occur in eastern Canada, most of the eastern United States and southward through eastern Mexico to Central America. Tri-colored bats are very common throughout Alabama.

Habitat/Ecosystem and Limiting Factors - Tri-colored bats occupy a wide variety of habitats. Their variability of habitats is probably much larger than all other bats in Alabama. Their hibernaculum consist of caves, mines and rock crevices. Almost any cave

of some size is likely to contain tri-colored bats during winter months. During the summer months, they are found roosting in caves, hollow trees, under tree bark, in brush piles and to a limited extent in buildings. They may use artificial roosting boxes (bat houses) during the summer. Tri-colored bats are solitary bats and when found roosting are usually found singly, though rarely two to three may cluster together.

Life History- Their estimated life span is 4 to 8 years.

Reasons for Listing – The tri-colored bat was petitioned to be listed as endangered or threatened on June 14, 2016. The petitioned status was submitted by The Center for Biological Diversity (CBD) and Defenders of Wildlife. As part of this petition they also requested that critical habitat be designated for the species. The USFWS determined that the petition provided sufficient information to that would justified further studies to be conducted. The main reason for the tri-colored bats to be petitioned for listing under the federal Endangered Species Act is the rapid spread of the white-nose syndrome through the species population. This disease has spread so rapidly among some populations that certain regions of the US have seen close to a 99 percent reduction in the hibernacula counts. There may also be other factors that have contributed to the decline in this species of bats, but may not be as easy to verify as the white-nose syndrome.

Conservation Measures - Protection or management of the hibernaculum may be the biggest key to the recovery of the species that we can currently control. This species is very sensitive to the cold and hibernate deep within caves and mines that are fairly warm. Presently at this time there is not a plan in place set-forth by the USFWS that will effectively prevent a further population decline, but many state and federal agencies, universities, and non-governmental organizations are working and researching to address this.

Management Objectives:

Management prescriptions for the tri-colored bat at ANAD focuses on safeguarding of the hibernaculum by restricting access of humans into the cave. Additional measures are to protect the summer habitat by allowing trees that are either dying or dead to remain in place unless they are causing a safety concern for personnel.

Monitoring:

A partial planning level survey of Anniston Army Depot was completed in 2017 in areas where timber clearing activities would soon take place and a cave located in the West area of the installation. The locations where the survey focused on and where this species and other T&E bat species where located can be seen in Figure 3 of this plan. One tri-colored bat was visually identified during this and previous surveys.

Installation-wide bat surveys may be planned every few years, depending on funding availability. The one cave on ANAD will be monitored periodically to determine the

presence of this and other bat species. The ANAD cave has not been identified as a suitable hibernaculum or roosting habitat for any of the other species listed in this plan.

Conservation Goals:

The ultimate goal of the USFWS and this Recovery Plan is to remove the species from the petitioned list of Endangered and Threatened Wildlife. The intermediate goal is reclassification from an at-risk status. Steps used to move toward these goals include, but are not limited to the following:

(5) Annually monitor of installation cave for tricolored bat occurrences.

(6) ANAD will cooperate in recovery efforts with the USFWS and The Alabama Department of Cultural and Natural Resources or any other organizations designated by these agencies for recovery efforts of this species.

(7) Promote education on effects of environmental disturbance to ANAD workforce through the means of environmental bulletins and ANAD Tracks (newspaper) articles

(8) Conduct maintenance of forested ecologically sensitive areas.

Actions Needed: The major steps needed to satisfy management objectives and achieve conservation goals are:

(3) Conduct periodic monitoring and planning levels surveys to monitor the presence/absence and/or the current condition of the species.

(4) If visual evidence of tri-colored bat have been verified, prohibit activities in hibernacula or roosting areas unless;
   a. Consultation with the USFWS was conducted and determined no significant impacts to the species
   b. Activities to be conducted are for the monitoring, protection, or sustainability of the species
   c. Activities are conducted outside the hibernation or roosting periods.

Total Estimated Cost of Conservation Actions: Projected costs for the next 5 years of this plan can range from $150,000 up to $350,000. This cost includes a planning level survey of multiple species and should be conducted only once during the 5 year period.

END OF PLAN.

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APPENDIX A-6

Threatened and Endangered Species
Listing & Locations
(From 2018 Planning Level Survey)

There are 23 threatened and endangered species listed with USFWS in Calhoun County in which ANAD is located. There is one petitioned species on ANAD.

Located at ANAD:	**Notes:**
1. Tennessee Yellow-Eyed Grass (E)	
2. Indiana Bat (E)	
3. Gray Bat (E)	
4. Northern Long-Eared Bat (T)	
5 Tri-Colored Bat (P)	

Annual Survey TYG - September 2019
PLS For Bats - January 2018
Last PLS for all species completed December 2013

T= Threatened
E= Endangered
P= Petitioned to be added to the list of T&E

ALABAMA'S FEDERALLY LISTED AND STATE PROTECTED SPECIES (BY COUNTY)

This is a list of protected species that are believed to occur in the designated county and the legal protection status of each species. This list is a combination of the U.S. Fish and Wildlife Service (Daphne field office) federally listed species county and state lists and the Alabama State Lands Division's Natural Heritage Section (SLD-NHS) Database of species occurrence data. This list is continually being updated, and, therefore, it may be incomplete or inaccurate and is provided strictly for informational purposes. Site specific information can be provided by the Alabama SLD-NHS and/or the U.S. Fish and Wildlife Service (Daphne field office) prior to project activities. To be certain of occurrence, surveys should be conducted by qualified biologists to determine if a sensitive species occurs within a project area. Species not listed for a given county does not imply that they do not occur there, only that their occurrence there is as yet unrecorded by these two agencies. This list is currently under review and reflects only our current understanding of species distributions. It also does not constitute any form of Section 7 consultation. The Alabama SLD-NHS recommends that the U.S. Fish and Wildlife Service field office in Daphne be contacted for Section 7 consultations.

Calhoun

Protection Status	Common Name	Scientific Name	Applicable State Regulation
State Protected	Alabama Creekmussel	Strophitus connasaugaensis	220-2-.98 (1) (a)
Endangered	Alabama Leather Flower	Xyris tennesseensis	
State Protected	Alabama Map Turtle	Grptemys pulchra	220-2-.92 (1) (c)
State Protected	Alabama Rainbow Mussel	Villosa nebulosa	220-2-.98 (1) (a)
Threatened/State Protected	Blue Shiner	Cyprinella caerulea	220-2-.92 (1) (a)
State Protected	Brazilian Free-tailed Bat	Tadarida brasiliensis	220-2-.92 (1) (e)
State Protected	Coldwater Darter	Etheostoma ditrema	220-2-.92 (1) (a)
State Protected	Common Kingsnake	Lampropeltis getula	220-2-.92 (1) (c)
State Protected	Coosa Creekshell	Villosa umbrans	220-2-.98 (1) (a)
Endangered/State Protected	Coosa Moccasinshell	Medionidus parvulus	220-2-.98 (1) (a)
State Protected	Crystal Darter	Crystallaria asprella	220-2-.92 (1) (a)
State Protected	Delicate Spike	Elliptio arctata	220-2-.98 (1) (a)
State Protected	Eastern Black King Snake	Lampropeltis getula	220-2-.92 (1) (c)
State Protected	Eastern Slender Glass Lizard	Ophisaurus attenuates longicaudus	220-2-.92 (1) (c)
State Protected	Eastern Tiger Salamander	Ambystoma tigrinum	220-2-.92 (1) (b)
State Protected	Etowah Heelsplitter	Lasmigona etowaensis	220-2-.98 (1) (a)
Threatened/State Protected	Finelined Pocketbook	Hamiota altilis	220-2-.98 (1) (a)
Endangered/State Protected	Gray Bat	Myotis grisescens	220-2-.92 (1) (e)
Endangered	Green Pitcher-Plant	Sarracenia oreophila	
State Protected	Greensaddle Crayfish	Cambarus manningi	220-2-.98 (1) (a)
State Protected	Holiday Darter	Etheostoma brevirostrum	220-2-.98 (1) (a)
Endangered/State Protected	Indiana Bat	Myotis sodalis	220-2-.92 (1) (e)
State Protected	Longnosed Crayfish	Cambarus longirostris	220-2-.98 (1) (a)
State Protected	Long-tailed Weasel	Mustela frenata	220-2-.92 (1) (e)
Threatened	Mohr's Barbara's Buttons	Marshallia mohrii	
State Protected	Monkeyface	Theliderma matanevra	220-2-.98 (1) (a)

Threatened/State Protected	Northern Long-Eared Bat	Myotis septentrionalis	220-2-.92 (1) (e)
State Protected	Northern Pinesnake	Pituophis melanoleucus	220-2-.92 (1) (c)
Endangered/State Protected	Ovate Clubshell	Pleurobema perovatum	220-2-.98 (1) (a)
Threatened/State Protected	Painted Rocksnail	Leptoxis taeniata	220-2-.98 (1) (a)
State Protected	Prairie King Snake	Lampropeltis calligaster calligaster	220-2-.92 (1) (c)
State Protected	Pine Snake	Pituophis melanoleucus spp.	220-2-.92 (1) (c)
Threatened/State Protected	Pygmy Sculpin	Cottus paulus (=pygmaeus)	220-2-.92 (1) (a)
State Protected	Sculpin Snail	Stiobia nana	220-2-.98 (1) (a)
State Protected	Seepage Salamander	Desmognathus aeneus	220-2-.92 (1) (b)
State Protected	Seal Salamander	Desmognathus monticola	220-2-.92 (1) (b)
State Protected	Small-mouthed Salamander	Ambystoma texanum	220-2-.92 (1) (b)
State Protected	Southeastern Five-lined Skink	Plestiodon inexpectatus	220-2-.92 (1) (c)
Endangered/State Protected	Southern Pigtoe	Pleurobema georgianum	220-2-.98 (1) (a)
Endangered	Southern Acornshell	Epioblasma othcaloogensis	220-2-.98 (1) (a)
Endangered/State Protected	Southern Clubshell	Pleurobema decisum	220-2-.98 (1) (a)
State Protected	Southern Hog-nosed Snake	Heterodon simus	220-2-.92 (1) (c)
State Protected	Southern Purple Lilliput	Toxolasma corvunculus	220-2-.98 (1) (a)
State Protected	Southern Red-backed Salamander	Plethodon serratus	220-2-.92 (1) (b)
Endangered	Tennessee Yellow-Eyed Grass	Xyris tennesseensis	
Endangered/State Protected	Triangular Kidneyshell	Ptychobranchus greenii	220-2-.98 (1) (a)
State Protected	Tricolored Bat	Perimyotis subflavus	220-2-.92 (1) (e)
Threatened/State Protected	Trispot Darter	Etheostoma trisella	220-2-.92 (1) (a)
Threatened/State Protected	Tulatoma Snail	Tulatoma magnifica	220-2-.98 (1) (a)
Endangered/State Protected	Upland Combshell	Epioblasma metastriata	220-2-.98 (1) (a)
Endangered/State Protected	Vermilion Darter	Etheostoma chermocki	220-2-.92 (1) (a)
Endangered/State Protected	Watercress Darter	Etheostoma nuchale	220-2-.92 (1) (a)
Threatened	White Fringeless Orchid	Platanthera integrilabia	

Key to codes on list:

Endangered - Federally listed as an endangered species by the U. S. Fish and Wildlife Service

Threatened - Federally listed as a threatened species by the U. S. Fish and Wildlife Service

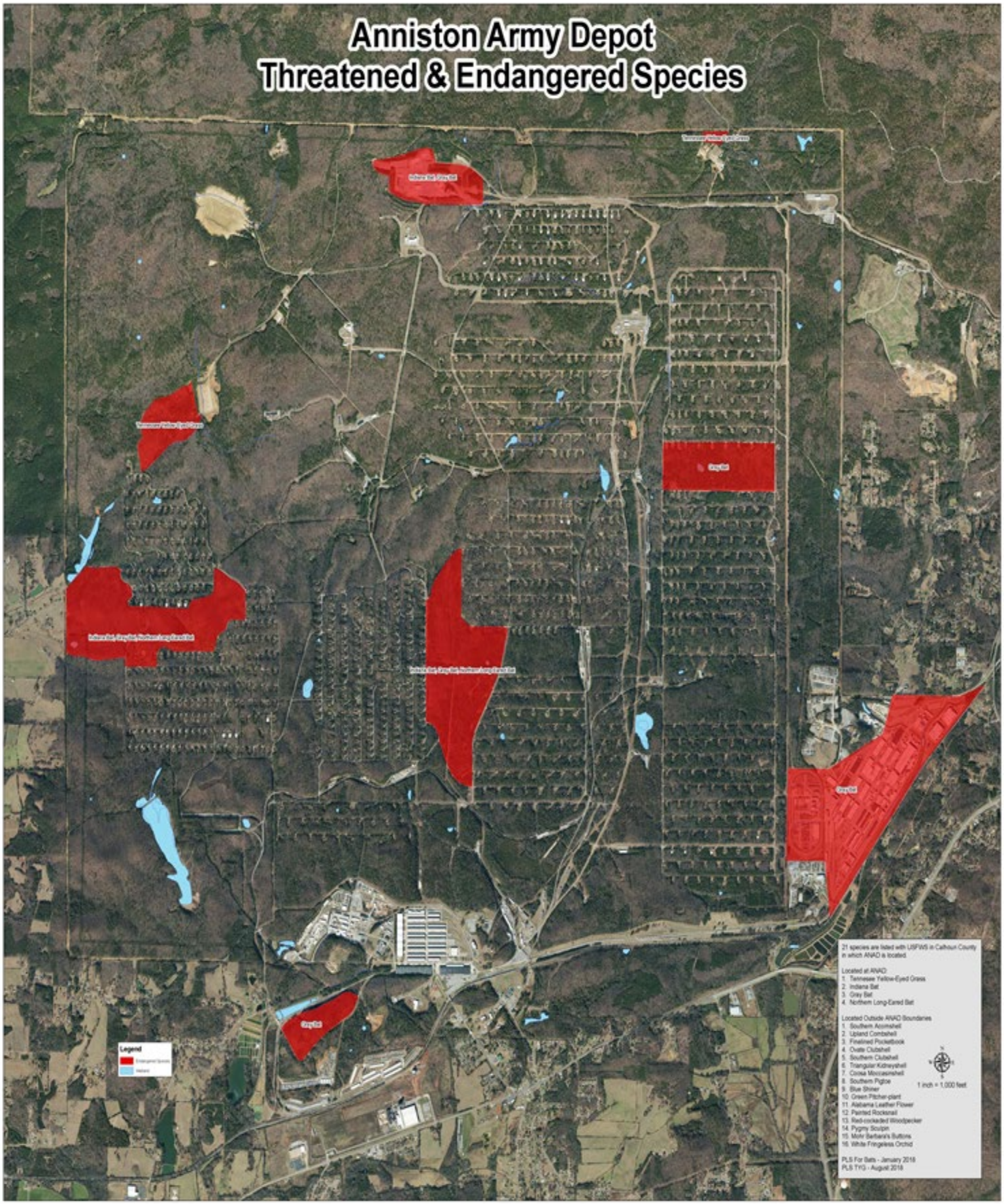
Candidate - Federally listed as a candidate species by the U. S. Fish and Wildlife Service

Experimental - Species is protected throughout its range, except for the nonessential experimental population, by the U. S. Fish and Wildlife Service

State Protected - It is unlawful to take, capture or kill; possess, sell or trade for anything of monetary value, or offer to sell or trade these species. Alabama Regulations relating to game, fish and furbearing animals. 2019-2020. Alabama Department of Conservation and Natural Resources. See http://www.outdooralabama.com/nongame-vertebrates-protected-alabama-regulations for more

Notes:
- Birds: The Nongame Species Regulation 220-2-.92 (1)(d) states: All nongame birds are protected under the provisions of this regulation except crows, starlings, blackbirds, English sparrows, Eurasian collared doves, pigeons and other non-native species.
- The Bald Eagle (Haliaeetus leucocephalus) has been delisted. This species is still protected by the Nongame Species Regulation and the Migratory Bird Act. This species is distributed statewide, but it is most likely to be observed near large rivers and reservoirs.
- Black Bear (Ursus americanus ssp.) may occur statewide.

Figure 3


Anniston Army Depot
Threatened & Endangered Species
Legend
21 species are listed with USFWS in Calhoun County in which ANAD is located.
Located at ANAD:
1. Tennessee Yellow-Eyed Grass
2. Indiana Bat
3. Gray Bat
4. Northern Long-Eared Bat
Located Outside ANAD Boundaries
1. Southern Acornshell
2. Upland Combshell
3. Finelined Pocketbook
4. Ovate Clubshell
5. Southern Clubshell
6. Triangular Kidneyshell
7. Coosa Moccasinshell
8. Southern Pigtoe
9. Blue Shiner
10. Green Pitcher-plant
11. Alabama Leather Flower
12. Painted Rocksnail
13. Red-cockaded Woodpecker
14. Pygmy Sculpin
15. Mohr Barbara's Buttons
16. White Fringeless Orchid
PLS For Bats - January 2018
PLS TYG - August 2018
1 inch = 1,000 feet

APPENDIX B

Annual Surveys / Reports and NEPA Review

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TYG Annual Survey Checklist

Tasks to complete prior to external survey participants coming onto ANAD:

- ☐ Schedule date with environmental consultant(s) and/or ANAD forester.
- ☐ Schedule clearance times at both sites for safety reason
    - Schedule Firing Fan access through ANAD Range Coordinator at ext. 3337
    - Schedule access to both sites through OBOD Division Chief at ext. 4117 or 6922
    - Verify with DP final section that range will not be used to fire tanks on the scheduled days by calling ext. 7115
    - Send email to ANMC (OBOD) and DP for written approval
- ☐ Start badge request process (minimum of 30 days prior)
    - Send SIOAN Form 380-2 to all needing access to ANAD for survey
- ☐ Determine if permit is needed through the USFWS (3 months prior)
- ☐ Request camera pass through DOO (30 days prior)

Items needed to conduct survey

- ☐ Cultural & Natural Resources Field logbook (to include pen & pencils)
- ☐ Camera
- ☐ Wet weather gear
- ☐ Water Boots
- ☐ Vest
- ☐ Marking Flags
- ☐ Signs (to designate areas & date)
- ☐ Radio communications (OBOD)

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TAAN-RK

MAR 3 0 2020

MEMORANDUM THRU

Bruce Williams, Director, Directorate Risk Management R.G 19 Mar 20 Concur
Phillip Trued, Chief of Staff PMT Concur 20 MAR 20

FOR Commander

SUBJECT: FY20 Annual Report on Threatened and Endangered Species (T&E)

1. The following is a status report on Anniston Army Depot's (ANAD) T&E species. This report includes various species which require protection in accordance with the Endangered Species Act (ESA) of 1973 and the Sikes Act. This report includes the following species:

a. Tennessee Yellow-Eyed Grass (TYG), (Xris Tennesseensis)

b. Indian Bat, (Myotis Sodalis)

c. Gray Bat, (Myotis Grisescens)

d. Northern Long-Eared Bat, (Myotis Septentrionalis)

e. Tri-Colored Bat, (Perimyotis Subflavus)

2. The current status and species updates of TYG since last report includes:

a. Status of species. The two TYG colonies remain classified as an endangered species. A formal field survey was conducted on 6 September 2019 by Mr. Dan Spaulding of the Anniston Museum of Natural History. The survey revealed that the colonies are overall stable from last year's survey. The depot is reviewing controlled burning in these areas; controlled burning is a method that the US Fish and Wildlife Service (USFWS) field office recommends for management of this species.

b. Work orders have been submitted to the Directorate of Public Works that include making larger signs for both colonies, mechanical thinning in and around the colonies during the dormant seasons of the TYG, and to implement the recommendations provided in Mr. Spaulding's 2019 field survey report.

3. The current ESA listing status and updates of bats found on ANAD includes:

a. Status of species. Indian bat (endangered), gray bat, (endangered), northern long-eared bat, (threatened). The tri-colored bat, (at-risk species). Currently the tri-

colored bat is not protected under the ESA, but was petitioned for listing under the ESA during 2016 and still is awaiting an official designation. The tri-colored bat will be added to ANAD's Integrated Natural Resources Management Plan for protection under our Endangered Species Management Plan (ESMP) as an at-risk species based off of consultation with the USFWS Alabama field office in October 2018.

b. All of these species bats are not resident to ANAD with the exception of the tri-colored bat. There is not sufficient hibernaculum on the installation but there is within Calhoun County. The bats come onto the installation for feeding and roosting. There is one known tri-colored bat that is located in a small cave in the West area. This cave is being monitored through periodic visual inspections and planning level surveys.

c. In order to comply with the guidance provided from the USFWS, the ESMP individually outlines recovery management for each T&E species on ANAD.

4. Informal consultation was completed with the USFWS, Daphne, AL, field office via phone and email.

5. Point of contact for this action is Mr. Kevin Guy, 256-240-3051 or kevin.guy.civ@mail.mil.

MARVIN L. WALKER
COL, LG
Commanding

TAAN-RK

AUG 24 2018

MEMORANDUM THRU

Director of Risk Management
Chief of ~~Staff~~ Para 17 Aug

FOR Record

SUBJECT: Annual Report on Threatened and Endangered Species

1. AR 200-3, Chapter 11, Section 11-6, Paragraph g (2), requires an annual report on Threatened and Endangered (T&E) Species to be submitted to and signed by the Installation Commander. The only known endangered species on Anniston Army Depot (ANAD) is the Tennessee Yellow-Eyed Grass (TYG), (Xyris Tennesseensis).

2. The following is a status report on ANAD's endangered TYG:

a. Status of species. The two TYG colonies remain classified as endangered species. The colonies are located at the burning ground and the firing range. ANAD Forester, Mr. Chad Basinger, and Natural Resources Program Manager, Mr. Kevin Guy, conducted informal field check investigations on 5 Oct 17. The field checks revealed that the colonies were overcrowded. Manual removal of saplings, seedlings, and brush was performed to reduce the overcrowding and overtopping conditions since controlled burning is not conducted on ANAD. There were no obvious active flowering TYG spikes seen during this recent internal field investigation.

b. ANAD does not have qualified personnel (botanist) to conduct a complete TYG survey. As such, the results from our internal survey are not a professional synopsis of state of these colonies. However, DPW is contracting with Mr. Dan Spaulding of the Anniston Museum of Natural History to conduct a field survey and provide a written report for continued recovery efforts of the TYG IAW US Fish and Wildlife Service (USFWS) guidance. The survey will completed by 20 Sep 18.

c. Compliance with Endangered Species Management Plan (ESMP). This internal plan outlines species management on ANAD. The management plan, developed in early 2007, is under revision with a finalization NLT 30 Sep 18.

d. Informal communication with the USFWS, Daphne, AL, field office was made via phone and email.

3. POC is Mr. Kevin Guy, 256-240-3051 or kevin.guy.civ@mail.mil.

JOEL E. WARHURST
Colonel, LG
Commanding

DAN SPAULDING Environment Consultant

965 A.P. HOLLINGSWORTH ROAD, WELLINGTON , ALABAMA 36279
CELL: 256-458-0422 **OFFICE**: 256-237-6766 **FAX**: 256-237-6776

11 September 2019

Mr. Bruce Williams
Anniston Army Depot
Director of Risk Management
7 Frankford Avenue
Anniston, AL 36201

Dear Mr. Williams:

This letter is a report of my findings from a study of two populations of the federally listed Tennessee Yellow-eyed-grass (*Xyris tennesseensis*) on the Anniston Army Depot (ANAD). As requested, I conducted a field survey at the two known sites on September 6, 2019 with the assistance of the Anniston Army Depot's Environment Protection Specialist, Kevin Guy.

Tennessee yellow-eyed-grass is a federally listed endangered species that occurs in sunny, wet peaty seeps, shallow peaty swales, and streambanks. This narrow endemic is distinguished from other *Xyris* species by a combination of bulbous, reddish-pink colored leaf bases, tuberculate-scabrid scape ridges, lacerate lateral sepal keels, and dark, farinose coated seeds. Unlike other *Xyris*, which are typically in acidic soil, this species grows in calcareous substrates.

Tennessee Yellow-eyed-grass population assessments

The two known sites on ANAD with *Xyris tennesseensis* were surveyed and assessed. The first population (figures 1-5) of Tennessee yellow-eyed-grass surveyed was near the Open Burn/Open Deposition Grounds (33.66525; -85.99867). A total of 31 clusters of plants (consisting of 1 or more individuals) with 96 flowering/fruiting heads were counted. The population has remained stable since 2018. During last year's survey there were 35 clumps of plants and 97 flower/fruiting heads. Even though the numbers are almost the same, most of the population now occurs along the banks of a small stream. In 2018 there were more plants recorded in the boggy seep adjacent to the drainage, only one was found in 2019. The reduction in the number of individuals within the seep is likely due the competition from other plants,

especially shrubs and trees that have invaded the area. In 2013, no individuals of *Xyris tennesseensis* were observed most likely because the entire area was completely overgrown with woody vegetation. The reappearance of Tennessee yellow-eyed-grass was due to the fact that the site was cleared after the 2013 to allow more sunlight for the *Xyris*, which is crucial for its survival.

The second population (Figures 6–11) surveyed on September 6, 2019 was near the Firing & Fan Range (33.68773; -85.93956). At this site there were approximately 223 clusters of plants with about 526 flowering/fruiting heads. Almost all of the plants, except for 1 clump along the woodland border, were concentrated in the open area along the fence. The population has increased by the fence, but plants that were documented along the streambank in last year's survey were not present, most likely because of encroachment of competing vegetation along the stream that feeds this site. In August 2018 there were 201 clusters of plants with 903 flowering/fruiting heads that were found along the stream as well as near the fence. The reduction in the number of heads in the 2019 survey may be because there were no *Xyris* on the streambank, which tend to be more floriferous. The survey conducted September 2013 documented only 41 flowering/fruiting heads, so the Tennessee yellow-eyed grass is thriving today, but more can be done to help it continue to flourish. During the 2013 assessment, it was noted that herbicide along the fence row was being used, which was the main factor in the lower number of individuals, but after this practice was discontinued the population rebounded.

Habitat Description

The habitat surveyed at the first site near the burning grounds were the margins of the small drainage and a boggy seepage area in a clearing next to the stream. The vegetation observed included: tickseed-sunflower (*Bidens polylepis*) wool-grass (*Scirpus cyperinus*), roundhead rush (*Juncus validus*), common greenbrier (*Smilax rotundifolia*), yellow jessamine (*Gelsemium sempervirens*), loblolly pine (*Pinus taeda*), highbush blackberry (*Rubus argutus*), soft rush (*Juncus effusus*), late-flowering thoroughwort (*Eupatorium serotinum*), red maple (*Acer rubrum*), little bluestem (*Schizachyrium scoparium*), old-field goldenrod (*Solidago nemoralis*), Chinese bushclover (*Lespedeza cuneata*), brown-eyed-Susan (*Rudbeckia triloba*), bear's-foot (*Smallanthus uvedalia*), Chinese privet (*Ligustrum sinense*), spearmint (*Mentha spicata*), Cherokee sedge (*Carex cherokeensis*), red-root flatsedge (*Cyperus erythrorhizos*), persimmon (*Diospyros virginiana*), tall tickseed (*Coreopsis tripteris*), rabbit-tobacco (*Pseudognaphalium*

obtusifolium), sweetgum (*Liquidambar styraciflua*), helmet-flower (*Scutellaria integrifolia*), lax-flower witchgrass (*Dichanthelium laxiflorum*), spikegrass (*Chasmanthium laxum*), Brazilian vervain (*Verbena brasiliensis*), nodding beaksedge (*Rhynchospora inexpansa*), sycamore (*Platanus occidentalis*), sensitive-plant (*Chamaecrista nictitans*), leathery rush (*Juncus coriaceous*), heal-all (*Prunella vulgaris*), marsh seedbox (*Ludwigia palustris*), sallow sedge (*Carex lurida*), Nepal grass (*Microstegium vimineum*), Carolina elephant's-foot (*Elephantopus caroliniana*), miterwort (*Mitreola petiolata*), winged loosestrife (*Lythrum alatum*), velvet witchgrass (*Dichanthelium scoparium*), trumpet-creeper (*Campsis radicans*), small-fruit witchgrass (*Dichanthelium microcarpon*), small-fruit spikerush (*Eleocharis microcarpa*), tulip-poplar (*Liriodendron tulipifera*), Frank's sedge (*Carex frankii*), hedge-hyssop (*Gratiola neglecta*), carp grass (*Arthraxon hispidus*), bushy St. John's-wort (*Hypericum densiflorum*), needle-pod rush (*Juncus scirpoides*), hairy umbrella sedge (*Fuirena squarrosa*), rice cutgrass (*Leersia oryzoides*), calico aster (*Symphyotrichum latifolium*), redbud (*Cercis canadensis*), green bulrush (*Scirpus atrovirens*), common seedbox (*Ludwigia alternifolia*), boneset (*Eupatorium perfoliatum*), dwarf St. John's-Wort (*Hypericum mutilum*), buttonweed (*Diodia virginiana*), late goldenrod (*Solidago gigantea*), and rattan vine (*Berchemia scandens*).

Associate plant species at the second site (Firing/Fan Range) include the following plant species (excluding the surrounding forest): brown-eyed-Susan (*Rudbeckia triloba*), tall ironweed (*Vernonia gigantea*), autumn sneezeweed (*Helenium autumnale*), late goldenrod (*Solidago gigantea*), bushy aster (*Symphyotrichum dumosum*), Nepal grass (*Microstegium vimineum*), ragweed (*Ambrosia artemisiifolia*), Chinese bushclover (*Lespedeza cuneata*), red-top panic grass (*Panicum rigidulum*), carp grass (*Arthraxon hispidus*), green ash (*Fraxinus pensylvanica*), mist flower (*Conoclinium coelestinum*), sweetgum (*Liquidambar styraciflua*), false nettle (*Boehmeria cylindrica*), water oak (*Quercus nigra*), leathery rush (*Juncus coriaceous*), Vasey's grass (*Paspalum urvillei*), needle-pod rush (*Juncus scirpoides*), swamp dogwood (*Cornus foemina*), silky dogwood (*Cornus amomum*), straw-colored flatsedge (*Cyperus strigosus*), bushy St. John's-wort (*Hypericum densiflorum*), longleaf cut-throat grass (*Coleataenia longifolia*), mermaid-weed (*Proserpinaca palustris*), yellow flatsedge (*Cyperus flavescens*), horned beakrush (*Rhynchospora corniculata*), knotroot bristle grass (*Setaria parviflora*), clustered beakrush (*Rhynchospora glomerata*), boneset (*Eupatorium perfoliatum*), fireweed (Erechtites hieraciifolia), tag alder (*Alnus serrulata*), roundhead rush (*Juncus validus*), common seedbox (*Ludwigia alternifolia*), scaldweed (*Cuscuta gronovii*), Chinese privet (*Ligustrum sinense*),

deer-tongue witchgrass (*Dichanthelium clandestinum*), late-flowering thoroughwort (*Eupatorium serotinum*), swamp dogwood (*Cornus foemina*), rice cutgrass (*Leersia oryzoides*), small-fruit witchgrass (*Dichanthelium microcarpon*), partridge-pea (*Chamaecrista fasciculata*), sheathed flatsedge (*Cyperus haspan*), red-root flatsedge (*Cyperus erythrorhizos*), buttonweed (*Diodia virginiana*), tall ironweed (*Vernonia gigantea*), Brazilian vervain (*Verbena brasiliensis*), hairy crabgrass (*Digitaria ciliaris*), leathery rush (*Juncus coriaceous*), blue-flower eryngo (*Eryngium integrifolium*), soft rush (*Juncus effusus*), highbush blackberry (*Rubus argutus*), river birch (*Betula nigra*), elm (*Ulmus rubra*), hairy umbrella sedge (*Fuirena squarrosa*), dwarf St. John's-Wort (*Hypericum mutilum*), meadow love grass (*Eragrostis refracta*), sallow sedge (*Carex lurida*), waterthread pondweed (*Potamogeton diversifolius*), tulip-poplar (*Liriodendron tulipifera*), blunt Spikerush (*Eleocharis obtusum*), beaksedge (*Rhynchospora inexpansa*), slender Fimbry (*Fimbristylis autumnalis*), small-fruit seedbox (*Ludwigia microcarpa*), small-fruit spike-sedge (*Eleocharis microcarpa*), and broom witchgrass (*Dichanthelium scoparium*).

Additional Studies and Recommendations

Based on literature review and a field survey of the project sites, no additional studies are required at this time to be in compliance with state and federal endangered species laws.

My management recommendations for these sites is the areas continue to be cleared of woody vegetation. This can be done mechanically or through prescribed burns. I would only implement a mowing regime in early-mid spring before any plants come up, but the site can be mowed in the winter as well as hand-thinned of trees and shrubs. Upslope clear-cutting or site preparation is not recommended because it may result in excessive erosion, which may choke out herbaceous vegetation below. Herbicides should not be applied at or near these sites. All these recommendations would be beneficial to *Xyris tennesseensis* at both sites if done properly.

Sincerely,

Daniel D. Spaulding
Environmental Consultant

Figure 1. *Xyris tennesseensis* habitat along stream near burning grounds.

Figure 2. Boggy seep habitat with *Xyris tennesseensis* near burning grounds (only one clump of plants found).

Figure 3. Fruiting heads of *Xyris* hanging over stream near burning grounds.

Figure 4. Cluster of *Xyris tennesseensis* along stream near burning grounds.

Figure 5. Head of *Xyris tennesseensis* near burning grounds.

Figure 6. Habitat along fence with *Xyris tennesseensis* near firing range.

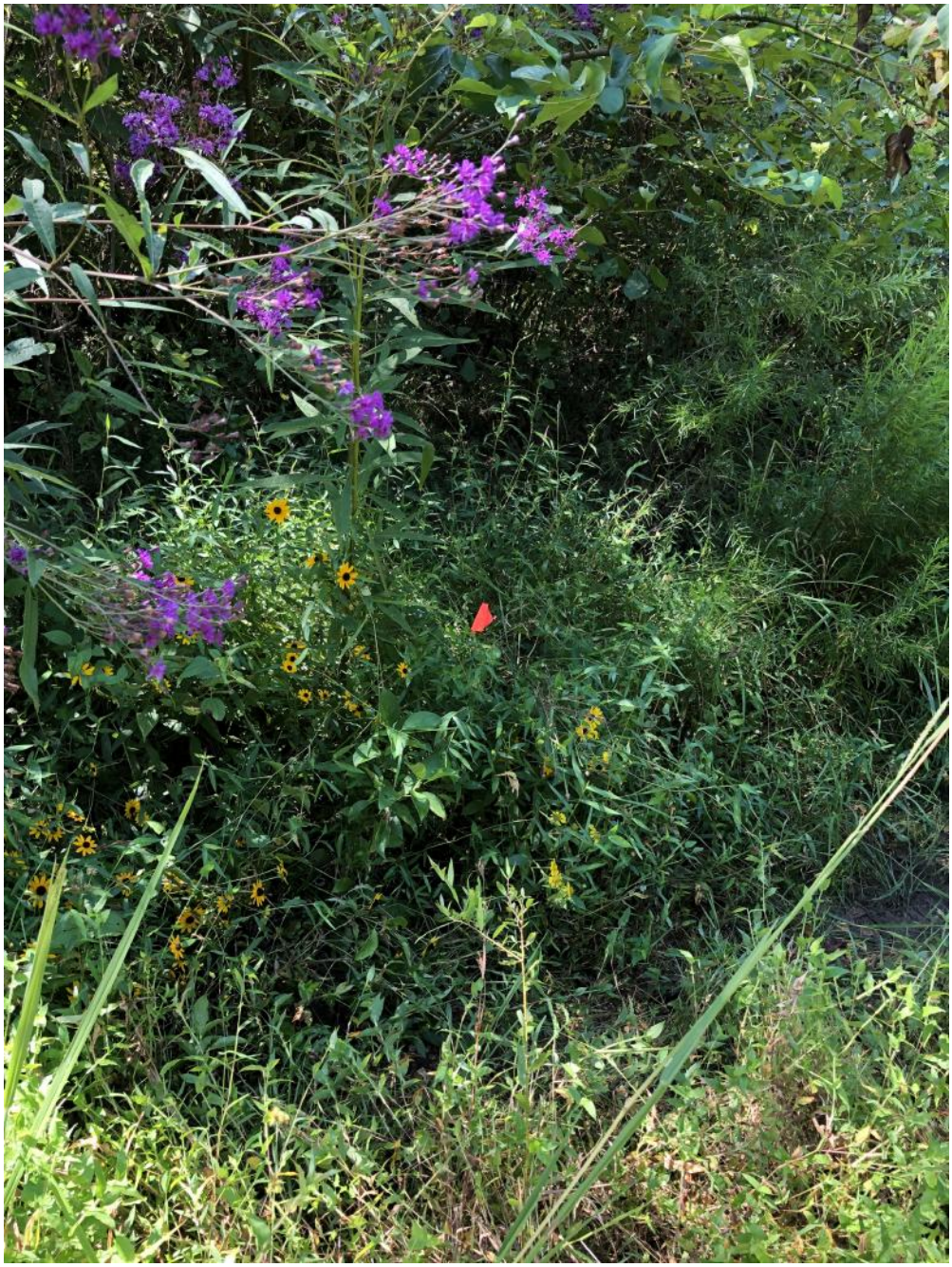

Figure 7. Woodland border habitat for *Xyris tennesseensis* near firing range (Only one clump of plants present)

Figure 8. Streamside habitat near firing range lacking plants this year.

Figure 9. *Xyris tennesseensis* along fence near firing range.

Figure 10. *Xyris tennesseensis* flowers (site near firing range).

Figure 11. *Xyris tennesseensis* leaf bases (at site near firing range).

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Environmental Work Request (EWR)

FOR DRK USE ONLY: EWR NUMBER 2018248-DRK-1

Final Approval / Project Feedback Section:

This project is: Approved As Is

Your Follow-up actions are: NONE

Section 1:

Project Manager: Kevin Guy

Phone Number 256-240-3051 Directorate: DRK

E-mail: kevin.guy.civ@mail.mil

Today's Date: 9/5/2018 Proposed Start Date: 10/01/2018

Organization Work Order #: N/A

General Location (i.e. in or near Bldg. #) : Depot-wide

General Questions:

Any digging or excavation: No

New facility construction: No

Will digging or excavation involve more than 1 acre: No

Is USACE (Army Corps of Engineers) involved: No

Any demolition: No

Hazardous waste: No

Is a roll-off box needed: No

Any waste water generated during construction / project operation (i.e. washing of walls / equip, or installing steam cleaning equip., etc.): No

Does this project construct/modify fans, vents, ducts, or filter systems: No

Will new equipment be purchased: No

Will existing plant equipment be moved: No

Is the project Tenant funded: No

Section 2

Project Name / Description of Work

5 year review of the ANAD INRMP in correlation with internal stakeholder and the USFWS IAW with DoD's annual review policy and the Sikes Act which requires that USFWS and state formally review INRMPs for operation and effect at least every five years. for additional info please the attached INRMP fact sheet (date 2016)

FOR DRK USE ONLY: **EWR NUMBER** 2018248-DRK-1

DRK Action Officer: Kevin Guy Phone #: 3051

Section 3

Air Permit Required ◯ Yes ◯ No Reviewed By: Brad Williard

Date Reviewed: 9-6-2018

AIR - Comments / Requirements

No issues noted.

RCRA Permit Required ◯ Yes ◯ No Reviewed By: Brad Williard

Date Reviewed: 9-10-2018

RCRA - Comments / Requirements

Water Permit Required ◯ Yes ◯ No

Treatment Plants Involvement ◯ Yes ◯ No

Reviewed By: Jim Bearrentine

Date Reviewed: 09/11/2018

WATER - Comments / Requirements

FOR DRK USE ONLY: EWR NUMBER 2018248-DRK-1

Section 3 (Continued)

IRP Issues ◯ Yes ◯ No Reviewed By: Dilip Kothari

Date Reviewed: 9/10/2018

IRP - Comments / Requirements

NEPA Issues ◯ Yes ◯ No Reviewed By: G. Milner

Date Reviewed: 6SEP2018

What type of action / documentation req. None

NEPA - Comments / Requirements

This activity falls under 32 CFR Part 651, Appendix B, (b)(3), a Categorical Exclusion (CX) for the preparation of regulations, procedures, manuals, and other guidance documents that implement, without substantive change, the applicable HQDA or other federal agency regulations, procedures, manuals, and other guidance documents that have been previously environmentally evaluated.

Solid Waste Issues ◯ Yes ◯ No

Date Reviewed: 6SEP2018 Reviewed By: G. Milner

If yes, what type of action/documentation required:

Solid Waste - Comments/Requirements:

FOR DRK USE ONLY: EWR NUMBER: 2018248-DRK-1

Section 3 (Continued)

Date Review: 09/13/2018 Reviewed By: Glenn Ingle

Industrial Hygiene Issues ◯ Yes ◯ No

IH - Comments/Requirements

No comment

Safety Issues ◯ Yes ◯ No

Date Reviewed: 9/18/2018 Reviewed By: K.Guy

Safety - Comments/Requirements

No comments provided from the safety office.

Other Issues ◯ Yes ◯ No

Date Reviewed: Reviewed By:

If yes, what type of action/documentation required:

Other Issues - Comments/Requirements:

APPENDIX C

C-1 – Tennessee Yellow-Eyed Grass
5-Year Review: Summary and Evaluation (2013)
U. S. Fish and Wildlife Service
Southeast Region
Alabama Ecological Services Field Office
Daphne, Alabama

C-2 – Faunal and Flora Survey of Anniston Army Depot and Coosa River Annex: Federal Endangered, Threatened, and Candidate Species (Alabama Natural Heritage Program & ADCNR – June 94)

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Tennessee yellow-eyed grass
(*Xyris tennesseensis* Kral)

5-Year Review:
Summary and Evaluation

Tennessee yellow eyed grass
Kim D. Coder

U.S. Fish and Wildlife Service
Southeast Region
Alabama Ecological Services Field Office
Daphne, Alabama

5-YEAR REVIEW
Tennessee yellow-eyed grass / *Xyris tennesseensis*

I. GENERAL INFORMATION

A. Methodology used to complete the review: In conducting this 5-year review, we relied on available information pertaining to historic and current distributions, life histories, and habitats of this species. We announced initiation of this review and requested information in a published *Federal Register* notice (74 FR 31972). We conducted an internet search, reviewed all information in our files, and solicited information from all knowledgeable individuals including those associated with academia and state conservation programs. Our sources include the final rule listing these species under the Act; the Recovery Plan; peer reviewed scientific publications; unpublished field observations by US Forest Service, Service, State and other experienced biologists; unpublished survey reports; and notes and communications from other qualified biologists or experts. Comments received and suggestions from peer reviewers were evaluated and incorporated as appropriate (see Appendix A). We did not receive any public comments.

B. Reviewers

Lead Region – Southeast Region: Kelly Bibb, 404-679-7132

Lead Field Office – Alabama Ecological Services Field Office: Shannon Holbrook, 251-441-5871

Cooperating Field Office – Tennessee Ecological Services Field Office: Geoff Call, 931-528-6481 (x.213); Georgia Ecological Services Field Office: Jimmy Rickard, 706-613-9493

C. Background

1. **Federal Register Notice citation announcing initiation of this review:** July 6, 2009 (74 FR 31972).

2. **Species status:** Stable. A preliminary survey of all known sites in late 2008 indicated reduced numbers of plants at all sites, compared to numbers seen in the late 1990s, related to drought stress and drying of the plants preferred habitat. A more thorough survey completed in 2010 after two years of adequate rainfall indicates plants are still extant in original locations and in former abundances.

3. **Recovery achieved:** 1= 0-25% recovery objectives achieved

4. **Listing history**
   Original Listing
   FR notice: 56 FR 34151
   Date listed: July 26, 1991
   Entity listed: Species
   Classification: Endangered

5. **Review History:**
   Recovery Data Call: 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002, 2001, 2000, 1999 and 1998
   Recovery Plan: 1994

6. **Species' Recovery Priority Number at start of review (48 FR 43098):** 8. The "8" indicates a moderate degree of threat and high recovery potential.

7. **Recovery Plan:**
   Name of plan: Tennessee Yellow-Eyed Grass Recovery Plan
   Date: June 24, 1994

II. REVIEW ANALYSIS

A. Application of the 1996 Distinct Population Segment (DPS) policy: The Endangered Species Act (ESA or Act) defines species as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate wildlife. This definition limits listing DPS to only vertebrate species of fish and wildlife. Because the species under review is a plant, the DPS policy is not applicable.

B. Recovery Criteria:

1. Does the species have a final, approved recovery plan containing objective and measurable criteria? Yes

2. Adequacy of recovery criteria.

a. Do the recovery criteria reflect the best available (i.e., most up-to date) information on the biology of the species and its habitat? Yes. Though the recovery criteria are not specific as to number of individuals/population, the recovery criteria of 15 viable, protected populations reflects the best available data.

b. Are all of the 5 listing factors that are relevant to the species addressed in the recovery criteria (and there is no new information to

consider regarding existing or new threats)? The recovery criteria address the 5 listing factors by assessing population persistence over time.

3. List the recovery criteria as they appear in the recovery plan, and discuss how each criterion has or has not been met, citing information.

This species will be considered for delisting when there are 15 adequately protected and managed, self-sustaining populations of the species distributed throughout the historical range and maintained for 10 years. A population will be considered adequately protected when it is legally protected and actively managed. A population will be considered "self-sustaining" if monitoring data support the conclusion that it is reproducing successfully and maintaining stable numbers or increasing. The minimum number of individuals necessary for a self-sustaining population should be determined by demographic studies implemented through the recovery plan.

Status: Criteria have not been met. Currently the species is known from 23 sites with only 4 of these sites occurring on federally owned land. These 4 sites are protected and managed under the Fort McClellan INRMP but the remaining sites are in private ownership not subject to take provisions of the ESA. Status surveys conducted in 1998-1999 listed 17 sites with plants (Moffett 2008). A resurvey of several of these sites in the summer and fall of 2008 revealed a decline in populations following several years of drought (Boyd and Moffett 2010). A population survey conducted in the summer and fall of 2009 by Auburn University concluded that the known population size has been relatively stable during the past decade. The 2009 study (Boyd and Moffett 2010) found known occurrences from 23 sites, an increase from the 17 known sites from 1998-1999 surveys. This most recent published study of the species indicates that the seedlings appear to need relatively well-lit moist soil to become established and grow to maturity. Further, this species tends to be disturbance dependent and needs active management to maintain populations for long-term survival. Although currently there are more than the 15 required populations and generally the population has been relatively stable during the past decade (Boyd and Moffett 2010), the majority of these are not adequately protected and managed.

Fort McClellan, under their 2007 Integrated Natural Resource Management Plan (INRMP), has a number of protection measures in place to protect this species and other rare species. The Alabama Army National Guard (ALARNG) has coordinated with the USFWS to determine the most appropriate course of action in the management of populations of Tennessee yellow-eyed grass located on the Fort McClellan Army National Guard Training Center (FM-ARNGTC). In the June 2007

INRMP, management actions for the species are outlined that include monthly and annual monitoring of the sites and maintenance activities to control competing vegetation based on recommendations by USFWS.

Annual monitoring of TYG will be conducted between the 1st and 15th of August for consistent comparisons among years. Field surveys will involve a plant inventory and a qualitative assessment of habitat. The habitat assessment identifies impacts that may benefit or adversely affect the populations. The populations will also be visited on a monthly basis throughout the year to monitor potential changes in the general area. The ALARNG continues to coordinate with the USFWS to determine the best management and monitoring techniques for these populations.

Surveys were conducted in 1998, 1999, and 2000 in Tennessee by Division of Natural Areas (DNA) with the help of section 6 funding from the US Fish and Wildlife Service under the ESA. These surveys located 11 new occurrences within the seep communities and along stream banks. DNA again conducted a survey in Tennessee in 2008 and located two new occurrences in Tennessee.

C. Updated Information and Current Species Status

1. Biology and Habitat

Xyris tennessensis is a rare perennial monocot that is an obligate wetland plant that prefers relatively high pH seeps and streambanks. The plant ranges from 7-10 decimeter (2.3 to 3.3 ft) in height. Plants typically occur in clumps where they arise from fleshy bulbous bases. Leaves are basal, the outermost scale-like, the larger one linear, twisted, deep green and 14 to 45 centimeters (5.5 to 17.7 in) long. The inflorescence consists of brown conelike spikes, 1 to 1.5 cm (0.4 to 0.6 in) in length, which occur singly at the tips of long slender stalks from 30 to 70 (12 to 28 in) long. The flowers, which are pale yellow in color and 4.5 millimeters (0.2 in) long, unfold in the late morning and wither by mid-afternoon. Fruits are thin walled capsules containing numerous seeds 0.5 to 0.6 mm (0.02 in) in length. Flowering occurs from August through September.

Xyris tennessennesis is an obligate wetland plant that is restricted to calcareous seeps, fens, and spring runs in Alabama, Georgia, and Tennessee. *Xyris tennesseensis* is not only at risk as a wetland plant, but is also extremely rare due to its unusual habitat requirement among North American xyrids for circum-neutral pH soils overlying calcareous substrates. In addition, it has been shown to be a poor competitor and quickly succumbs to ecological succession without periodic disturbance.

Plant conservation efforts aimed at this species have included habitat and population surveys, as well as critical habitat management and restoration.

The known current and historic distribution of *Xyris tennesseensis* is restricted to the states of Alabama, Georgia, and Tennessee almost exclusively within the Interior Plateau and Ridge and Valley ecoregions. Tennessee yellow-eyed grass was known from only seven sites, five in Tennessee, one in Georgia and one in Alabama, at the time of listing in 1991 (USFWS 1991). However, surveys since its listing have resulted in the location of 16 additional populations. Currently, a total of 23 populations are known to be extant including three in Bibb County, four in Calhoun County, and one each in Shelby and Franklin Counties, Alabama; four in Bartow County, one in Floyd County, and one in Whitfield County, Georgia; and seven in Lewis County, Tennessee.

Status surveys conducted in 1998-1999 listed 17 sites with plants (Moffett 2008). A resurvey of several of these sites in the summer and fall of 2008 revealed a decline in populations following several years of drought (Boyd and Moffett 2010). A population survey conducted in the summer and fall of 2009 by Auburn University concluded that the known population size has been relatively stable during the past decade. The 2009 study (Boyd and Moffett 2010) found known occurrences from 23 sites, an increase from the 17 known sites from 1998-1999 surveys. This most recent published study of the species indicates that the seedlings appear to need relatively well-lit moist soil to become established and grow to maturity. Further, this species tends to be disturbance dependent and needs active management to maintain populations for long-term survival

A population survey conducted across the range in Alabama, Georgia and Tennessee in the summer and fall of 2009 by Auburn University found occurrences from 23 sites. Three additional sites were discovered in Georgia during the 2009 surveys.

Current research on *X. tennesseensis* indicates that flower production and (perhaps) seedling recruitment are most extensive in locations that are relatively sunny and lack an overstory of shrub or tree canopies. The species does best in relatively open moist sites. According to Moffett (2008), woody competition that shades out the species and herbaceous competition that shades and competes with the species can suppress *Xyris tennesseenis* growth and reproduction. The tiny seedlings appear to need relatively well-lit moist soil to become established and grow to maturity. Thus the species is likely disturbance dependent and needs active management to main sites in suitable conditions for long-term viability (Boyd and Moffett 2010). This management strategy reveals that conservation of the species requires a more hands-on management approach than some endangered plant species.

2. Five Factor Analysis (threats, conservation measures and regulatory mechanisms)

a. Present or threatened destruction, modification or curtailment of its habitat or range:

The research indicates that the species and its habitat rely on active management to keep sites open and well-lit to ensure the success of the future of the population. Most of the occurrences of *Xyris tennesseensis* are found on private land making active management difficult for the majority of the populations. Even on government land, active management may only be successful with the encouragement and assistance from USFWS.

Because this species depends on open well-lit sites for establishment, modification of habitat through natural succession or lack of disturbance is still considered a major threat to the success of *Xyris tennesseensis*. Due to the level of destruction and degradation of habitat associated with human population growth in the southeastern U.S., active conservation and management for this species are critical to its continued existence. In situ efforts focus on habitat protection, acquisition, and/or the restoration and management of critical habitat for rare taxa.

This species continues to be threatened by habitat destruction including stream impoundment, habitat conversion for agriculture and residential development, and poor management practices of the few wild populations (Johnson et al 2012).

b. Overutilization for commercial, recreational, scientific, or educational purposes:

At the time of listing, overutilization was not believed to be a threat. We have no new documentation of this threat occurring and continue to believe it is not a threat to this plant.

c. Disease or predation:

At the time of listing, disease or predation were not believed to be a threat. We have no new information concerning this factor and continue to believe it is not a threat to this plant.

d. Inadequacy of existing regulatory mechanisms:

There are no State laws in Alabama protecting the Tennessee yellow-eyed grass and its habitat. State protections are in place for the species in Tennessee and Georgia but do not provide for the protection against habitat destruction. Tennessee legislation prohibits taking of the plant without the permission of the landowner and regulates commercial sale and export. In Georgia, listed plants or those proposed for listing are protected by the Wildflower Preservation Act of 1973. This legislation prohibits taking of plants from public lands without a permit and regulates the sale and transport of plants within the State. Neither of these statutes provides protection against habitat destruction, which is the principal threat.

e. Other natural or manmade factors affecting its continued existence:

Current research indicates that X. tennesseensis continues to face the threat of extinction. The future of the remaining locations of the species is greatly dependent on their management.

Current research on *X. tennesseensis* indicates that flower production and (perhaps) seedling recruitment are most extensive in locations that are relatively sunny and lack an overstory of shrub or tree canopies. The species does best in relatively open well-lit moist sites. According to Moffett (2008), woody competition that shades out the species and herbaceous competition that shades and competes with the species can suppress *Xyris tennesseenis* growth and reproduction.

Research shows that *X. tennesseensisis* is not tolerant of extensive shading and has declined in sites experiencing encroachment from trees and shrubs (Kral 1983). The tiny seedlings appear to need relatively well-lit moist soil to become established and grow to maturity. Thus the species is likely disturbance dependent and needs active management to main sites in suitable conditions for long-term viability (Boyd and Moffett 2010). This management strategy reveals that conservation of the species requires a more hands-on management approach than some endangered plant species.

Competition from woody plant encroachment including overcrowding and overshading are factors affecting the specialized habitat requirements of this species. Also, because this species relies on well-lit moist soils to become established, it is vulnerable to diversions of seep or ground water. A decline in number of three populations in Georgia and Alabama was attributed to alteration of disturbance regimes, competition with other plants at each site and recent devastating droughts (Boyd and Moffett 2010).

D. Synthesis

The existence of Tennessee yellow-eyed grass continues to be threatened because of its specialized habitat needs, small population size, and continued impacts to its habitat. The potential development of private land, changes in moisture, shade and overcrowding from woody plant encroachment and disturbance events, including severe drought, present continuing threats to the species.

Habitat destruction or modification is presently the largest threat to this species. Because the species relies on active management to keep sites open and well-lit, partnerships with private landowners and government agencies to implement active management and easements on their properties are vital to the continued existence of the Tennessee yellow-eyed grass.

Based on the preceding information in this review, we believe that the Tennessee yellow-eyed grass continues to meet the definition of an endangered species. This assessment is based on our limited knowledge of the species' life history, its limited distribution, and potential threats to its habitat.

Summaries of verified populations of *Xyris tennesseensis* in each State are found in Tables 1-3.

Table 1. Extant Tennessee yellow-eyed grass populations known from Alabama. (Boyd and Moffett 2010)

Site Name	County	Last Observed	Size and/or Vigor 1999/2010	Ownership
Alligator Glades East	Bibb	2009	0/ 1,088 spikes	Private
Alligator Glades West	Bibb	1999	1,332 / 0 spikes	Private
Burning Ground Seep	Calhoun	2009	3,415 / 37 spikes	Federal – Anniston Army Depot
Ebenezer Swamp	Shelby	2009	0 / 11,366 spikes	Private
Little Schulz Creek	Bibb	2009	2,511 / 8,064 spikes	Private
Lloyd's Chapel Swale	Calhoun	2009	11,370 / 22 spikes	Federal – Pelham Range
Red Bay Highway	Franklin	2009	2,117 / 2822 spikes	Private
Wesley Chapel	Bibb	2009	0 / 263 spikes	Private
Willett Springs	Calhoun	2009	2,637 / 4,121 spikes	Federal – Pelham Range
The Sinks	Bibb	2009	38 / 263 spikes	Private
Firing Fan Creek	Calhoun	2009	1,173 / 72 spikes	Federal – Pelham Range

Table 2. Extant Tennessee yellow-eyed grass populations known from Georgia. (Boyd and Moffett 2010)

Site Name	County	Last Observed	Size and/or Vigor 1999/2010	Ownership
Clear Creek Spring	Bartow	2009	684 / 1,360 spikes	Private
Clear Creek Lake	Bartow	2009	0 spikes (had been mowed)	Private
Colbertson Spring	Floyd	2009 (discovered in 2009)	252 spikes	Private
Deep Springs	Whitfield	Access denied		Private
Interstate Hypericum Springs	Bartow	2009	1,230 / 771 spikes	Private
Mosteller Springs	Bartow	2009	20,878 / 9,793 spikes	Private
Mull Farm Pond	Floyd	1999	1,594 / 0 spikes	Private
Petit Creek/Wofford's Crossroads Swale	Bartow	1999	119 / 0 spikes	Private
Pine Log Springs	Bartow	2009	(no 1999 survey) /127 spikes	Private
Soggy Bottom Fen	Bartow	2003	3,000 (2003) / 0 spikes	Private
Whiskey Barrel Springs	Bartow	2009	5 spikes (new in 2009)	Private

Table 3. Extant Tennessee yellow-eyed grass populations known from Tennessee. . (Boyd and Moffett 2010)

Site Name	County	Last Observed	Size and/or Vigor 1999/2010	Ownership
Auntney Hollow	Lewis	2009	733 / 361 spikes	Private (state holds conservation easement)
Dry Branch	Lewis	2009	1,459 spikes	State owned
Langford Branch	Lewis	2009	1,231 / 159 spikes	Private land trust (state holds conservation easement)
Little Grinders Creek	Lewis	2009	3,432 / 2,997 spikes	Private
Little Swan Creek	Lewis			
Sandy Mitchell Hollow	Lewis	2009	Access denied in 1999 / 52 spikes	Private
Twin Falls Hollow	Lewis	2009	8,741 / 14,184 spikes	Private

III. RESULTS

A. Recommended Classification:

No change is needed. Recovery criteria have not been met. Management and protection of populations on private land should be a priority.

IV. RECOMMENDATIONS FOR FUTURE ACTIONS

1. Initiate periodic monitoring on sites with robust occurrences of the species.
2. Attempt to locate additional populations.
3. Work to obtain protection for sites on privately-owned lands.
4. Actively manage on occupied sites to include woody plant competition control at staggered intervals.
5. Explore well-guided safeguarding opportunities for the species on protected public lands.

V. REFERENCES

Boyd, R.S, and Moffett, J.M. 2010. Population Survey of the Federally Endangered Tennessee Yellow-Eyed Grass (*Xyris tennesseensis*). Auburn University, Alabama. 12pp.

Division of Natural Areas. 2000. Survey for New Populations of Tennessee Yellow-eyed grass *Xyris tennesseensis*. Report submitted to USFWS, Section 6, Segment 14.

Kral, R. 1978. A new species of Xyris tennesseensis (sect. Xyris) from Tennessee and northwestern Georgia. Rhodora 80 (823): 444-447.

Moffett, J.M. Jr. 2008. *Xyris tennesseensis*: Status survey, habitat restoration/ management concerns, and relation to a new xyrid, Xyris spathifolia. Ph.D. dissertation, Auburn University, 196 pp.

Tennessee Department of Environment and Conservation Resource Management Division. 2009. 2008 Search for New Populations of *Xyris tennesseensis*, Kral, Tennessee yellow-eyed grass. Report submitted to USFWS, Section 6, E-4, Segment 22.

U.S. Fish and Wildlife Service. 1994. Recovery Plan for the Tennessee yellow-eyed grass (*Xyris tennesseensis* Kral). Jackson, Mississippi. 24 pp.

U.S. FISH AND WILDLIFE SERVICE
5-YEAR REVIEW of Tennessee yellow-eyed grass (*Xyris tennesseensis*)

Current Classification: Endangered

Recommendation resulting from the 5-Year Review:

____ Downlist to Threatened
____ Uplist to Endangered
____ Delist
__X__ No change needed

Review Conducted By: Shannon Holbrook, Alabama Ecological Services Field Office

FIELD OFFICE APPROVAL:

Lead Field Supervisor, Fish and Wildlife Service

Approve _____ Date 5/3/2013

REGIONAL OFFICE APPROVAL:

for
Lead Regional Director, Fish and Wildlife Service

Approve _____ Date 3-12-14

APPENDIX A
Summary of peer review for the five-year review of Tennessee yellow-eyed grass (*Xyris tennesseensis*)

A. Peer Review Method:
A draft copy of the five-year review was emailed to biologists at affected FWS field offices (Athens, GA and Cookeville, TN). In addition, the document was also sent to two independent peer reviewers including Mincy Moffett, botanist with the Georgia Department of Natural Resources/ Natural Heritage Inventory and Dr. Robert Boyd, botanist/ ecologist on staff at Auburn University, AL.

B. Peer Review Charge:
Reviewers were asked to review and provide comments on the underlying science and overall assessment of the data in the document. Reviewers were not asked to provide recommendations on the legal status of the species.

C. Summary of Peer Review Comments/Report:
We received comments from three of the reviewers which were mostly editorial in nature with a few specific comments. One reviewer from the GA Natural Heritage Program provided updated status survey information as well as conservation measures for the species. One reviewer from the Athens, GA FWS field office provided information on ongoing threats to one population in Georgia.

Comments were considered and incorporated into the final document as appropriate

D. Response to Peer Review:
The primary author was in agreement with all comments received from the peer reviewers and tried to address every comment as appropriate.

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FAUNAL AND FLORAL SURVEY OF ANNISTON ARMY DEPOT AND COOSA RIVER ANNEX: FEDERAL ENDANGERED, THREATENED, AND CANDIDATE SPECIES

CONTRACT NUMBER: M67004-91-D-0010

PROPOSAL NUMBER: 007-AL001

SUBMITTED TO:
ANNISTON ARMY DEPOT
ANNISTON, ALABAMA 36201-5080

ALABAMA NATURAL HERITAGE PROGRAM
ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
STATE LANDS DIVISION
64 NORTH UNION STREET
MONTGOMERY, AL 36130

JAMES C. GODWIN, AQUATIC ZOOLOGIST
JAREL L. HILTON, BOTANIST
MARK A. BAILEY, TERRESTRIAL ZOOLOGIST

JUNE, 1994

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APPENDIX

INTRODUCTION TO INVENTORY PURPOSE, METHODS, & PROCEDURES

The Alabama Natural Heritage Program was contracted to conduct an inventory of the federally designated endangered, threatened, and candidate species of plants and animals which occur on Anniston Army Depot (ANAD) and/or the Coosa River Storage Annex (CRSA). The purpose of the inventory was to locate and map the locations of the federally designated species of ANAD and CRSA.

Soil survey maps, US Geological Survey (USGS) 7.5-minute topographical maps, and aerial photographs were examined to determine the topographical features, soils, and land uses of the study area. County soil surveys were used to locate areas where the soil type was likely to be favorable for federally designated species. Soil surveys were used to determine general land use patterns, physiography, geology, hydrology, and soil types. On ANAD, soils distinguished as Lee silt loam were used to help locate and survey sink areas, as well as ephemeral streams and low areas. USGS 7.5-minute quadrangle maps were used to relate topography, hydrology, physiography, and general land use patterns. Topographic maps, as well as the ANAD and CRSA road and structure maps, were instrumental in field work. The use of both map types enabled accurate pinpointing of localities during field work.

Existing species lists and range maps of plants, vertebrates, and invertebrates were used to develop lists of those federally designated species which have the potential to occur on ANAD or CRSA. Distributional and ecological information was obtained from the scientific literature and unpublished reports of faunal and floral surveys conducted in nearby areas, and literature was searched for historic references to the nature and composition of the original vegetation communities.

The Alabama Natural Heritage Program's Biological Conservation Database (BCD) contains information on the status and distribution of rare species, natural communities, and other special ecological features of the state. Information obtained from BCD on surrounding areas was used to compile a list of federally designated species potentially occurring in the study area.

Using habitat, phenological, behavioral, and annual activity cycles and growing periods of the federally designated species, soil maps and topographic maps were reviewed to locate potential localities for closer examination. On-ground field surveys were also conducted. Sites considered favorable for federally designated species are frequently not evident from the map sources, hence the need to conduct the on-site examinations. The on-site examinations were made by driving roads, wading the streams and walking through seemingly suitable terrestrial areas.

Formal field work on this survey began in November 1992 and was completed in June 1994. ANAD and CRSA were canvassed for federally designated plants and animals. The principal field technique used was to examine areas on foot at different times of the year. Examination on foot of every square meter of the study area over several seasons is the ideal rare species survey, but because of obvious physical limitations and time constraints, this is not possible. To maximize searching efforts, the methods

described above were used to focus on crucial habitats. In addition, we frequently consulted with individuals possessing expert knowledge of particular species.

Within ANAD, the majority of road systems were driven (Figures 1-4) exclusive of those in the Chemical Limited Area (CLA). All roads in blocks A, B, C (except in CLA), D, E, F, H, I, K, and L were surveyed. The perimeter road along the eastern, northern, and western boundaries was driven. The southwestern area of ANAD was surveyed, as was the northwestern area. The wooded region along the southern edge of ANAD outside of the restricted area was also examined.

For CRSA, all road systems inside the inner fenced perimeter were driven (Figure 5). Additionally, much of the wooded area outside of the fence in the northern and eastern portions of the CRSA was surveyed by driving and/or walking the logging roads.

For both ANAD and CRSA, all permanent stream systems were walked for much of their entirety (Figures 1-5).

Collections of plant and animal material were made throughout this study. Plant specimens will be deposited in the state designated repository, the herbarium at Auburn University. Fish specimens will be deposited in the University of Alabama Ichthyological Collection at Tuscaloosa, AL, and aquatic gastropods will be deposited in the Carnegie Museum of Natural History in Philadelphia, PA.

ENVIRONMENTAL CHARACTERISTICS (SUMMARY DESCRIPTION)

GENERAL LAND USE PATTERNS

Historically, this area of the state was an agricultural and industrial region, and was the leading cotton-producing area in 1860. The fertile and level valley lands were mostly cleared, leaving forests on the chert hills and sandstone ridges. The valuable longleaf timber was, for the most part, removed from the slopes.

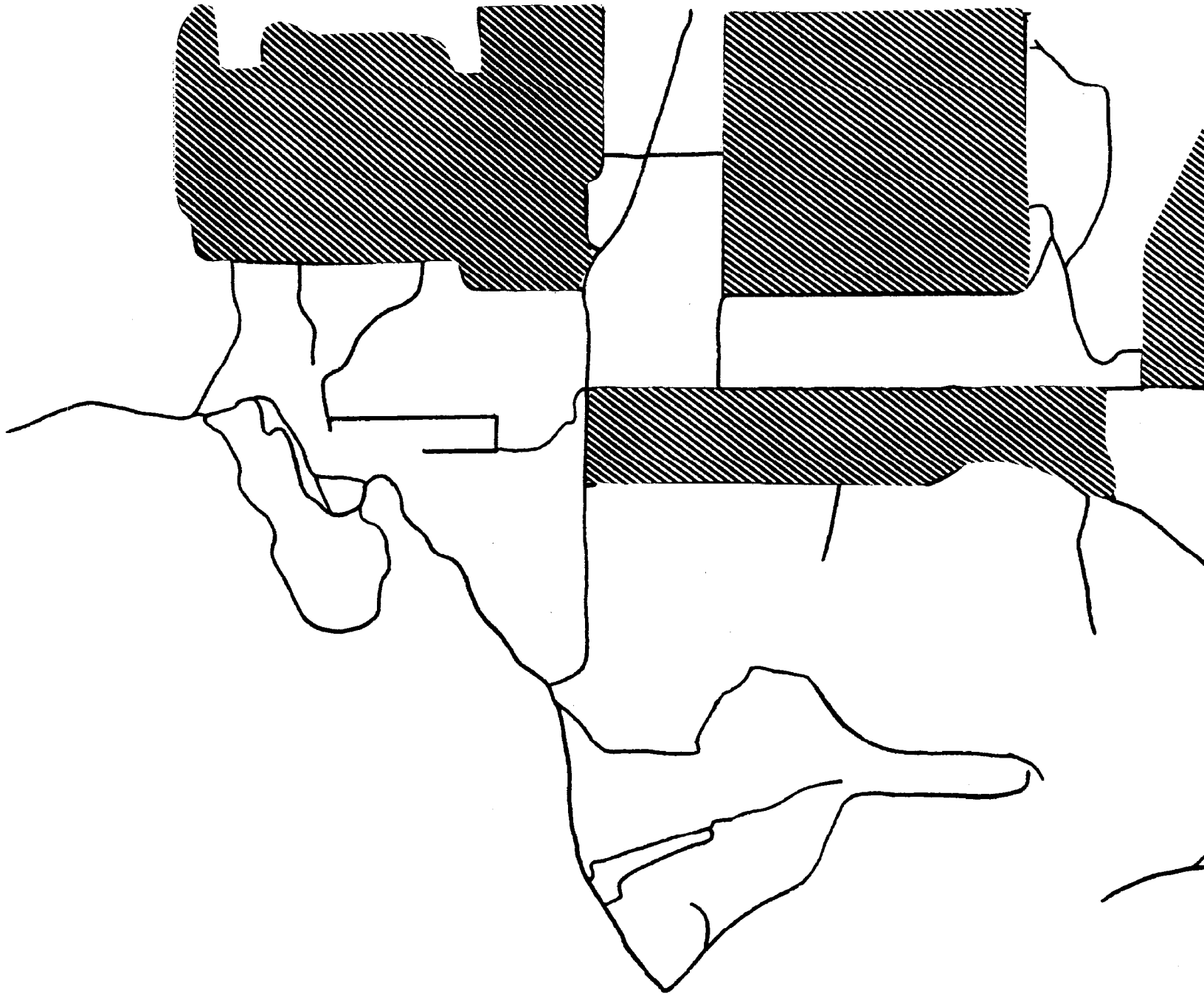
There are old homesites on both ANAD and CRSA. Most of the land, especially on ANAD, appears to have been cleared and used as pasture. There are virtually no undisturbed areas remaining on ANAD or CRSA.

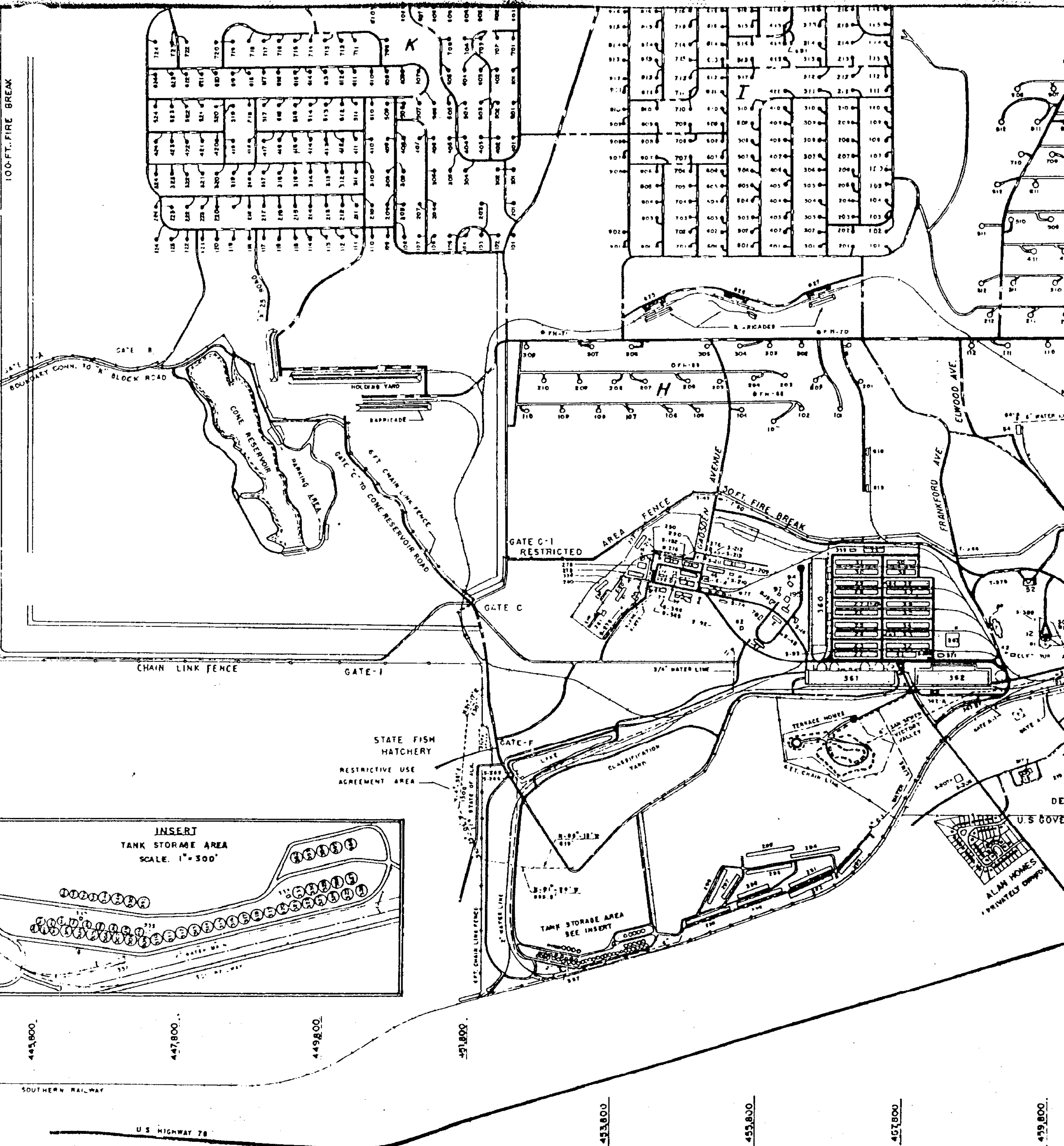
CLIMATE

Calhoun and Talladega counties have a temperate climate with warm, humid summers and mild, dry winters. The average annual temperature is 63° Fahrenheit. Summer temperatures reach 90° Fahrenheit or higher about 70 days per year. Freezing temperatures are typically of short duration. The first frost usually arrives in late October providing an average growing season of 221 days. Severe droughts and snow are rare. Average rainfall is 53 inches while annual snowfall accumulation is one-half to one inch.

Figures 1-4. Areas on the Anniston Army Depot surveyed during the present study for federally endangered, threatened, and candidate species of animals and plants.

These figures represent the SW, SE, NW, and NE quadrants, respectively.





100-FT. FIRE BREAK
K
I
H
GATE B
BOUNDARY CONN. TO "A" BLOCK ROAD
CONE RESERVOIR
PARKING AREA
HOLDING YARD
BARRICADE
BARRICADES
6 FT. CHAIN LINK FENCE
GATE "C" TO CONE RESERVOIR ROAD
GADSDEN AVENUE
50 FT. FIRE BREAK
AREA FENCE
GATE C-1
RESTRICTED
GATE C
FRANKFORD AVE.
ELWOOD AVE.
CHAIN LINK FENCE
GATE-1
3/4" WATER LINE
361
362
360
STATE FISH
HATCHERY
RESTRICTIVE USE
AGREEMENT AREA
GATE-F
CLASSIFICATION YARD
TERRACE HOMES
VICTORY VALLEY
U.S. GOVE
ALAN HOMES
(PRIVATELY OWNED)
INSERT
TANK STORAGE AREA
SCALE. 1" = 300'
TANK STORAGE AREA
SEE INSERT
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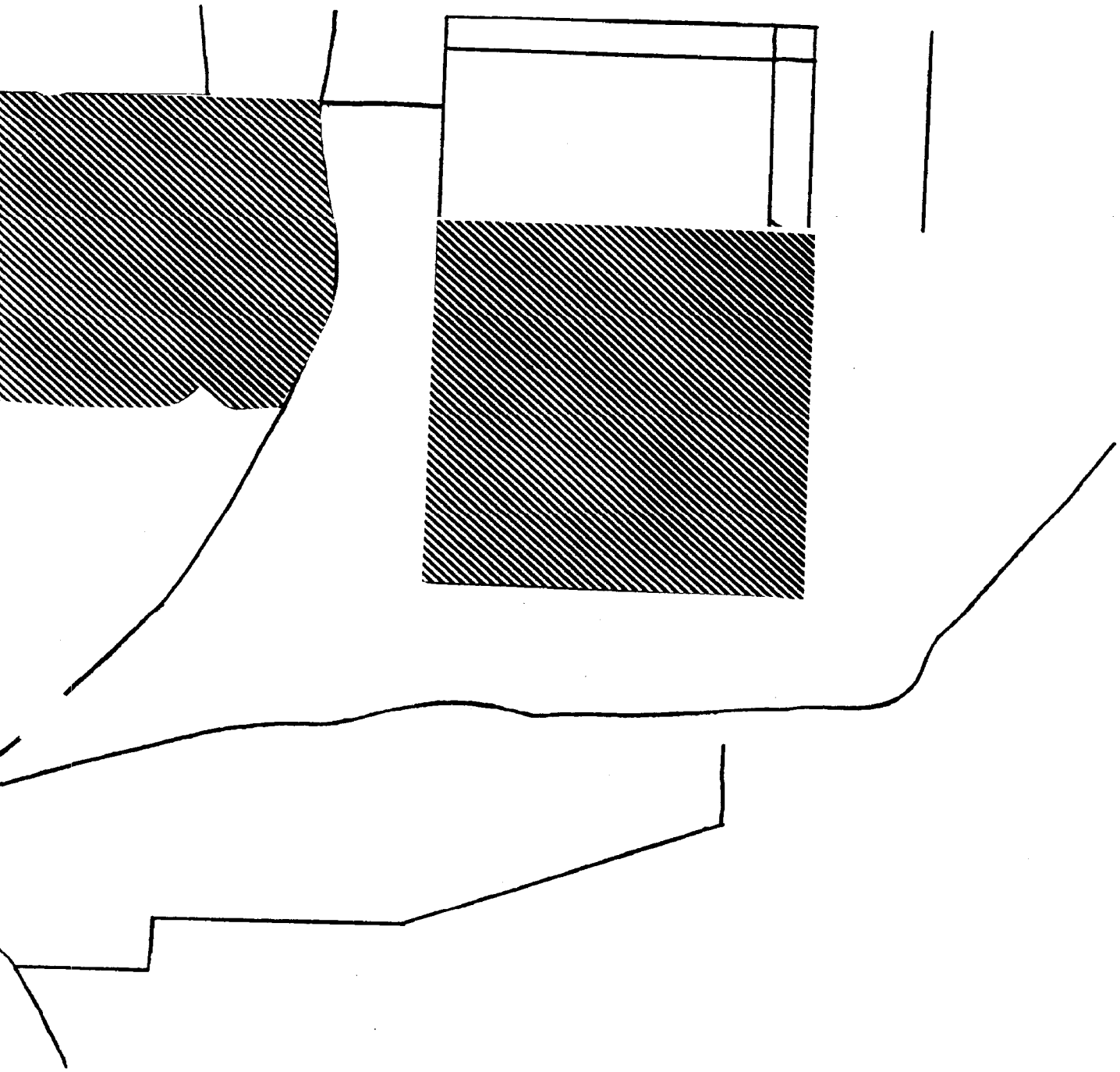
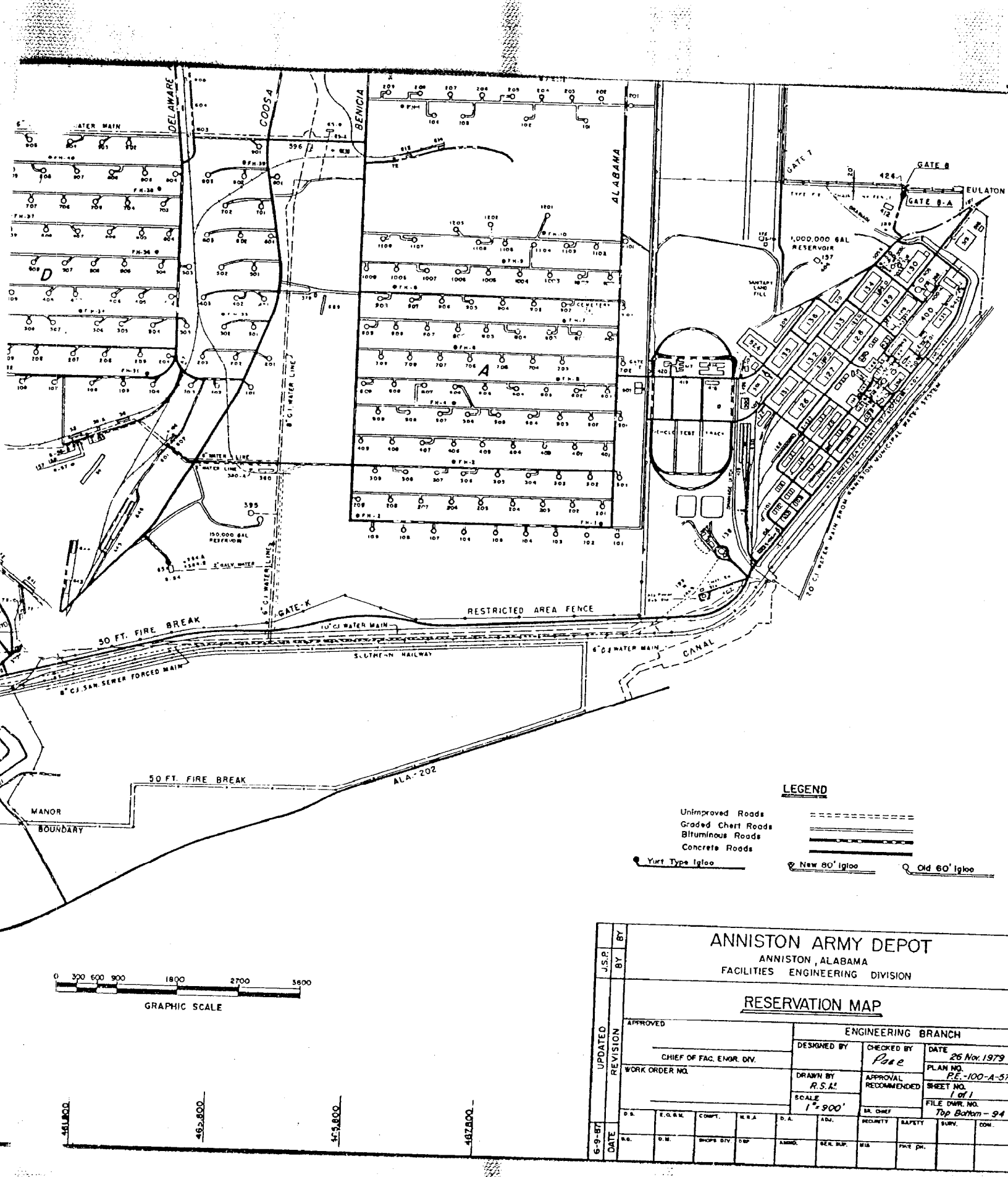
459,800
SOUTHERN RAILWAY
U.S. HIGHWAY 78





LEGEND

Unimproved Roads
Graded Chert Roads
Bituminous Roads
Concrete Roads
Yurt Type Igloo
New 80' Igloo
Old 60' Igloo

ANNISTON ARMY DEPOT

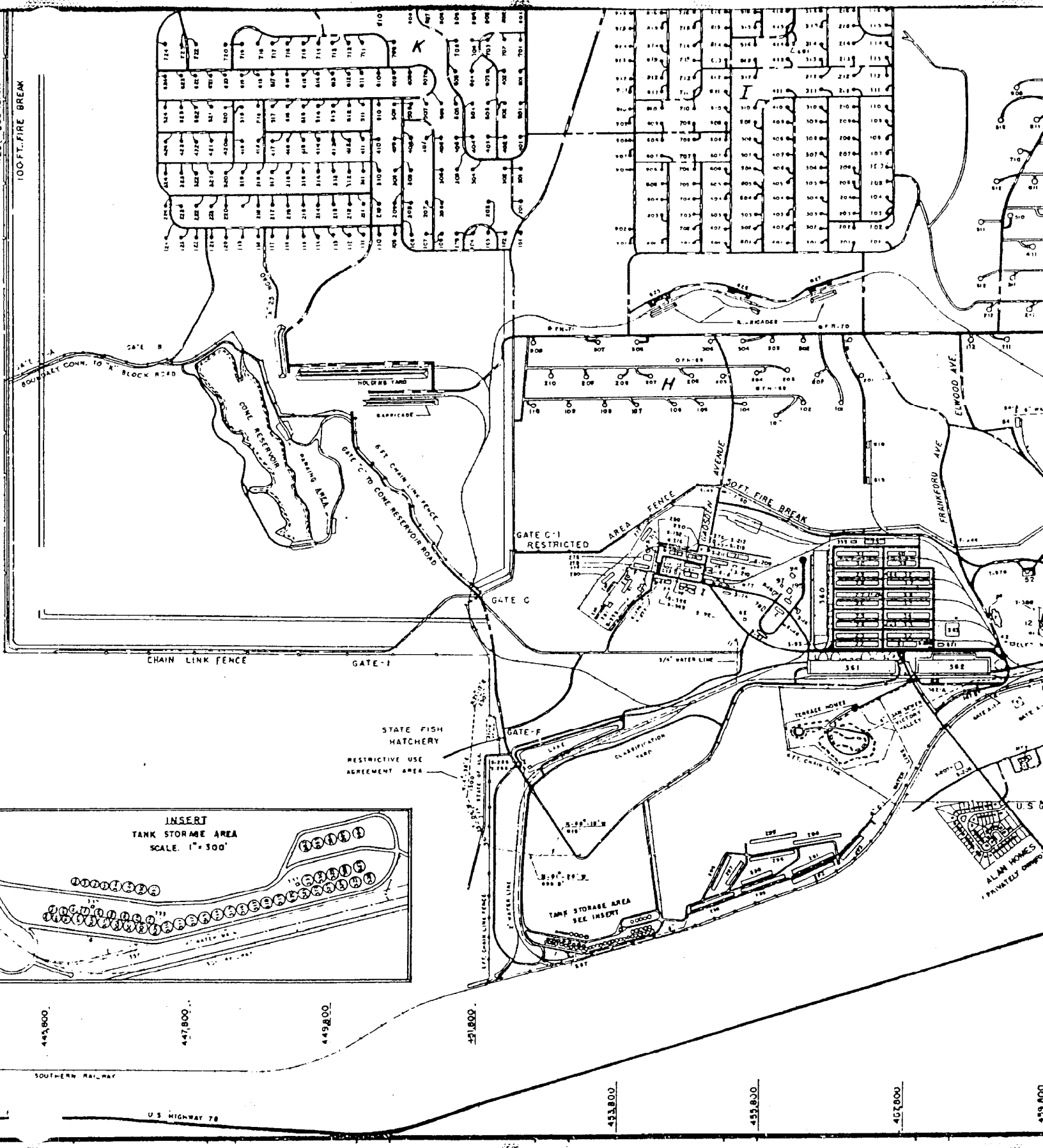
ANNISTON, ALABAMA
FACILITIES ENGINEERING DIVISION

RESERVATION MAP

APPROVED		ENGINEERING BRANCH	
CHIEF OF FAC. ENGR. DIV.	DESIGNED BY	CHECKED BY Pace	DATE 26 Nov. 1979
WORK ORDER NO.	DRAWN BY R.S.H.	APPROVAL RECOMMENDED	PLAN NO. P.E.-100-A-57
	SCALE 1" = 900'	BR. CHIEF	SHEET NO. 1 of 1
			FILE DWR. NO. Top Bottom - 94

UPDATED REVISION	BY	J.S.P.	BY
DATE 6-9-87			

D.S.	E.O.S.M.	COMPT.	M.S.A.	D.A.	ADJ.	SECURITY	SAFETY	SURV.	COM.
M.O.	D.M.	SHOPS DIV.	DEP	ASSIST.	GEN. SUP.	M.S.	FIRE DEPT.		


100-FT. FIRE BREAK
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I
H
GATE B
BOUNDARY CONN. TO 'K' BLOCK ROAD
HOLDING TANK
BARRICADE
CONC. RESERVOIR
PARKING AREA
6FT. CHAIN LINK FENCE
GATE C TO CONC. RESERVOIR ROAD
GATE C-1 RESTRICTED AREA
6FT. CHAIN LINK FENCE
GOSSETT AVENUE
SOFT FIRE BREAK
ELWOOD AVE.
FRANKFORD AVE.
GATE C
CHAIN LINK FENCE
GATE-I
3/4" WATER LINE
STATE FISH HATCHERY
RESTRICTIVE USE AGREEMENT AREA
GATE-F
LAKE
CLASSIFICATION YARD
TERRACE HOMES
6FT. CHAIN LINK
TANK STORAGE AREA SEE INSERT
8" WATER LINE
6FT. CHAIN LINK FENCE
ALAN HOMES
INSERT
TANK STORAGE AREA
SCALE. 1" = 300'
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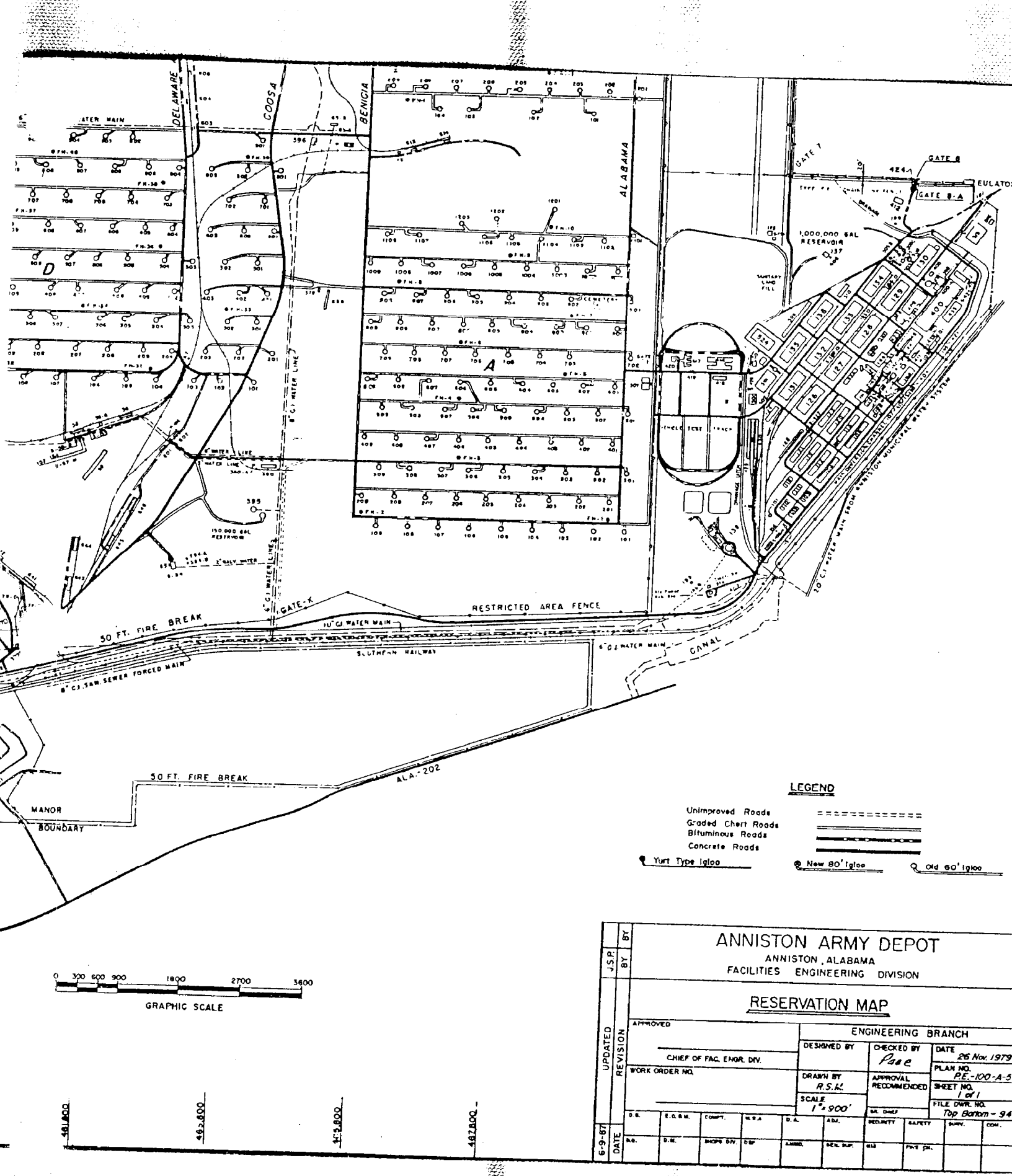
SOUTHERN RAILWAY
U.S. HIGHWAY 78



ANNISTON ARMY DEPOT

ANNISTON, ALABAMA

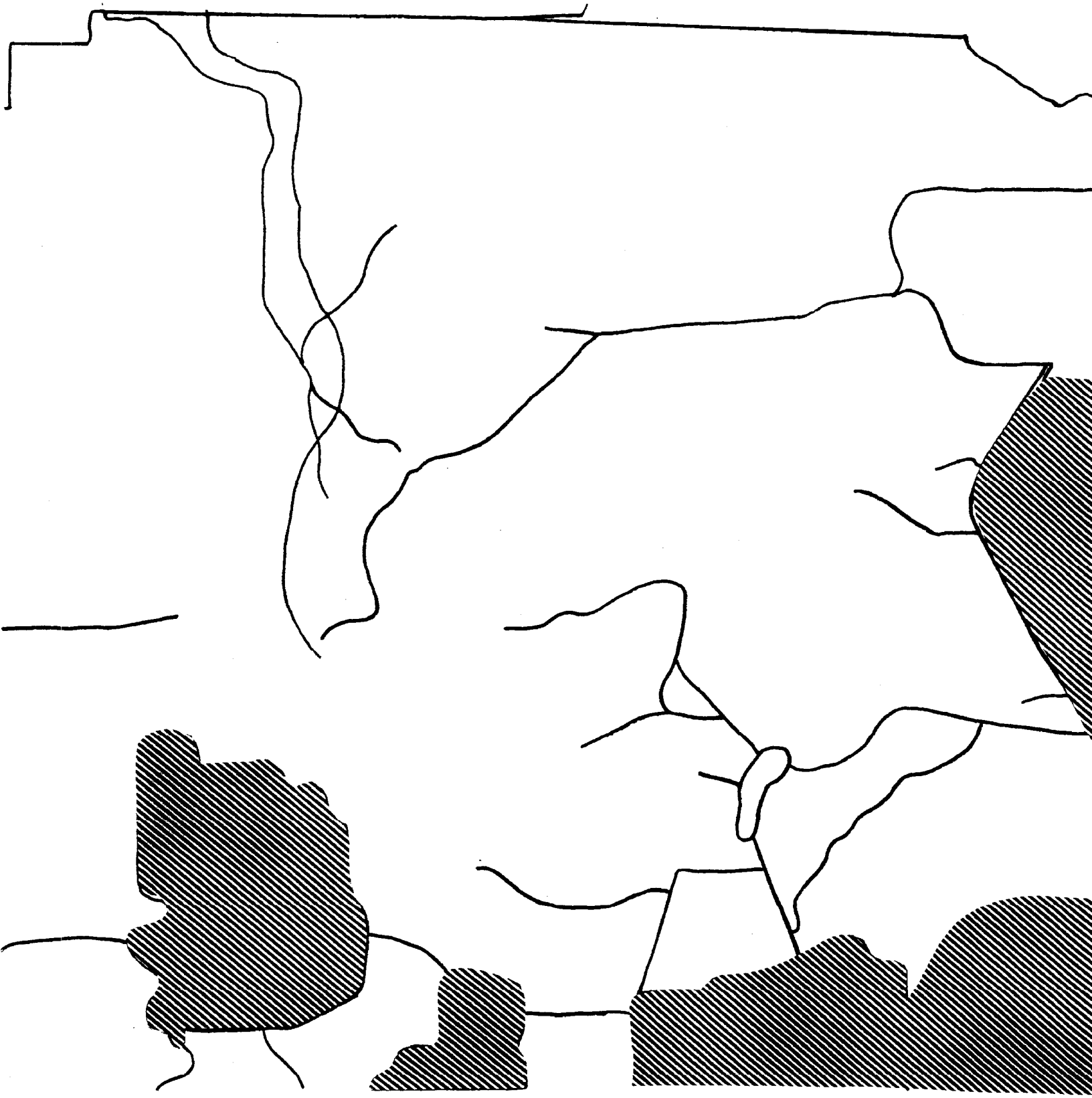
FACILITIES ENGINEERING DIVISION

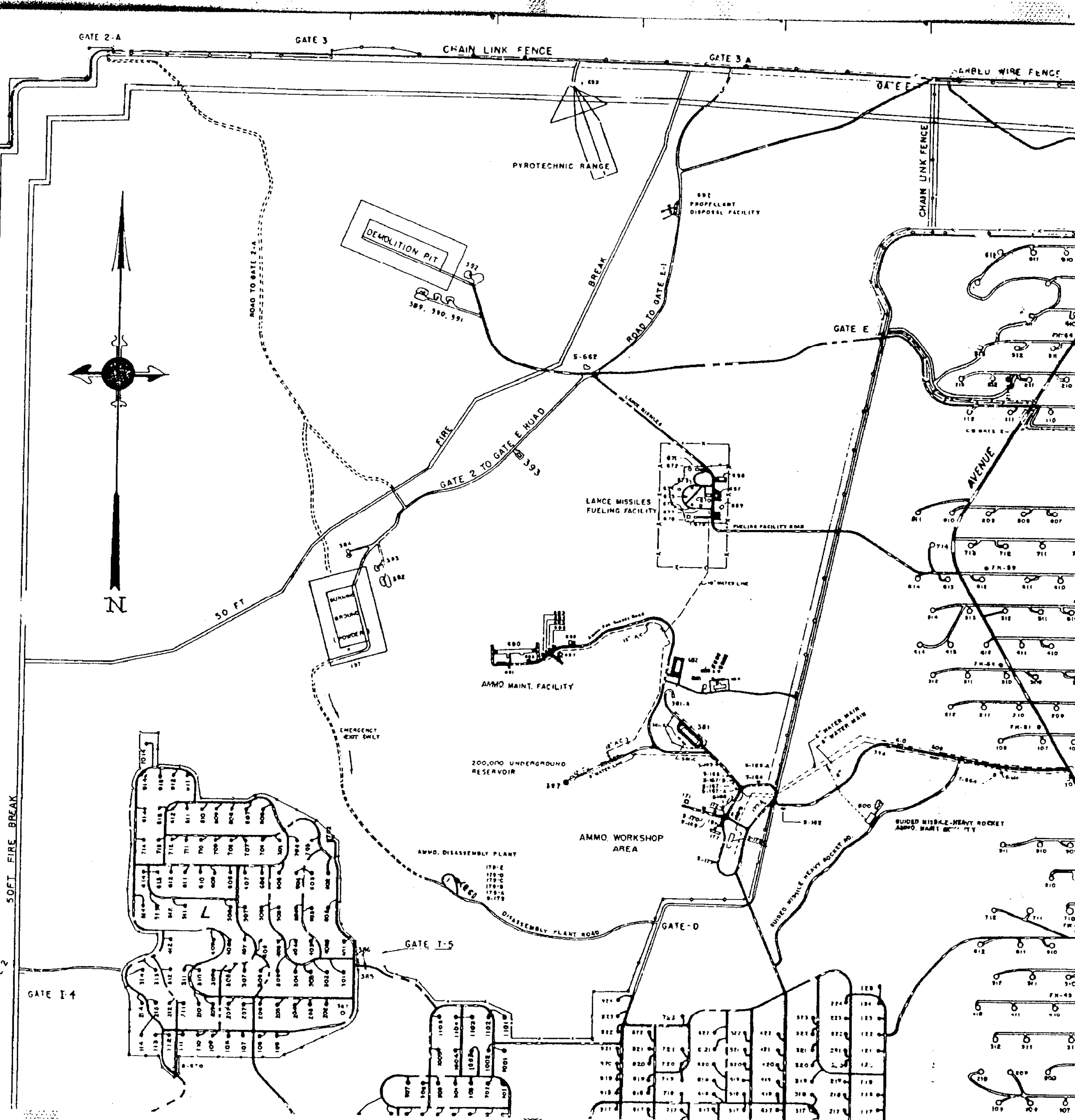
RESERVATION MAP

APPROVED	ENGINEERING BRANCH		
CHIEF OF FAC. ENGR. DIV.	DESIGNED BY	CHECKED BY Page	DATE 26 Nov. 1979
WORK ORDER NO.	DRAWN BY R.S.L.	APPROVAL RECOMMENDED	PLAN NO. P.E.-100-A-5
	SCALE 1" = 900'		SHEET NO. 1 of 1
			FILE DWG. NO. Top Bottom - 94

DATE	BY	REVISION	BY	J.S.P.
6-9-67		UPDATED		

D.E.	E.O.S.M.	COMPT.	M.S.A.	D.A.	ADJ.	SECURITY	SAFETY	SURV.	COM.
R.E.	D.M.	SHOPS DIV.	DSP	ASMSD.	SERV. SUP.	GUS	FIRE DR.		




GATE 2-A
GATE 3
CHAIN LINK FENCE
GATE 3 A
GATE E
PYROTECHNIC RANGE
PROPELLANT DISPOSAL FACILITY
DEMOLITION PIT
ROAD TO GATE 2-A
FIRE BREAK
ROAD TO GATE E-1
CHAIN LINK FENCE
GATE E
GATE 2 TO GATE E ROAD
LANCE MISSILES
LANCE MISSILES FUELING FACILITY
AVENUE
N
50 FT
BURNING GROUND POWDER
AMMO MAINT. FACILITY
EMERGENCY EXIT ONLY
200,000 UNDERGROUND RESERVOIR
AMMO. WORKSHOP AREA
AMMO. DISASSEMBLY PLANT
DISASSEMBLY PLANT ROAD
GUIDED MISSILE HEAVY ROCKET RD.
GATE-D
GATE T-5
GATE I-4
50FT FIRE BREAK

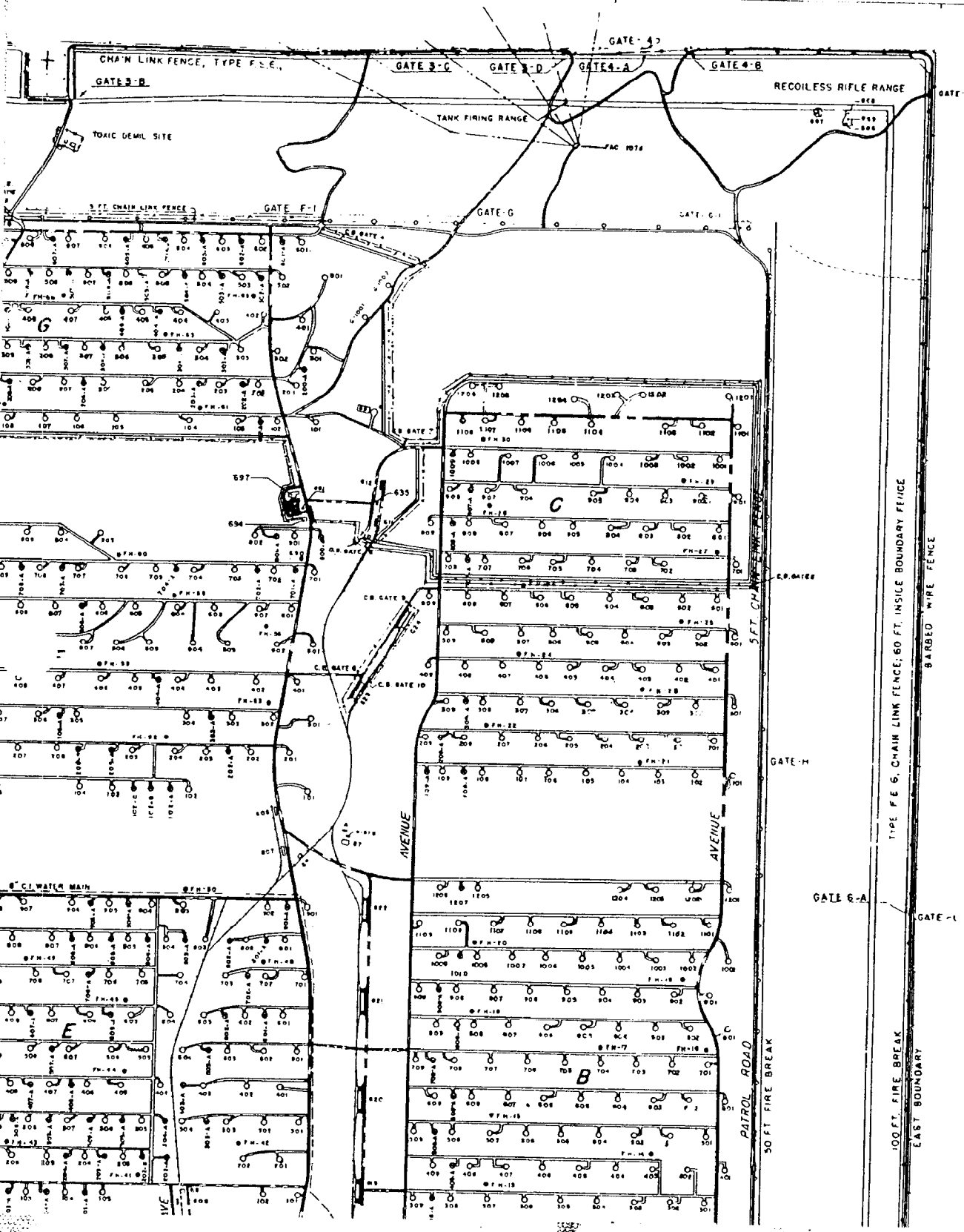
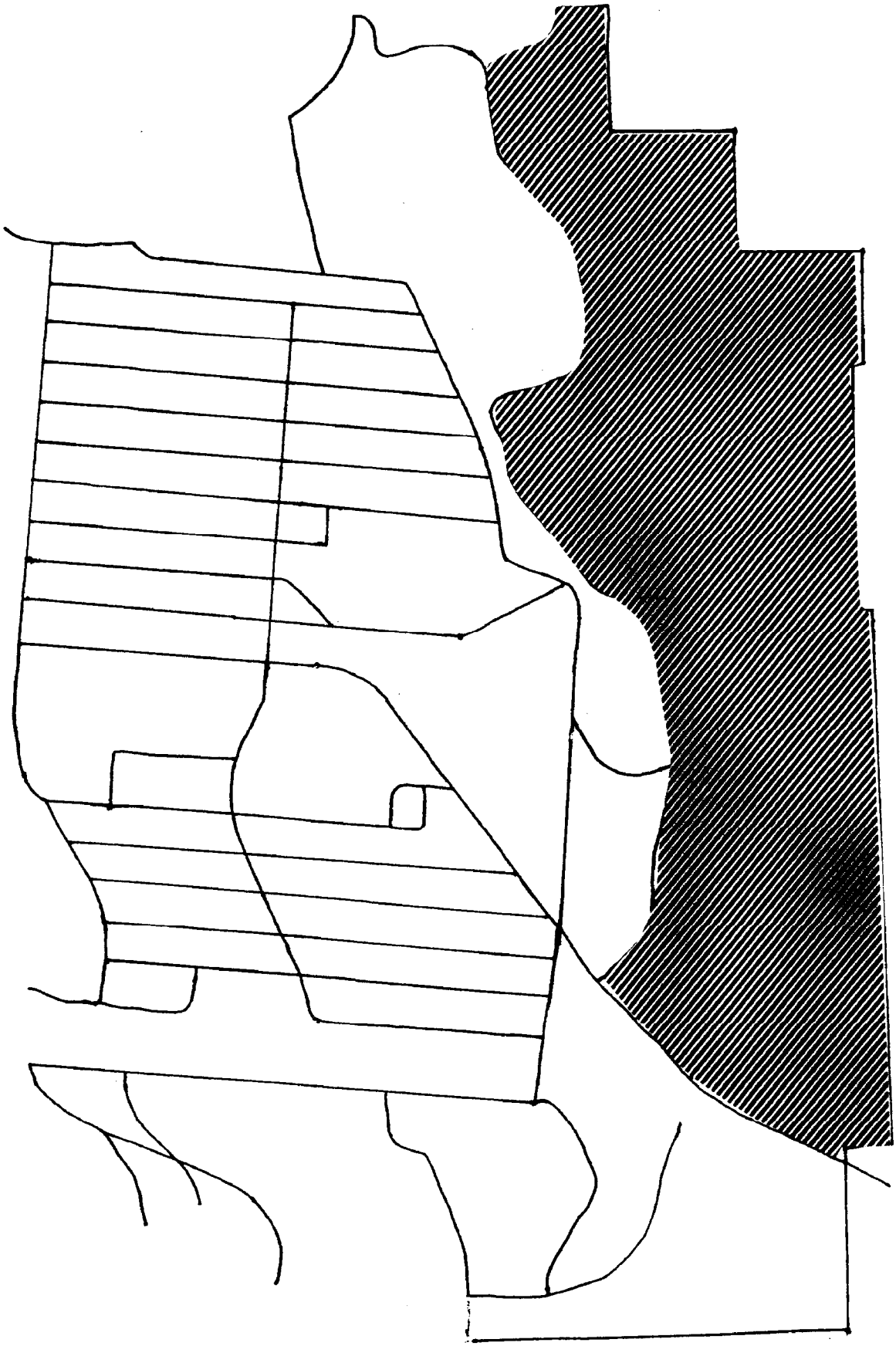
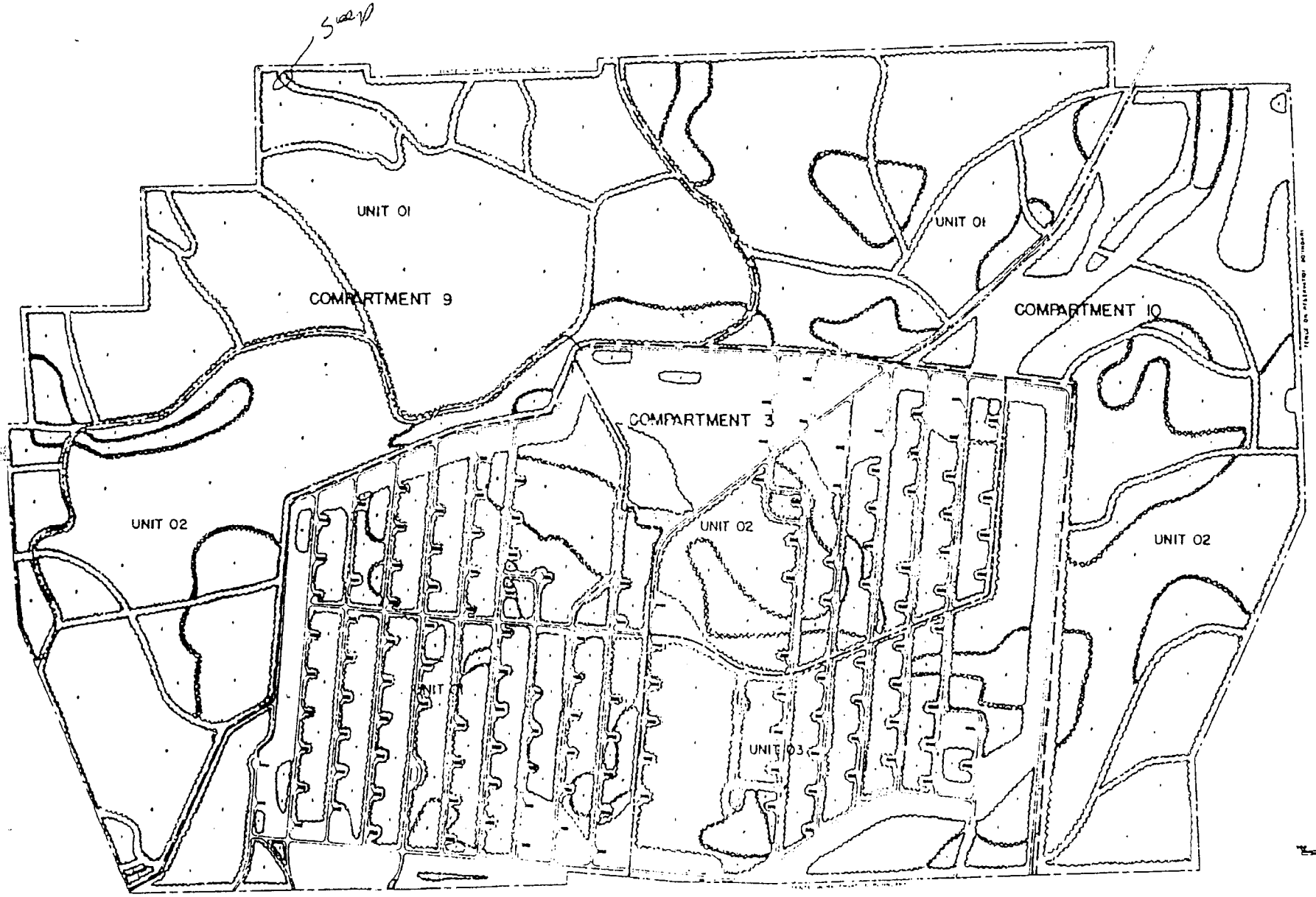

CHAIN LINK FENCE, TYPE F.S.E.
GATE 3-B
GATE 3-C
GATE 3-D
GATE 4-A
GATE 4-B
RECOILESS RIFLE RANGE
TANK FIRING RANGE
TOXIC DEMIL SITE
GATE F-1
GATE G
GATE G-1
GATE H
GATE G-A
GATE I
697
635
694
AVENUE
AVENUE
PATROL ROAD
50 FT FIRE BREAK
100 FT FIRE BREAK
EAST BOUNDARY
BARBED WIRE FENCE
TYPE F.E.G. CHAIN LINK FENCE; 60 FT. INSIDE BOUNDARY FENCE
8" C.I. WATER MAIN
G
C
E
B

Figure 5. Areas on the Coosa River Storage Annex surveyed during the present study for federally endangered, threatened, and candidate species of animals and plants.





COOSA RIVER STORAGE ANNEX

Forest Land Management Map

PHYSIOGRAPHY, TOPOGRAPHY AND GEOLOGY

ANAD and CRSA lie in the Ridge and Valley physiographic region (Figure 6). The rocks of this region are mostly of Cambrian, Ordovician and Silurian age. There are many longitudinal chert ridges, and a few higher sandstone ridges; the lower portions are mostly limestones and shales. The topography on ANAD consists mainly of low-lying hills and ridges, with some low areas and sinks. Elevations range from 600 to 1000 feet. The topography of CRSA is low and flat inside the compound (elevation 580-600 feet), and steep and ridged on the northern and western boundaries (elevation 600 to 1000 feet).

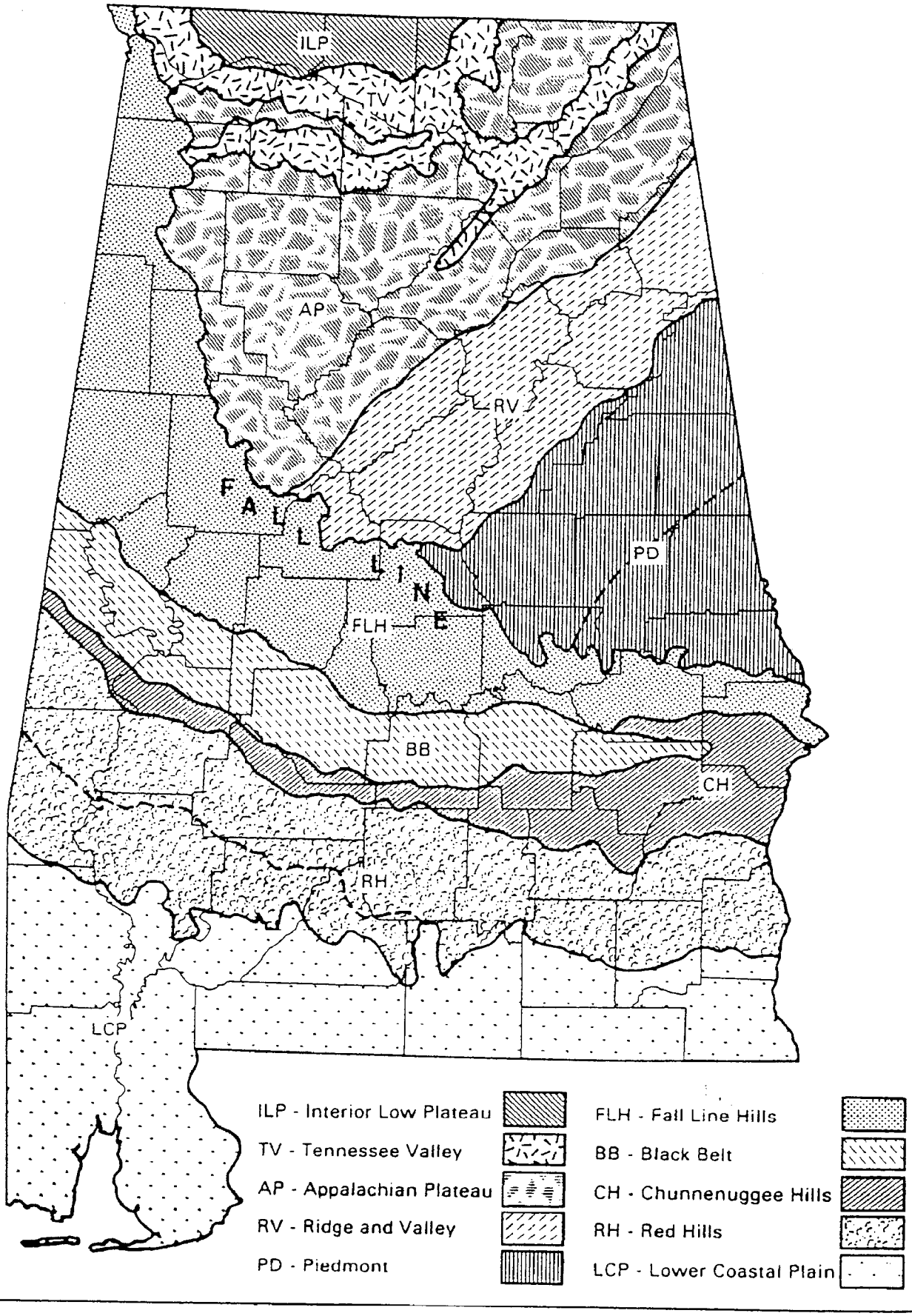
SOILS

ANAD lies in the southwestern corner of Calhoun County (Figure 7). The soils in this area are well-drained to moderately well-drained, stony or cherty soils on ridgetops and steep slopes. Local alluviums occur in the foot slopes and draws. The dominant soils are in the Clarksville and Fullerton soil series. About 28% of the county is in this general soil; large areas occur in ANAD. The Clarksville-Fullerton stony loams make up about 50% of the general soil types. The remaining 50% consists of 15% Fullerton soils, 13% Clarksville, 1% Lobelville, and 21% Landisburg and Lee soils combined.

The Clarksville and Fullerton undifferentiated soils have developed from the residuum of cherty limestone. Clarksville soils have a yellowish-brown cherty silty clay loam subsoil, and Fullerton soils have a red cherty silty clay loam to silty clay subsoil. The minor soils include the moderately well-drained Landisburg soils which occupy foot slopes between the uplands and recently deposited alluvium, and the more poorly drained Lobelville and Lee soils which have developed in narrow valleys from recent general alluvium and local alluvium.

CRSA is located in the central part of Talladega County (Figure 8). The predominant soils of the CRSA are the Allen-Locust and Allen general soil associations. The Allen-Locust soil association is composed of deep, well drained, loamy soils derived from sandstone, shale, and cherty limestone. This general soil area is a gently sloping toe slope or benchlike area that is dissected by a few intermittent drains. Allen soils make up half of this association, Locust soils about 22%, Anniston soils 5%, and the remaining 23% are minor soils. Allen soils are well drained, yellowish-red sandy clay loam on the upper surface with a layer of brown gravelly fine sandy loam. Locust soils are moderately well drained, with a surface layer of brown silt loam, a subsoil of olive-yellow loam underlain by a brittle fragipan at a depth of 24 inches. The Allen soil association consists of deep, well drained, steep, cobbly and gravelly, moderately coarse textured soils derived from sandstone and shale. This association is characterized by steep, rocky hills with very narrow ridgetops. Allen soils account for 85% of this association, with soils of minor extent, such as Locust and Townley soils, making up the remaining 15%.

Figure 6. The natural regions or physiographic provinces of Alabama.



Natural Regions of Alabama (George W. Folkerts).

Figure 7. A map of the Anniston Army Depot and the location of Calhoun County, Alabama.

GENERAL HIGHWAY MAP

CALHOUN COUNTY

ALABAMA

PREPARED BY THE

STATE OF ALABAMA HIGHWAY DEPARTMENT

BUREAU OF STATE PLANNING

SURVEYING AND MAPPING DIVISION

IN COOPERATION WITH THE

U. S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

SCALE

1 0 1 2 3 4 MILES

10,000 0 10,000 20,000 FEET

1988

Control by NATIONAL OCEAN SURVEY and ALABAMA HIGHWAY DEPARTMENT.
Transverse Mercator Projection. 1927 North American Datum. 10,000 foot grid based on Alabama (East) rectangular coordinate system.
Compiled by photogrammetric methods from aerial photographs taken 1977. Field examination 1984.

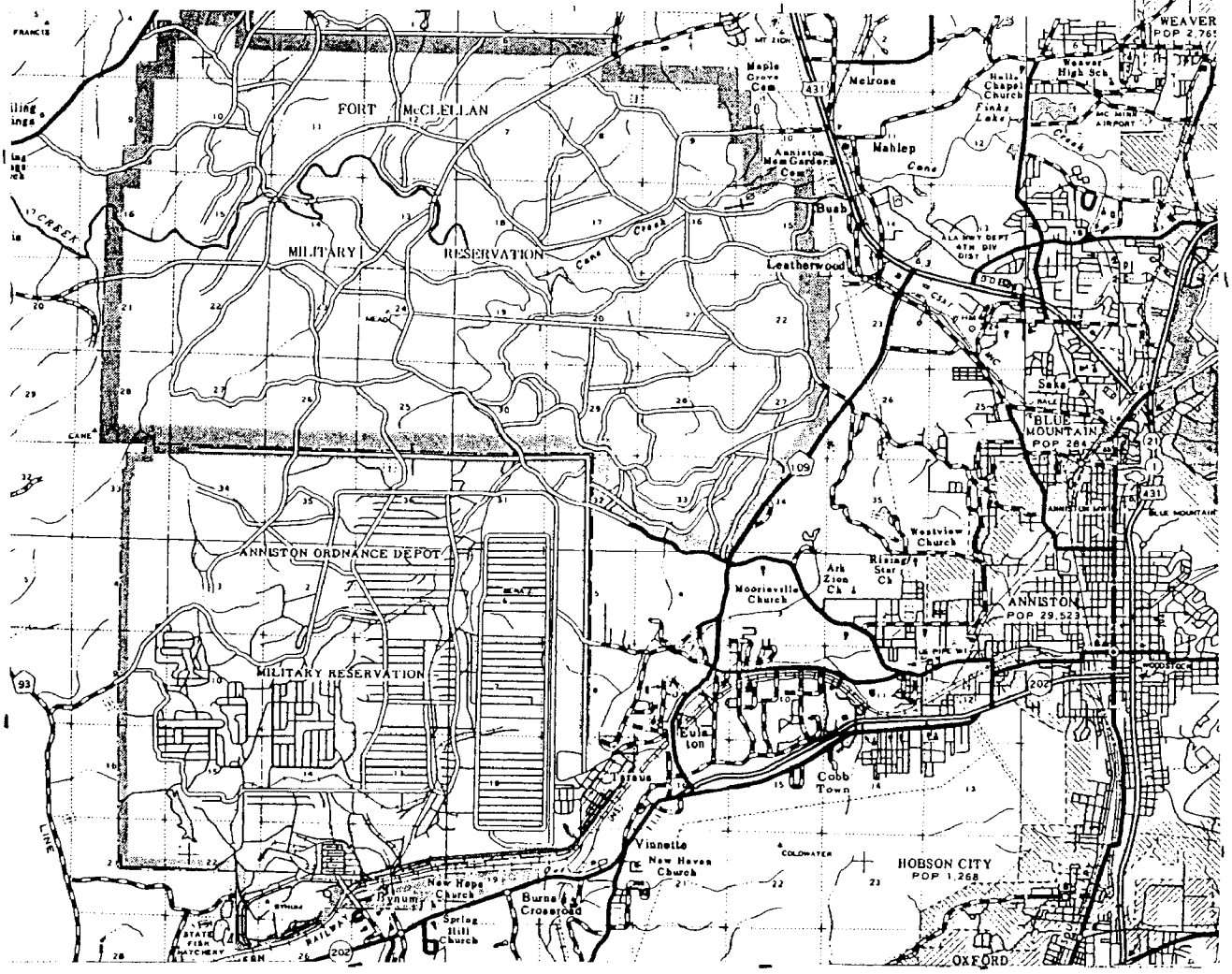


Figure 8. A map of the Coosa River Storage Annex and the location of Talladega County, Alabama.

GENERAL HIGHWAY MAP

TALLADEGA COUNTY
ALABAMA

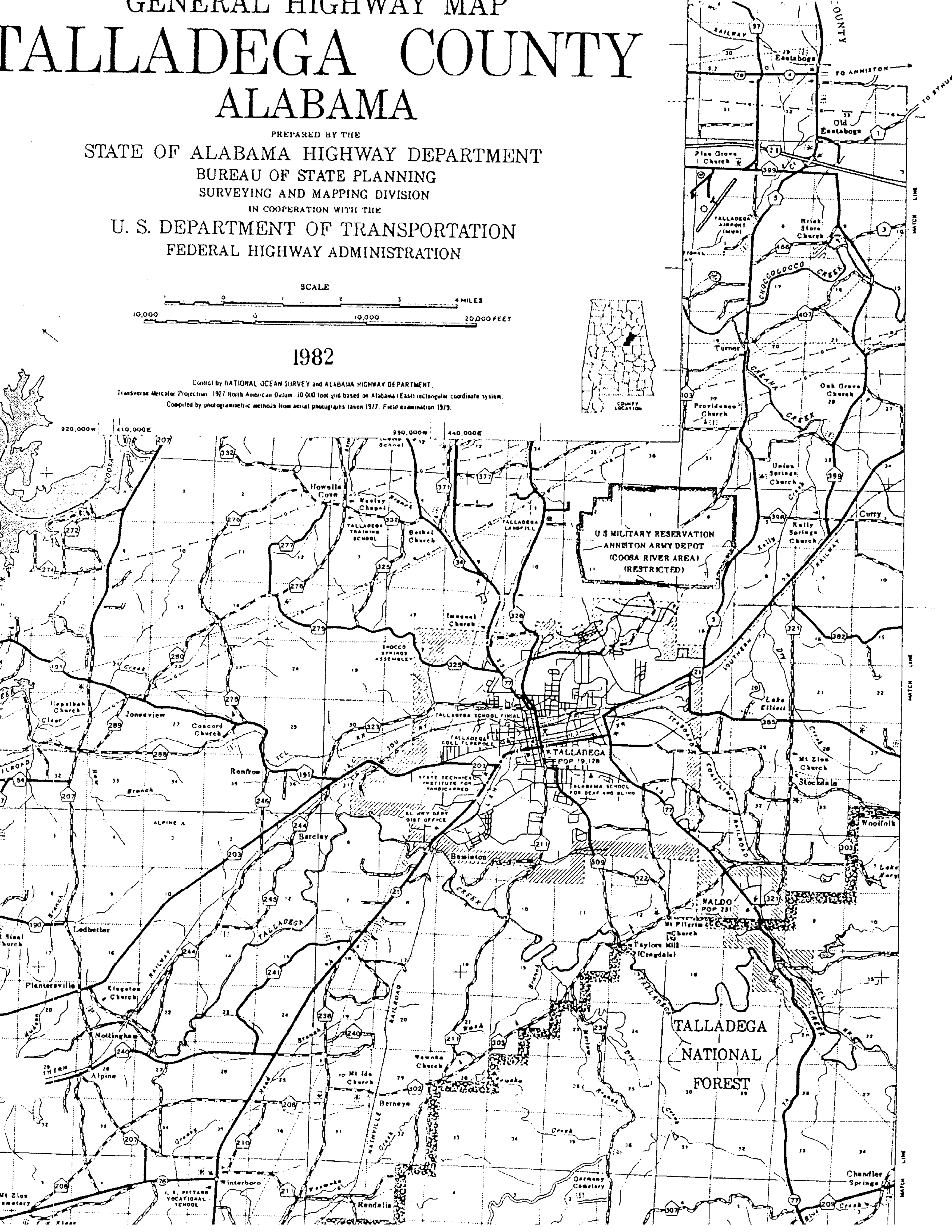
PREPARED BY THE

STATE OF ALABAMA HIGHWAY DEPARTMENT
BUREAU OF STATE PLANNING
SURVEYING AND MAPPING DIVISION
IN COOPERATION WITH THE
U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE

1982

Control by NATIONAL OCEAN SURVEY and ALABAMA HIGHWAY DEPARTMENT.
Transverse Mercator Projection. 1927 North American Datum. 10,000 foot grid based on Alabama (East) rectangular coordinate system.
Compiled by photogrammetric methods from aerial photographs taken 1977. Field examination 1979.



WETLANDS

The major aquatic habitats which are to be found on ANAD and CRSA are streams and natural sinkholes which hold water. No caves with streams were found on either property. No survey emphasis was placed on the artificial stockponds or sinkholes since no federally designated plants or animals are dependent upon these habitats. One stream on the CRSA and four on ANAD were intensively surveyed for federally designated fish, aquatic gastropods, and mussels. Table 1 provides the locations and general habitat descriptions of these streams.

Only one discrete spring of significance was found on either ANAD or CRSA. The spring is located in the southwestern corner of the Burning Ground, and is essentially the upstream terminus for the permanent flow of the stream. The stream flows off ANAD in the northeastern corner entering Pelham Range of Fort McClellan and joining Cane Creek. Above the spring, runoff following substantial rains contributes to the flow of the stream. The spring water is quite clear and cool. As no spring pool exists the spring is essentially entirely spring run. The spring run appears to have been channelized in the past. The run is approximately 15 to 20 m long, with a rocky substrate and no aquatic vegetation. The hardwood overstory canopy is closed and this undoubtedly is a factor in the absence of aquatic vegetation.

Table 1. The locations and general habitat descriptions of the streams on ANAD and CRSA which were surveyed for federally designated species of fish and aquatic gastropods. F = fish, G = gastropods, M = Mussels; + = present, - = absent.

Property	Township, Range, Section	Taxa Collected	Habitat Description
CRSA	T18S R6E Sec 7 SW1/4 to NE 1/4; tributary to Kelly Creek	F +, G +, M -	water fairly clear, light to moderate flow, siltation light, substrate rocky, and gravelly, stream width 5-6 m up to about 8 m, stream depth about 0.3 m, riparian canopy closed, beds of *Justica americana* and *Polygonum* sp. present
ANAD	T15S R6E Sec 33 NE 1/4 of NE 1/4 & Sec 34 and T16S R6E Sec 3 NW 1/4 & NE 1/4 of SW 1/4; tributary to Cane Creek	F +, G -, M -	water clear, light to moderate flow, siltation very light, except at confluence with tributary which flows near the demolition pit, substrate rocky-gravelly, no aquatic vegetation, width 1-5 m water depth generally less than 0.2 m, up to about 1 m in some small pools, mainly small riffles with a few small runs, in general closed hardwood overstory, a number of small springs drain into the stream (from near common boundary fence with Pelham Range to approximately 1/4 mile upstream)
ANAD	T15S R7E Sec 31 NW 1/4 of NE 1/4; tributary to Cane Creek	F +, G +, M -	water murky but fairly clear, little flow to light flow in constricted areas, thick silt layer in pool, light silt in riffle region, substrate rocky to gravelly, width 3-8 m, about 0.75 m deep maximum, small area of riffles and runs which flow into large pool, no aquatic vegetation, noticeable influence from streamside spring

Property	Township, Range, Section	Taxa Collected	Habitat Description
ANAD	T16S R6E Sec 24 SE 1/4 of SE 1/4; tributary to Eastaboga Creek	F +, G -, M -	water clear, siltation light, substrate rocky and with angular bedrock, width 3-5 m, depth in pools about 0.5 m, shallow riffles, to pools, very small rocky cascades, no aquatic vegetation was present, riparian vegetation for majority of stream quite dense
ANAD	T15S R6E Sec 10 SW 1/4; tributary to Blue Eye Creek	F +, G -, M -	water fairly clear, light to moderate siltation, substrate rocky to clayish, width generally less than 2 m, braided through dense *Typha* sp. stands, depth 0.3 m, riparian vegetation of dense *Hypericum* sp. stands

FLORA & FAUNA

List of Principal Natural Community Types

The following is a listed description of the community classifications used to describe the study area.

(1) Pine-Oak-Hickory Interior Upland Dry Forest

DOMINANT PLANT SPECIES: Canopy: *Pinus taeda, Pinus palustris, Pinus echinata, Pinus virginiana, Quercus stellata, Quercus falcata, Quercus marilandica, Quercus velutina, Quercus alba, Quercus muhlenbergii, Liquidambar styraciflua, Carya* sp. Herbaceous and vine: *Vitis* sp., *Pueraria lobata, Rhus radicans, Smilax* sp., *Coreopsis major, Silphium compositum, Pteridium aquilinum, Tephrosia virginiana, Silphium asteriscus, Lysimachia lanceolata*

CHARACTERISTIC PLANT SPECIES: *Liriodendron tulipifera, Platanus occidentalis, Nyssa sylvatica, Diospyros virginiana, Quercus nigra, Quercus phellos, Cornus florida, Oxydendrum arboreum, Acer rubrum, Cercis canadensis, Hydrangea quercifolia, Aesculus pavia, Rhododendron canescens, Sassafras albidum, Vaccinium* sp., *Calycanthus floridus, Juniperus virginiana*

COMMENTS: The principal natural community type of the study area is mixed pine-oak-hickory upland woods. Historically, longleaf pine occupied many of the ridges and hills, and the hardwoods occurred mostly on the limestone outcroppings and in the fertile valley lands. Studies indicate that this area was dominated by mixtures of hardwoods at the time of early settlement. At present day, loblolly pine dominates much of ANAD and CRSA. The northern borders and the southwestern corner of ANAD are dominated by hardwoods, with some pine, and are probably most representative of what the area may have originally been. The central part of ANAD consists of mixed pine-hardwoods, dominated by loblolly pine. Longleaf pine occurs in scattered pockets across ANAD along with scattered stands of shortleaf and Virginia pine. CRSA is dominated by loblolly and longleaf pine over much of the area, with the steep ridges and hills such as Gent's mountain remaining in dry oak-hickory

woods. Permanent and some ephemeral streams have more mesic species such as oak-leaf hydrangea, willow oak, Piedmont azalea, and red buckeye.

(2) Oak-Hickory Interior Upland Dry Forest

DOMINANT PLANT SPECIES: Canopy: *Quercus muhlenbergii, Quercus alba, Quercus falcata, Liriodendron tulipifera, Ostrya virginiana, Cornus florida, Carya sp.*

CHARACTERISTIC PLANT SPECIES: *Oxydendrum arboreum, Cercis canadensis, Liquidambar styraciflua, Diospyros virginiana, Hydrangea quercifolia, Aesculus pavia, Rhododendron canescens, Vaccinium* sp.

COMMENTS: An estimated 25% of the acreage of the study area exists in hardwoods. The northwest corner of ANAD and the forest on the hillside facing the southern side of Cone Reservoir are representative hardwood areas.

(3) Terrestrial Anthropogenic Ecological Community - military development

DOMINANT PLANT SPECIES: Open areas: *Woodwardia areolata*, *Pueraria lobata, Andropogon* sp., *Microstegium vimineum, Coreopsis major, Trifolium dubium, Erigeron* sp., *Allium* sp., *Ambrosia artemisiifolia, Eupatorium capillifolium, Silphium asteriscus, Silphium compositum, Rudbeckia fulgida.*

CHARACTERISTIC PLANT SPECIES: Canopy: *Pinus taeda, Liquidambar styraciflua, Pinus palustris, Quercus nigra, Quercus falcata, Quercus stellata, Ligustrum sinense* Herbaceous and vine: *Lonicera japonica, Smilax* sp., *Rubus* sp., *Rhus radicans, Pteridium aquilinum*

COMMENTS: This community type is mainly attributed to the open vegetation on the bunkers themselves and to the canopy of the immediate surrounding area.

(4) Forestry/timber production land, actively managed with/without structures

clearcut/salvage cut
upland loblolly plantation
other forestry/timber production land

DOMINANT PLANT SPECIES: *Pinus taeda, Pinus palustris, Liquidambar styraciflua, Pueraria lobata, Lonicera japonica, Rubus* sp.

(5) Transitional Anthropogenic Uplands

abandoned homesites
transitional anthropogenic cropland/pasture

Plant species on the study area characteristic of abandoned homesites are a cultivated rose, *Rosa* sp., and daffodil, *Narcissus pseudo-narcissus*. Other transitional lands are evidenced by compacted soil and the presence of exotic invasive species such as *Lonicera japonica, Ligustrum sinense, Microstegium vimineum,* and *Pueraria lobata.*

(6) Agricultural/horticultural/wildlife management modified or artificially created wetlands with active modification/manipulation and no structures

farm ponds

There are ponds that appear to be artificially created, probably for cattle. One pond appears to have a nearby wildlife food plot which has been planted with corn.

(7) Wetlands dominated by exotic species - *Ligustrum*-dominated wetland

DOMINANT PLANT SPECIES: canopy: *Liquidambar styraciflua, Quercus phellos, Salix nigra, Acer rubrum, Quercus nigra, Fraxinus* sp., *Quercus alba, Aesculus pavia, Celtis* sp., *Nyssa sylvatica*. understory shrub, vine, and herbaceous: *Alnus serrulata, Cornus stricta, Ligustrum sinense, Rhus toxicodendron, Rhus radicans, Parthenocissus quinquefolia, Dioscorea villosa, Lonicera japonica, Claytonia virginica.*

The southeastern corner of the CRSA outside of the bunker area has a permanent stream with scattered backwater sloughs and depressions. The soil is extremely compacted, and the understory is choked with *Ligustrum sinense.*

(8) Forested Palustrine Wetlands - upland depression forest on mineral soil

DOMINANT PLANT SPECIES: canopy: *Liquidambar styraciflua, Nyssa sylvatica, Acer rubrum, Quercus phellos, Vaccinium* sp., *Pinus taeda* herbaceous: *Cyperus* sp., *Ludwigia* sp., *Panicum* sp., *Juncus* sp., *Sphagnum* sp., *Scutellaria nervosa, Polygonum* sp., *Pteridium aquilinum*, *Smilax* sp.

COMMENTS: There are two sink areas on ANAD that fit this community category. The depression in Block C, south of C-107 will be described as it is the best example. A second depression occurs between Elwood Avenue and Frankford Avenue just south of their intersection with the road to Block H. The depression in Block C holds approximately 0.7 m of water and is approximately 8 m in diameter. Hardwood species line the edge of the depression, and the surrounding area is dominated by pine. The soil map indicates a sink in both areas.

Flora and Fauna.--The flora and fauna of this study site has been greatly impacted by past and present land use (*ie.*, agriculture, military activities). Organisms potential to this area may not remain because of this disturbance. The previous list of communities and the following list of potential species were compiled using historical

information as well as actual field surveys. Table 2 lists the federally designated and state protected species which may have been encountered on ANAD or CRSA.

Table 2. Federally designated species with ranges overlapping, Anniston Army Depot, the Coosa River Storage Annex, or in the vicinity of either property.

LE = Listed Endangered (USFWS)
LT = Listed Threatened (USFWS)
C2 = Candidate Category 2 (USFWS)
3C = Category 3C (formerly a USFWS candidate)

LATIN NAME	COMMON NAME	STATE PROTECTED	FEDERAL STATUS
PLANTS			
Agalinis pseudophylla	Shinners' false-foxglove		C2
Agalinis auriculata	auriculate false-foxglove		C2
Aster georgianus	Georgia aster		C2
Brickellia cordifolia	Flyr's nemesis		C2
Hypericum dolabriforme	straggling St. John's-wort		3C
Lysimachia fraseri	Fraser's loosestrife		C2
Marshallia mohrii	Mohr's Barbara's buttons		LT
Monotropsis odorata var. *odorata*	sweet pinesap		C2
Phlox pulchra	Wherry's phlox		3C
Platanthera integra	yellow fringeless orchid		3C
Platanthera integrilabia	white fringeless orchid		C2
Rudbeckia heliopsidis	sun-facing coneflower		C2
Steironema laevigatum	lance-leaf loosestrife		3C
Xyris tennesseensis	Tennessee yellow-eyed grass		LE
AQUATIC GASTROPODS			
Rhodacmea filosa	wicker ancylid		C2
Amphigira alabamensis	shoal sprite		C2
Somatogyrus aureus	golden pebblesnail		C2
Somatogyrus coosaensis	Coosa pebblesnail		C2
Somatogyrus nanus	dwarf pebblesnail		C2
Somatogyrus obtusus	moon pebblesnail		C2
Somatogyrus quadratus	quadrate pebblesnail		C2
Stiobia nana	sculpin snail		C2
Elimia alabamensis	mud elimia		C2
Elimia bellula	walnut elimia		C2
Elimia cahawbensis	Cahaba elimia		C2
Elimia capillaris	spindle elimia		C2
Elimia crenatella	lacey elimia		C2
Elimia fascians	banded elimia		C2
Elimia gerhardti	coldwater elimia		C2

LATIN NAME	COMMON NAME	STATE PROTECTED	FEDERAL STATUS
Leptoxis foremani	interrupted rocksnail		C2
Leptoxis formosa	maiden rocksnail		C2
Leptoxis lirata	lyrate rocksnail		C2
Leptoxis taeniata	painted rocksnail		C2
Pleurocera foremani	rough hornsnail		C2
Pleurocera showalteri	upland hornsnail		C2
Lioplax cyclostomaformis	cylindrical lioplax		C2
Tulotoma magnifica	tulotoma		LE
MUSSELS			
Epioblasma metastriata	upland combshell		LE
Epioblasma othcaloogensis	southern acornshell		LE
Epioblasma penita	penitent mussel	yes	LE
Lampsilis altilis	fine-lined pocketbook		LT
Lampsilis perovalis	orange-nacre mucket		LT
Medionidus acutissimus	Alabama moccasinshell		LT
Medionidus parvulus	Coosa moccasinshell		LE
Pleurobema decisum	southern clubshell		LE
Pleurobema georgianum	southern pigtoe		LE
Pleurobema perovatum	ovate clubshell		LE
Potamilus inflatus	inflated heel-splitter	yes	LT
Ptychobranchus greeni	triangular kidney shell		LE
FISH			
Acipenser fulvescens	lake sturgeon	yes	C2
Acipenser oxyrinchus desotoi	gulf sturgeon	yes	LT
Cottus pygmaeus	pygmy sculpin	yes	LT
Cyprinella caerulea	blue shiner	yes	LT
Cycleptus elongatus	blue sucker		C2
Crystallaria asprella	crystal darter	yes	C2
Etheostoma ditrema	coldwater darter	yes	C2
Etheostoma trisella	trispot darter		C2
Percina aurolineata	goldline darter		LT
Percina sp.	Alabama channel darter		C2
REPTILES			
Macroclemys temmincki	alligator snapping turtle		C2
Terrapene carolina	box turtle	yes	
Chelydra serpentina	common snapping turtle	yes	
Apalone spinifera	spiny softshell turtle	yes	
Heterodon simus	southern hognose snake	yes	C2
Pituophis melanoleucus	pine snake		C2
BIRDS			
Accipiter cooperi	Cooper's hawk	yes	
Aimophila aestivalis	Bachman's sparrow		C2

LATIN NAME	COMMON NAME	STATE PROTECTED	FEDERAL STATUS
Columbina passerina	common ground dove	yes	
Dendroica cerulea	cerulean warbler		C2
Falco sparverius paulus	southeastern American kestrel		C2
Haliaeetus leucocephalus	bald eagle	yes	LE
Lanius ludovicianus	loggerhead shrike		C2
Pandion haliaetus	osprey	yes	C2
Picoides borealis	red-cockaded woodpecker	yes	LE
Thryomanes bewickii altus	Appalachian Bewick's wren	yes	C2
MAMMALS			
Mustela frenata olivacea	southeastern weasel	yes	
Myotis austroriparius	southeastern myotis	yes	C2
Myotis grisescens	gray bat	yes	LE
Myotis sodalis	Indiana bat	yes	LE
Plecotus rafinesquii	Rafinesque's big-eared bat	yes	C2
Tadarida brasiliensis	Brazilian freetail bat	yes	
Sylvilagus obscurus	Appalachian cottontail	yes*	C2
Zapus hudsonius	meadow jumping mouse	yes	

*protected as *Sylvilagus transitionalis*

SUMMARY OF FINDINGS

One plant species with federal status, *Xyris tennesseensis*, was found during this survey. Three special interest natural areas were identified: two on ANAD and one on CRSA. The apparent absence of many protected plant species may be due to the failure of some species to flower or their remaining concealed in a seed bank. The most likely cause for the absence of protected species is lack of habitat. Several of the rare plant species of this region require seeps or moist soil. The study area is mostly dry; this may be because loblolly pine intercepts and transpires more water than hardwoods. The conversion of hardwoods to pine can significantly reduce water content in the soil. – Partly true – make the distinction.

Plants

Tennessee yellow-eyed grass, *Xyris tennesseensis*, was the only federally protected species located during the survey. It was found on ANAD. In addition to this endangered species, 15 plant species with federal status (endangered, threatened, or candidate) potentially occur on ANAD or CRSA. Listed below are brief accounts of the habitat requirements of these plants.

Shinners' false-foxglove, *Agalinis pseudophylla*, is a root-parasitic annual 4-7 dm tall, with small acicular leaves and pale pink flowers. This species occurs in moist acidic pine flatwoods or savannas in the Coastal Plain and Interior Low Plateau of southern Mississippi, middle Alabama, and the Highland Rim of middle Tennessee. Plants

flower from September into October. Any mechanical site preparation or disturbance of the grass-sedge system of which this *Agalinis* is an integral part would eliminate it.

The auriculate false-foxglove, *Agalinis auriculata*, is an annual up to 8 dm tall, with subsessile lanceolate leaves with auricled bases. The flowers are campanulate and purple with a dark-dotted throat. It occurs in prairies, open woods, and fields above the Fall Line. It has been documented to parasitize *Helianthus occidentalis* and *Rudbeckia fulgida*. The occurrence of this species is sporadic; plants may or may not be found in the same area from year to year.

The Georgia aster, *Aster georgianus*, is a colonial perennial herb with ovate to lanceolate leaves, slightly clasping leaf bases and lavender-violet rays with white heads. This aster occurs in Alabama, Georgia, and North and South Carolina in the Appalachian Plateau, Blue Ridge, Coastal Plain, and Piedmont physiographic regions. It is historically known from Talladega county. It inhabits dry open woods and roadsides and is a remnant of post oak-savanna communities. Plants flower in early October to mid November. This species was probably fire dependent, and tends to decline when shaded by woody species.

Flyr's nemesis, *Brickellia cordifolia*, is an erect perennial herb with opposite, triangular leaves, and many tubular-shaped disk florets, whitish in color with purplish tips, and triangular-shaped corolla lobes. This plant occurs in rich sandy loam of high hammocks in the Coastal Plain of Georgia south to peninsular Florida and west into southern and central Alabama. It flowers from August to October. This is a species of mature upland hammocks which do not exist on the study site.

Straggling St. John's-wort, *Hypericum dolabriforme*, is a perennial woody shrub 3-6 dm tall with linear leaves and yellow petals 8-11 mm long. It occurs on dry hillsides north of the Coastal Plain and flowers in spring and summer.

Fraser's loosestrife, *Lysimachia fraseri*, is an erect, herbaceous perennial with stipitate glandular lanceolate leaves in whorls of 3-5, and yellow rotate corollas. It occurs in the Ridge and Valley physiographic region of Alabama and has been located on the neighboring Pelham Range. This species occurs in alluvial meadows, along streambanks, moist roadside banks and pastures. Intensive site preparation for silviculture or development of land for agriculture or other use would eliminate this species. Lack of moist habitat on the study area may also be a reason for its apparent absence.

Mohr's Barbara'a buttons, *Marshallia mohrii*, is an erect perennial up to 7 dm tall, with smooth elliptic leaves, 2-10 flower heads with all discoid flowers, the corollas whitish with pale lavender anthers. This species has been located on the neighboring Pelham Range of Fort McClellan. It inhabits moist to wet grass-sedge clearings with a high organic fraction in the soil. Soils of a high hydroperiod are rare on the study area. Additional reasons for the apparent absence of this species are the presence of cattle, and the presence of competitive grass and exotic species.

Sweet pinesap, *Monotropsis odorata* var. *odorata*, a perennial herb without chlorophyll, is probably saprophytic, and has purplish-brown stems 3-8 cm tall. The bell-like flowers are usually pink, and are violet-scented. This small plant occurs in mixed deciduous, often dry woods from Maryland to Kentucky south to South Carolina and Alabama.

Wherry's phlox, *Phlox pulchra*, is a perennial herb with opposite, smooth elliptic-linear leaves, and bright pink or white trumpet-shaped flowers. This *Phlox* is sporadic in upland woods and clearings in the southwest end of the Appalachian Plateau, mostly north-central Alabama, with outliers in the inner Coastal Plain. It inhabits open stands of oak-hickory pine on well-drained uplands and flowers in May and June. It does not occur in grazed woodlands, pine plantations, or heavily disturbed areas such as can be found on the study area.

The yellow fringeless orchid, *Platanthera integra*, is a smooth, leafy-stemmed orchid 4-8 dm tall, with deep yellow-orange flowers. It occurs in savanna flatwoods, bogs, and sunny sphagnaceous seepage areas primarily in the Coastal Plain from New Jersey to Florida. Only the more common orange flowered orchid species, *Platanthera ciliaris*, was located on the study area. Lack of wet highly organic seeps on the study area accounts for the absence of this species.

The white fringeless orchid, *Platanthera integrilabia*, is a stiff, erect, perennial orchid with sheathed leaves, and white fragrant flowers. It occurs in boggy deciduous forested ravine woods and streambanks. This species was also located on the Main Post of Ft. McClellan. Lack of habitat may explain its apparent absence on the study area.

The sun-facing coneflower, *Rudbeckia heliopsidis*, is a perennial herb forming large clones by thickish rhizomes, with overwintering rosettes with ovate leaves, and bright yellow ray flowers with a reddish-brown disk. Its range falls mostly in the Piedmont and Appalachian Plateau of eastern Alabama and western Georgia with outliers in the inner Coastal Plain of North Carolina and in the Blue Ridge of South Carolina. It flowers from late July into late September. This species occurs mainly in a hardwood forest type in seeps, bogs, and sandy wet clearings along rivers, always on wet sandy-organic substrates. This type of habitat does not exist on the study area.

Lance-leaf loosestrife, *Steironema laevigatum*, is an erect perennial herb with lance-linear leaves and yellow flowers. It occurs in sloughs, wet woods, and wet prairies along the Atlantic seaboard and in the upper Mississippi Valley. There is very little known about this plant species in Alabama.

Aquatic Gastropods

Several species of aquatic gastropods were collected on ANAD and CRSA; none of which were candidate or listed species. Twenty-three species of federally designated aquatic gastropods have ranges which could include ANAD or CRSA. The absence of a particular species may be due to such factors as its historical absence in the area, lack of suitable habitat, and degradation of habitat or water quality. The paucity of habitat and ecological information on the aquatic gastropods precludes providing

specific reasons for each species as to their probable absence on ANAD or CRSA, with the exception of *Tulotoma magnifica* and *Stiobia nana*.

Prior to the impounding of the Coosa River, *Tulotoma* was present in the Coosa River and its larger tributaries. Subsequent to the damming of the Coosa River, the range of *Tulotoma* has been reduced by approximately 97%. This snail requires unimpounded, cool, clean, well-oxygenated, free-flowing water. The snail may be found in waters as deep as 5 m. Riffle and shoal areas along with boulders in swift currents are its required habitats. None of this habitat type occurs on ANAD or CRSA.

The sculpin snail, *Stiobia nana* , is known only from Coldwater Spring. Coldwater Spring has been impounded, forming a pool about 1.5 m deep and covering about 0.4 hectares. The spring run is up to 0.6 m deep, 12 to 15 m wide, and 152 m long. Average discharge is 32 million gallons/day. The water temperature year-round is $17 \pm 1^{\circ}C$. The substrate is mainly rock and gravel. In the spring pool *Myriophyllum* and *Ceratophyllum* are dominant plants, with *Nasturtium* dominating the edges of the spring run. The single well-defined spring found on ANAD is much smaller than Coldwater Spring, does not conform to the physical and biotic characteristics of Coldwater Spring, and is probably much too small to harbor any endemic fauna. No aquatic gastropods were collected in the spring or the stream into which the spring drains.

Mussels

Twelve species of federally designated unionid mussels occur in the vicinity of ANAD or CRSA. Aside from the introduced *Corbicula fluminea*, no mussels were found in the streams on either ANAD or CRSA. There may be several reasons for their absence. The mussels historically may not have occupied these streams due to the lack of suitable habitat or intermittent flow during periods of drought. Past human disturbances may also have eliminated any mussels or their host fish.

Fish

Although 10 species of federally designated fish have the potential to occur on ANAD or CRSA, none of these species were documented during this study period. Adequate information exists on these fish species to provide a reasonable explanation for their apparent absence. Listed below are brief accounts for each species.

The lake sturgeon, *Acipenser fulvescens*, is a fish of the main stream of rivers. A benthic species, *A. fulvescens* inhabits shoal regions of lakes and channels and pools of large rivers where the water depth is usually 5-9 m deep and the substrate is mud, sand, rock, or gravel. None of these habitat characteristics are present in the streams on ANAD or CRSA.

The gulf sturgeon, *Acipenser oxyrinchus desotoi*, is another sturgeon of large rivers with similar habitat requirements as *A. fulvescens*. Reasons for the absence of both sturgeons are similar (see *A. fulvescens* account).

The pygmy sculpin, *Cottus pygmaeus*, is known only from Coldwater Spring. The description of Coldwater Spring may be found under the *Stiobia nana* account. The

single well-defined spring on ANAD is too small and lacking in habitat characteristics to support an endemic fauna.

The blue shiner, *Cyprinella caerulea*, is a species of medium to large clear streams, and avoids both small tributaries and large rivers. It inhabits upper pool habitats, over a mixture of sand, large rubble, and bedrock. Only small tributaries occur on ANAD and CRSA.

The blue sucker, *Cycleptus elongatus*, is present in larger rivers and tributaries, and in channels and pools with moderate current. The species occurs over substrates of exposed bedrock, hard clay, sand, or gravel. Only small tributaries occur on ANAD and CRSA.

The crystal darter, *Crystallaria asprella*, is a riverine fish occupying the main stream and runs over current-swept beds of clean sand and gravel. No habitat of this description is present on ANAD or CRSA.

The coldwater darter, *Etheostoma ditrema*, is a species of vegetated limestone spring pools and runs. *E. ditrema* prefers areas of spring pools and runs with a sluggish current and beds of *Fontinalis* and *Fissidens*. Two specimens of *E. ditrema* have been collected on Pelham Range of Fort McClellan from the stream that originates in the northwestern corner of ANAD. On Pelham Range the stream becomes deeper, wider, contains more aquatic vegetation, and exhibits more spring influence. No springs or tributaries with the appropriate habitat occur on ANAD or CRSA.

The trispot darter, *Etheostoma trisella*, prefers areas of slackwater in small, low gradient streams at depths up to 1 m. The fish may take cover beneath undercut banks or be associated with leaf litter and *Podostemum*. No habitat of this type occurs on ANAD or CRSA.

The goldline darter, *Percina aurolineata*, prefers areas of moderate to swift current over a substrate of cobble or small boulders and sand or gravel. The water depth inhabited may be up to 1 m. *P. aurolineata* is often associated with *Justicia* and *Podostemum*. Although *Justicia americana* beds are present in the stream on CRSA, the stream is too small to support *P. aurolineata*.

The Alabama channel darter, *Percina* sp., is a fish of rivers and larger tributaries. This undescribed species is found in shoals, riffles, and runs among rubble, boulders, and slabs over fine gravel, sand substrates. None of this habitat type is present on ANAD or CRSA.

Reptiles

The alligator snapping turtle, *Macroclemys temmincki*,is a species of rivers and larger tributaries. No suitable habitat for this species exists on ANAD or CRSA.

The common snapping turtle, *Chelydra serpentina*, the spiny softshell turtle, *Apalone spinifera*, and box turtle, *Terrapene carolina*, are turtles which have protection under Alabama regulations but which have no federal protection. In the case of these three

species, no individuals may be offered for sale. For *C. serpentina* and *A. spinifera*, this regulation applies only to individuals with a shell length less than 8 inches. For *T. carolina*, state protection is applicable to all individuals. All three species undoubtedly occur on ANAD or CRSA. One juvenile *C. serpentina* was observed in the stream in the northwestern corner of ANAD, and any of the other streams and Cone Reservoir are suitable for this species. There is a very high likelihood that *A. spinifera* is to be found in Cone Reservoir. *T. carolina* could be present in any area of both ANAD and CRSA.

The southern hognose snake, *Heterodon simus*, has been collected from Calhoun County, and its presence on ANAD or CRSA is considered possible. In recent years, *H. simus* has undergone a dramatic decline, and none have been reported from Alabama in more than a decade. Fire ants have been suggested by some authorities as a contributing cause for the decline.

The pine snake, *Pituophis melanoleucus*, a secretive snake, is infrequently encountered, but is known to occur in Calhoun County. Most known occurrences are in areas of rather sandy or gravelly soils dominated by pines and scrub oaks. Seemingly suitable habitat exists on both ANAD and CRSA.

Birds

Cooper's hawk, *Accipiter cooperi*, prefers deciduous forests where openings occur. The secretive nature of its sit-and-wait hunting technique can lead to an underestimation of its numbers, and although it was not recorded during the survey, it almost certainly occurs on ANAD and CRSA.

Bachman's sparrow, *Aimophila aestivalis*, was undetected on ANAD or CRSA, despite a special effort to locate singing males. Its preferred habitat (open pine woods and abandoned fields) is limited, and the most suitable-looking area was found on CRSA, on and just south of Gent's Mountain.

In Alabama, the common ground dove, *Columbina passerina*, is present but rare above the Fall Line. The species was not detected, but could ultimately be found in sandy, open areas such as roadsides, cultivated fields, and open pine woods.

The cerulean warbler, *Dendroica cerulea*, requires large blocks of intact deciduous forest. It nests in tall trees (to 90 ft high), most frequently near streams. It was not detected during this study.

The southeastern American kestrel, *Falco sparverius paulus*, is rare and local in ANAD and CRSA, although the nonresident nominate subspecies is common in winter and on migration. This species prefers borders of woodlands, open fields, pastures, and highway margins with scattered trees.

The bald eagle, *Haliaeetus leucocephalus*, is normally found near water but may occur in almost any area during migration. Occasional transient birds may occur on (or over) ANAD or CRSA, but habitat conditions to support breeding are not suitable for this species.

The loggerhead shrike, *Lanius ludovicianus*, was not seen during the study, but probably occurs in small numbers. Declines in portions of this species' range have been attributed to loss of grazed pastures and fencerows. *L. ludovicianus* prefer open country with scattered hunting perches.

Osprey, *Pandion haliaetus*, are found in the vicinity of larger streams, impoundments, and natural lakes and ponds having large numbers of uncontaminated fish. This bird nests in large dead trees, cliffs, and on utility poles and towers. Although occasional transient birds may appear, suitable habitat on ANAD and CRSA is probably too limited to support residents.

The red-cockaded woodpecker, *Picoides borealis*, is present but extremely rare and local on the nearby Talladega National Forest and historically was known from adjacent Fort McClellan. This species requires mature, open stands of pine, particularly longleaf pine (*Pinus palustris*). *P. borealis* lives in family groups and nest in cavities which have been excavated in living pines. Cavity trees are usually infected with a fungus and are older than 80 years of age, and modern silvicultural practices within the species' range rarely allow significant stands of pine to attain maturity. Many suitable trees still exist on CRSA, particularly on Gent's Mountain and in the northwestern part of CRSA, but habitat conditions have deteriorated due to long-term fire suppression. A large stand of longleaf just south of Gent's Mountain was clearcut, probably in 1992 or 1993, and stump ring counts (70-80) indicated sufficient maturity for this stand to have supported red-cockaded woodpeckers.

The Appalachian Bewick's wren, *Thryomanes bewickii altus*, has suffered from pesticide usage, competition with house wrens, and forest succession on formerly cleared lands which has resulted in the decline of this species. It was not intensively searched for on ANAD or CRSA, but the disturbed nature of the habitat is somewhat favorable to this species. It often occurs where there are old barns, sheds, fencerows, hedgerows, and thickets.

Mammals

The southeastern weasel, *Mustela frenata olivacea*, was not detected, but it most likely occurs on the ANAD and CRSA. It is believed to be widespread but scarce in Alabama. Specific habitat preferences are not known, and these animals can be expected to occur wherever food and shelter are adequate. Weasels are known to use hollow trees, burrows, and the burrows of other animals. As far back as 1921, A.H. Howell considered this weasel to be "scarce everywhere in the Southern States". Perceived rarity led to this species being recently reclassified from a furbearer to a nongame species in Alabama. It is also fully protected in Florida. No specific threats have been identified. Losses of various habitat types have undoubtedly had some adverse effect, and maintenance of forested areas is probably important to its long-term existence on ANAD and CRSA.

Although occasional transients of the southeastern myotis, *Myotis austroriparius*, may appear, it is unlikely that this bat occurs regularly on ANAD or CRSA. Summer roosts are known from southern Alabama, and several specimens have been collected from caves in northern Alabama in fall and winter. This bat roosts in caves, hollow trees,

and may use buildings, mines, and culverts. Maternity colonies are usually in caves. The bats typically forage over water such as beaver ponds, large streams, or impoundments.

In Alabama, the gray bat, *Myotis grisescens*, occurs principally in the Tennessee River Valley. The nearest known occurrences to ANAD and CRSA are two caves in DeKalb County (Coosa River drainage). Additional populations are known from northwestern Georgia, presumably from within the Coosa drainage. The gray bat is more restricted to caves than any other U.S. mammal and roosts year-round in caves. Summer caves are nearly always located within 1 km of rivers and reservoirs over which the bats forage.

The Indiana bat, *Myotis sodalis*, in Alabama, is known only from the northeastern one-third of the state, primarily from Tennessee Valley caves. This bat is migratory and uses very different winter and summer roost habitats. Winter habitats include limestone caves for hibernation, forest habitat near cave entrances, and nearby riparian foraging areas. Summer habitat includes dead trees used by the maternity colonies and nearby riparian foraging areas. The bats typically roost beneath the exfoliating bark of dead trees.

Maternity colonies of Rafinesque's big-eared bat, *Plecotus rafinesquii*, consisting of a few dozen adults, are usually found in abandoned buildings. Roosting habitat for males in summer is usually buildings or hollow trees. Foraging habitat is among the high branches of large trees. This species is difficult to detect, and it may have been overlooked.

The Brazilian freetail bat, *Tadarida brasiliensis*, roosts in buildings and other manmade structures. Foraging habitat includes forest edges, open areas, and areas over lakes and ponds. This species probably does not occur on ANAD or CRSA, since practically all known occurrences in Alabama are in the southern half of the state. Building interiors were not surveyed, however, and it is possible that this species was overlooked. Loss of manmade roosting habitats through modern construction of "bat-proof" buildings and the gradual disappearance of older structures have been identified as causes for the apparent decline of this species. Pesticides may be a threat.

Although the Appalachian cottontail, *Sylvilagus obscurus*, was not detected during this survey, it has been collected on Cheaha Mountain in the Talladega National Forest, and may occur on ANAD or CRSA. Gent's Mountain on CRSA offers the most suitable-looking habitat for this secretive species.

The meadow jumping mouse, *Zapus hudsonius*, is probably confined to the Piedmont and Ridge and Valley physiographic provinces in Alabama, and may well occur on ANAD or CRSA. The species prefers wet, grassy places, especially those grading into weedy and shrubby habitats, but is found in drier areas.

SPECIAL INTEREST NATURAL AREAS

The Alabama Natural Heritage Program, in addition to surveying for rare plant and animal entities, also utilizes a coarse filter to include more common species, rare species assemblages, little known and cryptic species, and outstanding examples of entire communities and ecosystems. This coarse filter consists of two complementary and parallel classifications. One classification primarily reflects the vegetation, which is considered to be the best integrator of environmental factors. The second classification includes a habitat or ecologically based classification for areas where vegetation is not a prominent feature (i.e., caves, aquatic communities, dunes). The dominant community of this study area is mixed pine-oak-hickory upland woods. This species assemblage is the most extensive of the Kuchler types, including the Alabama, Coosa, and Chattahoochee River drainages in Alabama.

As previously stated, the natural community type of this study area is not rare or unusual to Alabama. Furthermore, the communities as represented by examples found on the study area are not exceptional or outstanding according to the Alabama Natural Heritage Program's system of classification. The following natural area descriptions relate to what can be found on the study area, and reflect the best of what ANAD and CRSA contain.

SUMMARY ABSTRACT

Xyris tennesseensis Kral

Tennessee yellow-eyed grass

TAXONOMY: CLASS: MONOCOTYLEDONEAE ORDER: XYRIDALES
FAMILY: XYRIDACEAE GENUS: *XYRIS*

ORIGINAL PUBLICATION OF NAME: Kral, R. 1978. A new species of *Xyris* (sect. *Xyris*) from Tennessee and northwestern Georgia. Rhodora 80(823):444-447.

TYPE LOCALITY: U.S.A., Tennessee, Lewis Co.; 3.5 mi. SW of Hampshire just over Maury Co. line by Tenn. 99.

GENERAL DESCRIPTION: Perennial, smooth linear leaves with twisted blades; base somewhat fleshy, encased in dark, scale-like outer leaves, the roots fibrous and shallow.

TECHNICAL DESCRIPTION: Leaves all basal, the outermost scale-like and dark, with inner fleshy scales white to rose in color, sometimes making a bulbous base. Larger leaves are linear, 14-45 cm long, narrowed at base and apex, 0.5-1.0 cm wide, flat or slightly twisted, bright green, the apex incurved and bluntly acute. Leaf margins are slightly thickened, and entire. The base is 1/3-1/8 the length of the blade, pink, red, or purple in color, with margins pale, broad, thin, the surfaces smooth or finely papillate. The sheaths of scapes are shorter than the foliage leaves, reddish or

brownish proximally with short blades. Scapes are linear, straight, subterete, 30-70 cm long, usually flattened and 2-5-ribbed distally and with at least 2 ridges quite wide and tuberculate-scabrid, and 2-several ribbed proximally. Spikes are solitary and terminal on scapes, broadly ovoid in shape, 1.0-1.4 cm long, composed of several tightly and spirally imbricated bracts, all except the lowermost and uppermost producing a single flower in the axil. Fertile bracts are suborbicular, rounded, entire or slightly erose, tan excepting greenish, ovate-triangular areas. The calyx has three parts, an outer membranous sepal that enfolds the flower in bud, and two lateral sepals which are included, curvate, the keels thin, narrow, the distal half lacerate, broader, and reddish brown. There are three distinct long-clawed petal blades obovate in shape, ca. 4.5 mm long, 3.0 mm wide, apically rounded and lacerate. Petals are yellow and unfold in late morning. Staminodes are distinct, three, bi-brachiate with long hairs beaded. Fertile anthers ca. 2 mm long, lance-linear, the sacs nearly parallel with their tips projecting apically 0.4 mm beyond the apex. The ovary is superior, with 3 carpels, compressed-ovoid in shape with marginal ovules in a single locule. The style is elongate-linear, tubular, branching into 3 tubular branches with horseshoe-shaped, minutely hairy tips. The fruit is a thin-walled capsule splitting open by 3 valves. Seeds are ellipsoidal, ca. 0.5 mm long, covered with a white mealy powder, with 18-20 longitudinal lines.

DIAGNOSTIC CHARACTERISTICS: Smooth twisted leaves, lacerate lateral sepals, and farinose, ribbed seeds.

LOOK-ALIKE SPECIES: Only two other *Xyris* species have been noted in association with *Xyris tennesseensis*. One is an annual, *X. jupicai* L.C. Rich, with a non-bulbous and uncolored base, with similar sepal characters but with non-farinose, smaller seeds. The other species, *X. torta* J.E. Sm., has twisted leaves that are distinctly ribbed, and has more curved and ciliate lateral sepals.

IDENTIFICATION COMMENTS: The habitat of this *Xyris* is quite distinctive (see Habitat), and a *Xyris* growing under such conditions should be suspected of being *X. tenneseensis*.

TAXONOMY COMMENTS: Taxonomically, *X. tennesseensis* is closest to the *X. difformis* complex, but these plants have leaves more flabellately spreading, blades are less twisted and non-bulbous, flower earlier in the day, and have different seed sculptures.

GLOBAL RANK: G1

STATE RANK: S1

US ENDANGERED SPECIES ACT: Endangered species, U.S. Fish and Wildlife Service, 1991. *Federal Register*. 56(144):34151-34154.

STATE INVENTORY PRIORITY: strong priority

STATE INVENTORY NEEDS: The area of highest potential, where nine populations are now known, is the Ridge and Valley physiographic province of Alabama. Additional searches should also be made in or adjacent to Franklin County, Alabama. Searches should be coordinated with Dr. Robert Kral to avoid areas already examined.

STATE OWNERSHIP SUMMARY: mostly private

STATE INVENTORY COMMENTS: Three populations occur on government military installations. The remaining seven populations occur on private land and a highway right-of-way.

COUNTY NAME: Bibb, Calhoun, and Franklin counties

STATE RANGE: narrow endemic

STATE RANGE COMMENTS: All but one of the populations occur in the Ridge and Valley physiographic region; the Franklin county population is in the Upper Coastal Plain.

HABITAT: Substrate with high hydroperiod with calcareous rocks at or near the surface. Open or thinly wooded, gravelly, seep-slope or streamside. Surrounding forest commonly upland oak-hickory or oak-pine.

ECOLOGY COMMENTS: Habitat was probably maintained historically by a combination of a soil unsuitable for establishment of most woody vegetation and by periodic woods fires.

PHENOLOGY: Flowering occurs from August through September, but the dried heads of bracts persist into the following year.

REPRODUCTION: There is little information available on the life history of *Xyris tenneesseensis*. Kral (1990) reports asexual reproduction of lateral buds from axils of crown leaves. In the field, it is often difficult to identify a single plant when plants occur in dense clumps with many flowering culms. Kral (1990) notes that seed set is high, and that seedlings have a high light requirement for germination. No quantitative information is available on the reproductive biology of this species including its seed bank, germination requirements, phenology, and long-term survivorship.

Summary Abstract of Management Needs

ELEMENT: *Xyris tennesseensis*, Tennessee yellow-eyed grass

THREATS/NEEDS: The ANAD *Xyris tennesseensis* site is rather stable and protected within the confines of ANAD. Proximity to the burning ground may be a potential threat because of the need for vegetation removal, and the possible effects on the spring from fuels and other by-products of the burning procedure. Closure of the surrounding canopy is also a potential threat as it would eliminate the

species. Management efforts should be directed toward maintaining current moisture and light conditions, and the integrity of the site.

(1) Moisture requirements

One of the most important features of the habitat of *Xyris tennesseensis* is a permanent moisture regimen. Precautions should be taken to preserve the integrity of the spring associated with the plant population. The plants themselves are situated in a seep on the edge of the stream. The presence of water at or near the soil surface of the site is critical to the survival of the plants. Conservation of the soil is important, as any erosion, siltation into the stream, soil compaction, or rutting of the soil could significantly change the moisture regimen which could eliminate the plants.

To maintain the seep in its present state, no heavy equipment should be used within the secondary take line of the site. Trampling of the site by humans or livestock should also be avoided. Disruptive forestry practices should be restricted within the take lines as well.

(2) Light requirements

Open, sunny conditions are a second important feature of *Xyris tennesseensis* habitat. Precautions may be necessary to prevent the site from being closed by the surrounding canopy. Young pine saplings already present on the site should be removed by hand. In the past clearing of all vegetation along the spring branch to meet burning ground requirements has allowed for an open canopy, but if continued in the present manner could prove fatal to the plants. Removal of vegetation down to bare soil and use of graders or bulldozers should be discontinued.

Maintenance of the area within the primary take line by mowing will be beneficial if performed at appropriate times. Plants should not be mowed during flowering time (August through September). Mowing after maturation of the seed heads may prove beneficial by reducing competition from surrounding vegetation, and by aiding in seed dispersal.

Use of prescribed fire to maintain the area within the primary take line is another alternative to keeping the site open and free from invading woody species. A cool winter burn is advisable.

(3) Elimination of exotics

The ANAD site is very disturbed, and does not contain the typical species assemblage of other *Xyris tennesseensis* sites. Even so, care should be taken to prevent exotic weeds such as kudzu from invading the site. Removal of undesirable species should be by hand; use of herbicides would be detrimental to *X. tennesseensis*.

ACTION DESCRIPTION:

1. No equipment past secondary take line. Restrict human access.

2. Control surrounding vegetation to maintain an open habitat. Eliminate pine saplings by hand or fire. Mow the area within the primary take line only at appropriate times. Appropriate mowing times would be when the plant is not flowering, and soil moisture levels are lowest so as to minimize soil compaction and rutting. The suggested mowing period is October to November. Mowing of the adjacent streamside outside the primary take line on a more frequent basis would be acceptable as long as soil compaction and disturbance is avoided.

3. Protect the watershed. Restrict logging operations and development of the surrounding watershed as much as possible. Exclude logging from the area within the secondary take line.

4. Protect the springhead. The source of the seep upon which the plants depend is a spring directly upstream. The continued existence of this spring is essential to the survival of the plants. Water quality is important. Flow into the spring from the surrounding area should be monitored.

SITE-BY-SITE EXCEPTIONAL NATURAL AREA AND ENDANGERED SPECIES HABITAT SUMMARY DESCRIPTIONS AND MAPS

Site Basic Record
The Burning Ground Seep

SITENAME: The Burning Ground Seep (Figure 8)

STATE: Alabama COUNTY: Calhoun QUADNAME: Eulaton

LATITUDE: 33° 39' 55"
LONGITUDE: 85° 59" 52"

TOWNSHIP AND RANGE	SECTION	MERIDIAN
T16S R06E	3	Huntsville

DIRECTIONS: ANAD, southwest corner of the Burning Grounds. Follow road around east side of the burning area until road terminates at a metal cage. Park here and walk west toward spring branch. The seep is on the opposite (west) side of the along the bank.

WATERSHED: 03150106.190

SITE DESCRIPTION: Grass-sedge seep on disturbed bank of small creek branch (3 ft. wide) ca. 20 feet downstream from a spring head. Over 300 *Xyris tennesseensis* are along a stretch of 40 feet along the creek. Associated species include: *Eleocharis* sp., *Cyperus* sp., *Juncus* sp., *Hypericum* sp., *Plantago lanceolata*, *Anthemis arvensis*. canopy upstream: *Liquidambar styraciflua, Pinus taeda, Liriodendron tulipifera; Morus rubra, Cercis canadensis, Cornus florida, Acer rubrum, Aesculus pavia, Prunus serotina, Acer negundo, Ostrya virginiana, Carya* sp. herbaceous

species: *Salvia lyrata, Lysimachia lanceolata, Microstegium vimineum, Rudbeckia fulgida, Vitis* sp., *Polymnnia uvedalia, Campsis radicans, Chimaphila maculata, Polystichum acrostichoides, Lonicera japonica, Matelea gonocarpa.*

KEY ENVIRONMENTAL FACTORS: Springhead seep

MINIMUM ELEVATION: 700 MAXIMUM ELEVATION: 700

LANDUSE HISTORY: agriculture

MAP DATE: 94-06-15

DESIGNER: Jarel Hilton

BOUNDARY JUSTIFICATIONS: The primary take line is designed to follow natural contour lines, and to include the springhead and the part of the drainage that supports the element. The secondary take line is drawn to include a buffer to afford protection to the springhead and the element occurrence. The secondary take line conforms to the contours of the drainages except where it includes the slope north and above the plants. The slope and top of the ridge are included to protect the part of the watershed directly above the element occurrence.

PROTECTION URGENCY: P5 - Land protection complete.

PROTECTION URGENCY COMMENTS: *Xyris tennesseensis* is an endangered species protected from take on federal lands by the Endangered Species Amendment, Section 7.

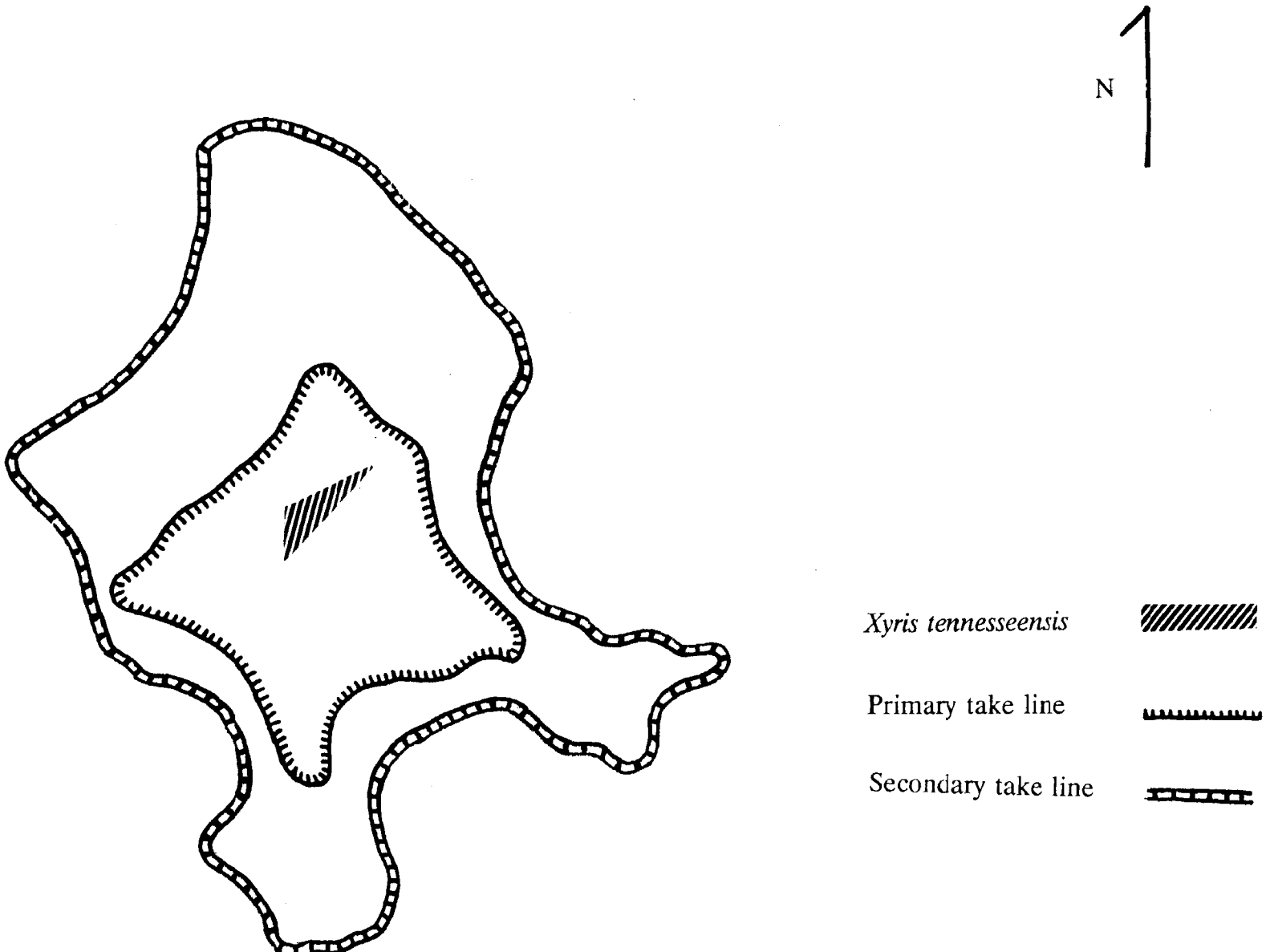
MANAGEMENT URGENCY: M1 - New management action required immediately or Element Occurrences could be lost or irretrievably degraded within 1 year.

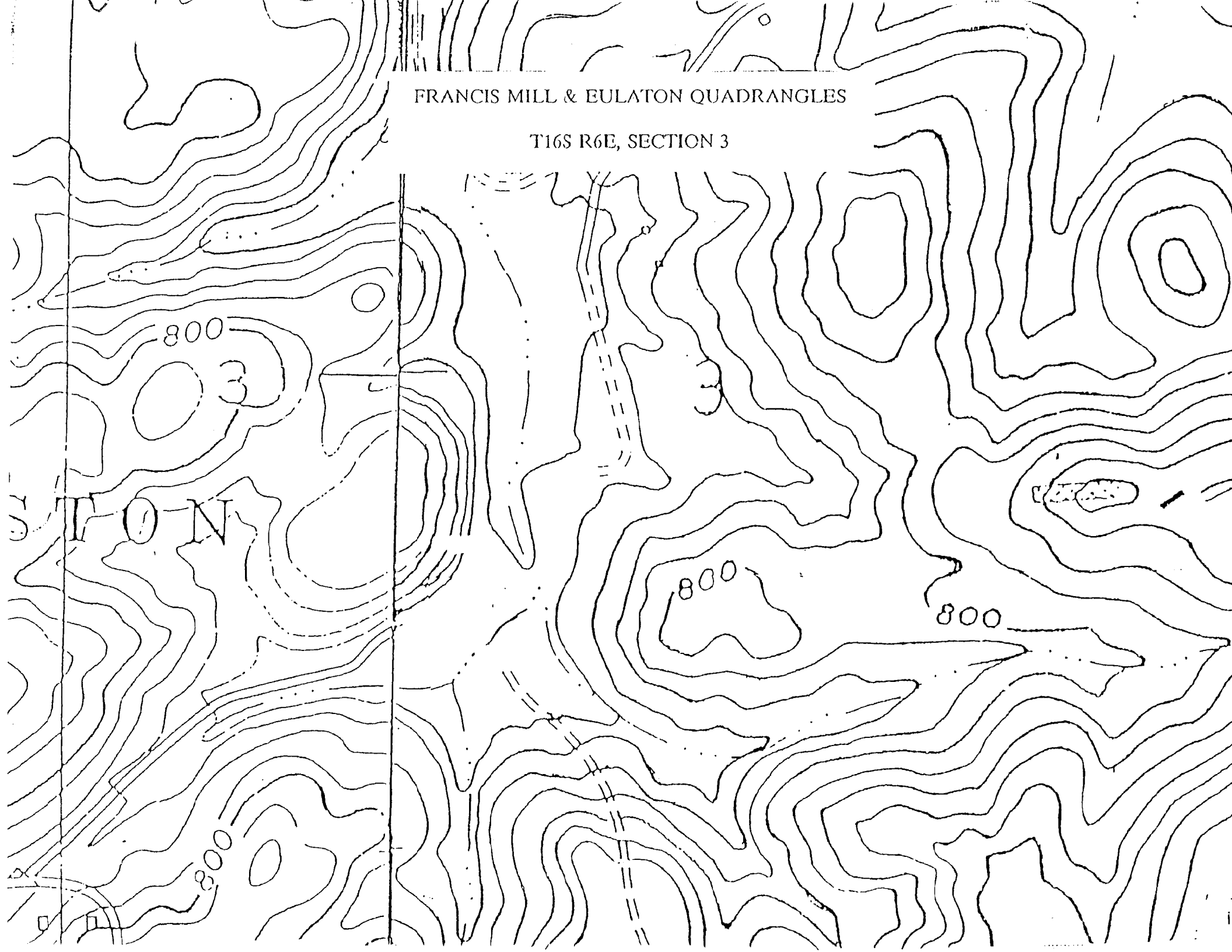
MANAGEMENT URGENCY COMMENTS: Threatened by removal of vegetation, use of grader, and by Burning Ground activities.

MANAGEMENT NEEDS: Restrict use of heavy machinery, maintain openness of site, control exotics, protect water quality.

Figure 9. The Burning Ground Seep on the Anniston Army Depot.

ECOLOGICAL TAKE LINES




FRANCIS MILL & EULATON QUADRANGLES
T16S R6E, SECTION 3
800
800
800
800

Site Basic Record
Fish Hatchery Cave

SITENAME: Fish Hatchery Cave

STATE: Alabama COUNTY: Calhoun QUADNAME: Munford

LATITUDE: 33° 37' 05"
LONGITUDE: 85° 59' 10"

TOWNSHIP AND RANGE	SECTION	MERIDIAN
T16S R06E	23	Huntsville

DIRECTIONS: ANAD, north-facing bluff on the south side of the swimming area of the fish hatchery.

WATERSHED: 03150106.270

SITE DESCRIPTION: Cave opening on north-facing bluff in oak-hickory forest. Opening is a 4 foot hole, surrounded by a chain link fence, 6 feet x 6 feet. A 4 foot opening exists in the fence. The cave opening leads into a chamber approximately 3-4 m high and 6 x 8 m across. A passage, about 15-20 m long, extends downward at about a o angle. The passage becomes impassable. No water was evident in the cave. There was no conclusive evidence of bat use. One feces sample contained portions of insect exoskeleton, but it could have been of bat or rodent origin. Cooler air temperature in the cave indicates a possible connection with a more extensive underground system.

KEY ENVIRONMENTAL FACTORS: Cave

MINIMUM ELEVATION: 780 feet MAXIMUM ELEVATION: 780 feet

PROTECTION URGENCY: P5 - Land protection complete.

MANAGEMENT URGENCY: M - Although not currently threatened, management may be needed in the future to maintain current quality of element occurrence.

Site Basic Record
Gent's Mountain

SITENAME: Gent's Mountain (Figure 10)

STATE: Alabama COUNTY: Talladega QUADNAME: Talladega

LATITUDE: 33°30'
LONGITUDE: 86°

TOWNSHIP AND RANGE	SECTION	MERIDIAN
17 and 18 S 5 and 6 E	1 and 6	Huntsville

DIRECTIONS: Coosa River Annex. Drive south on Talladega County 5 from its intersection with Interstate 20 ca. 4 miles. Turn west onto unmarked paved road running southwest. Continue on this road 1 mile until the north gate to the property. Gent's Mountain is directly west of this gate. The north border of CRSA runs across the top of the mountain.

WATERSHED: 03150106.280

SITE DESCRIPTION: Dry pine-oak-hickory interior upland forest, maximum elevation 1000 feet. Steep slopes with narrow ridgetop, shallow soils with loose shale or sandstone fragments. canopy: *Pinus palustris, Pinus taeda, Quercus stellata, Carya cordiformis, Nyssa sylvatica, Quercus nigra, Quercus marilandica, Cornus florida, Juniperus virginiana, Sassafras albidum, Acer rubrum, Prunus serotina* understory: *Vaccinium* sp., *Vitis* sp., *Hydrangea quercifolia, Rhus copallina, Aesculus pavia, Calycanthus floridus, Rhododendron canescens, Lonicera japonica, Silphium compositum, Pteridium aquilinum, Asplenium ebenoides, Coreopsis major, Tephrosia virginiana, Viola pedata, Hypoxis hirsuta, Liatris microcephala, Andropogon* sp.

KEY ENVIRONMENTAL FACTORS: Remaining natural forest

MINIMUM ELEVATION: 700 ft MAXIMUM ELEVATION: 1000 ft

LANDUSE HISTORY: silviculture

MAP DATE: 1994-07-21

DESIGNER: Jarel Hilton

BOUNDARY JUSTIFICATIONS: The primary take line was drawn to include the remnant natural hardwood forests on the ridgetops, and follows the property boundary line. The secondary take line was drawn to include all of the mountain, and a small buffer along the base.

SITE COMMENTS: Only half of Gent's Mountain occurs on CRSA.

PROTECTION URGENCY: P2 - Threat expected within 5 years

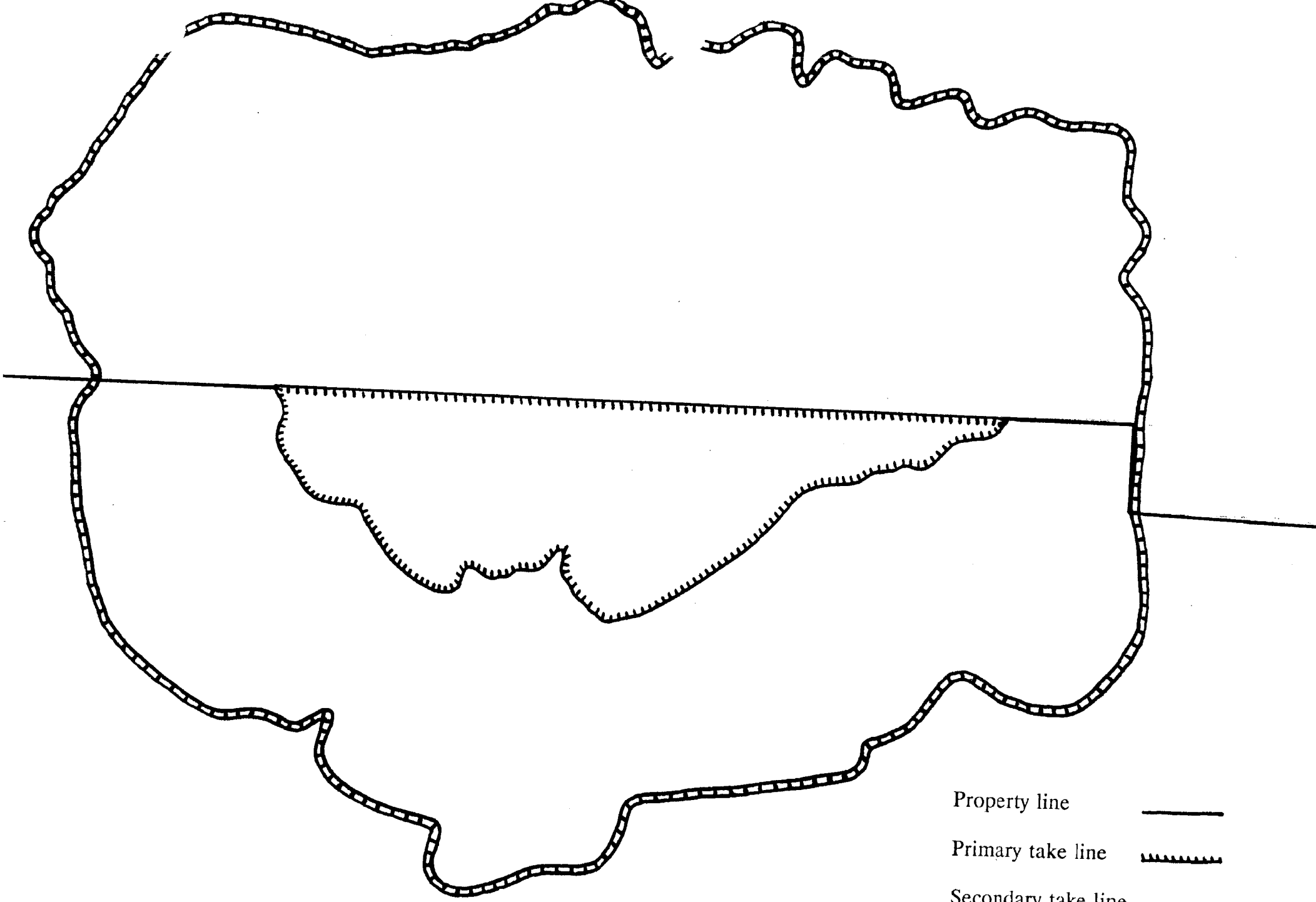
PROTECTION URGENCY COMMENTS: Anthropogenic forces may threaten the integrity of the site (eg. development, timber practices).

MANAGEMENT URGENCY: M3 - New management action will be needed within 5 years to maintain the current quality of the site.

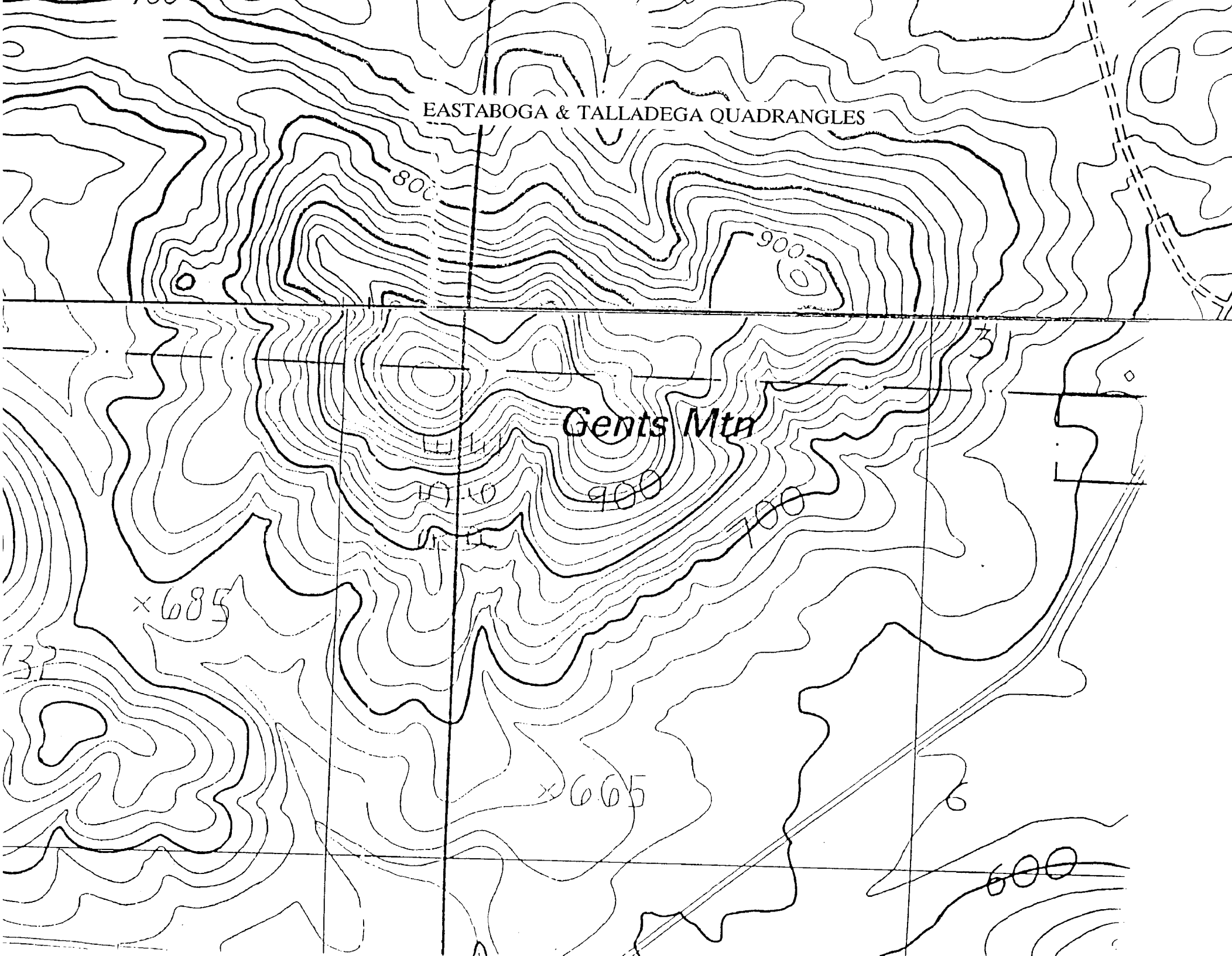
MANAGEMENT URGENCY COMMENTS: Restriction of development and silvicultural practices important to the continued existence of the site.

MANAGEMENT NEEDS: Forestry practices which do not drastically impact the lower slopes may continue, but the hardwoods on the ridgetops should be left undisturbed. Preservation of the remaining forest will protect the steep slopes from erosion and maintain species diversity near its present level. Prescribed burning is recommended to maintain the fire-adapted (and in some cases, fire-dependent) plants and animals. Potential red-cockaded woodpecker habitat is present in this area, and the widespread longleaf, occasionally occurring in pure stands, should be maintained. Every area of potential occurrence could not be thoroughly surveyed for red-cockaded woodpeckers, and it is possible that they persist on the CRSA, or may colonize in the future. Management for this species should include implementation of uneven-age forest management strategies (taking care to maintain older, relict trees) in conjunction with periodic prescribed burns during the growing season.

Figure 10. Gent's Mountain on the Coosa River Storage Annex.



ECOLOGICAL TAKE LINES


EASTABOGA & TALLADEGA QUADRANGLES
800
900
Gents Mtn
900
700
685
605
600

ADDITIONAL PROTECTION AND MANAGEMENT RECOMMENDATIONS

Although the stream, which originates with the spring at the Burning Ground and flows north onto Pelham Range, has a low fish diversity and lacks aquatic molluscs, it appears to be of fairly good quality. The surrounding vegetative forest and ground cover is little disturbed, there is a breeding population of *Chelydra serpentina* as evidenced by the hatchling observed in May 1994, and a number of small springs and seeps are located along the margin. Two specimens of *Etheostoma ditrema* were collected from this watercourse farther downstream, hence the watershed of this stream should be protected. The tributary which flows into this stream from near the Demolition Pit is carrying a high silt load into this stream and measures should be taken to prevent the deposition of sediments into the stream. Sedimentation is a problem to many forms of aquatic life, particularly benthic forms such as insects, snails, mussels, other invertebrates, and certain fish species.

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APPENDIX

Element Occurrence Record for Tennessee Yellow-eyed Grass (*Xyris tennesseensis*).

MAP INDEX: 254

Element Occurrence Record
XYRIS TENNESSEENSIS

tifiers:
Elcode EO# State:
EOCODE: PMXYR010M0*010*AL FONUM: IDENT: Y
SNAME: XYRIS TENNESSEENSIS
SCOMNAME: TENNESSEE YELLOW-EYED GRASS
ELEMENT RANKS: GRANK: G1 NRANK: SRANK: S1

Locators:
NATION: US SITECODE:
SITENAME:
SURVEYSITE: BURNING GROUND SEEP

PRECISION: S

COUNTYCODE: COUNTYNAME LOCALJURIS:
ALCALH Calhoun

QUADNAME: QUADCODE: MARGNUM: DOTNUM: TENTEN:
EULATON 3308568 009 01,07

LAT: 333951N S:
LONG: 0855958W N:
E:
W:

'RANGE: SECTION: MERIDIAN: TRSNOTE:
,006E 03 HU NE4SW4

DIRECTIONS: Anniston Army Depot, southwest corner of the Burning Grounds. Follow road around east side of the Burning Area until road runs out by a metal enclosure cage. Park hera and walk west toward creek branch. Plants are on the opposite (west) side of the creek in a seep area along the bank.

PHYSPROV: WATERSHED:
RV 03150106.190

Status:
SURVEYDATE: LASTOBS: 1994-06-07 FIRSTOBS: 1994-06-07
EORANK: EORANKDATE:
EORANKCOM:

EODATA: > 300 plants; ca. 100 dried flower heads from last season.

CONTACTID: CONTACT.NAME:
CONTACT.NOTE:

Description:
EOTYPE:
GENDESC: Grass-sedge seep on disturbed bank of small creek.

LEV: 700' MAXELEV: 700' SIZE:

Protection:
MACODE: MANAME: MATYPE: CONTAINED:

.USALHP*101 ANNISTON ORDINANCE DEPOT MILITARY RESERVATI FXXML Y

ORELAND: MOREPROT: MOREMGMT: TNCINVOLVE:

OM:

ROTCOM:

wnership:
WNER: US ARMY OWNERINFO: Y
WNERCOM:

eneral Comments:
OMMENTS:

dditional Topics:
DDTL.TOPICS:

OPIC.KEYWORDS:

ocumentation:
ATASENS: BOUNDARIES: PHOTOS:
ESTSOURCE: Burns, Billy, forester, Anniston Army Depot, Building 1, Jarel Hilton, and Jim Godwin.

OURCECODE: CITATION:
NDHIL01ALUS Hilton, Jarel L. Botanist. Alabama Natural Heritage Section. State Lands Division, Department of Conservation and Natural Resources, 64 North Union Street, Room 421, Montgomery, Alabama 36130. PH: (205) 242-3484 FAX: (205) 242-0999.
D01ALUS GODWIN, JAMES (JIM).

PECIMENS:

RANSCRIBR: 94-06-21 JLH CDREV: Y
APPER: 94-06-21 JLH QC: Y

ecord Maintenance:
EADRESP: ALHP

ptional Fields:
OR.OPT1: 254
OR.OPT5:

OR.OPT8: EOR.OPT9: EOR.OPT10:

OR.OPT15:

OR.OPT18: EOR.OPT19: EOR.OPT20:

APPENDIX D

ANAD Erosion Control Plan

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APPENDIX D

ANAD Erosion Control Plan

Erosion Control for Construction and Other Land Disturbing Activities

Effective 1 April 2011, the Alabama Department of Environmental Management (ADEM) began enforcing the new Construction General Permit for construction and other land clearing activities. As a result of the new regulations, all projects beginning after 1 April 2011, must comply with the new Construction General Permit requirements.

The new requirements apply to any construction or other land clearing activities, which disturb an area equal to, or greater than one acre or from construction activities involving less than one acre and which are part of a common plan of development or sale equal to or greater than one acre.

Under these new regulations, whoever performs the work, be it a contractor, tenant, partner, or in-house personnel, must obtain their own permits. Below are requirements listed in ADEM's Administrative Code: (for further requirements see the Construction General Permit #ALR10000)

a. Notice of Intent (NOI): Persons engaging in construction and other land clearing activities subject to the Construction General Permit requirements must submit a complete and correct NOI with the appropriate fee to ADEM prior to commencing such activities. ADEM will assign a permit number after receiving a complete and correct NOI form and payment.

b. Construction Best Management Practices Plan (CBMPP): A CBMPP must also be prepared prior to submitting a NOI. The CBMPP shall be prepared by a "Qualified Credentialed Professional" (QCP). The QCP can include a licensed professional engineer (PE), a registered forester, or a registered geologist.

Best Management Practices (BMPs) are defined as structural and non-structural measures for control of sediment migration. BMPs may include training of personnel, implementation and maintenance of structural sediment control measures, establishment and maintenance of vegetation, and good housekeeping practices. Several examples of structural and non-structural measures that may be used are:

- Temporary vegetative cover shall be installed if exposed soil will be left for over 14 days. Grassing or silt fences will be used to prevent sediment from moving off site.

- Silt fencing is a temporary structure constructed of a geotextile fabric supported by wood or metal stakes. These fences may be used at downgradient locations throughout a project area.

- Hay bales may be used to limit sediment migration. Hay bales should be combined with silt fences where necessary. Wood stakes or rebar should be driven through the hay bales and at least one foot into the ground to hold the hay bales in place.

- Rip-rap (class #2) should be placed at stormwater outfalls for energy dissipation. The rip-rap should be placed along ditches or drainage ways to reduce the high velocities of stormwater discharge. Rip-rap will also reduce scouring and sediment migration.

- Sediment basins and check dam may be used to detain runoff water, reduce or maintain peak discharges, and trap sediment to protect areas downstream from damage from sedimentation or debris.

Other structural and non-structural measures may be written into the BMP and used as needed. During the life of a project changes may be made as necessary to reduce the amount of sediment produced and to prevent any off site erosion. The key factors are to prevent sediment from being produced or prevent sediment from moving offsite, and to control stormwater run-off.

c. Records: Construction site operators must keep all records at the construction site immediately available for inspection by ADEM, or at an alternate site previously identified to ADEM, provided they are readily available for inspection upon request. Operators must retain copies of all required records for a period of three years after proper termination of registration.

d. Inspections: BMPs listed in the CBMPP must be inspected a minimum of once a month, by a Qualified Credentialed Inspector (QCI), QCP, or a qualified person under the direct supervision of a QCP. At least once every six months a QCP, or a qualified person under the direct supervision of a QCP, must conduct an inspection. An inspection by a QCI, QCP, or qualified person under the direct supervision of a QCP also must conducted when precipitation of 0.75 inches, or greater, occurs in any 24-hour period. The inspection must be completed within 72 hours of the precipitation event.

e. Corrective Action: Deficiencies noted during inspections must be corrected as soon as possible, but not to exceed five days of the inspection unless prevented by unsafe weather conditions.

f. Changes to BMPs: Minor changes to BMPs and CBMPPs must be made within 15 days of noted deficiencies.

Control for Active Erosion:

As active erosion areas are discovered on the installation, the following procedure has been set in place to correct the problem. First, a work order is placed to the Directorate

of Public Works (DPW). Then, the work order is given to the appropriate divisions. The active erosion area is then visited, by several qualified personnel, to determine which measures need to be taken to fix and correct the problem. The severity of the problem will determine the work performed.
Any, or all, of the above mentioned BMPs can take place after the area is fixed. All work to be performed will be environmentally safe and compatible with the site location.

END OF PLAN.

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APPENDIX E

Natural Resources Projects and Tasks

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FY 2019 to 2023 Projects & Tasks

	Project or Task Description
1	Timber Harvesting
2	INRMP review by ANAD stakeholders and external Sikes Act reviewers. (annually).
3	Develop and implement grounds maintenance guidelines for endangered species habitats on ANAD (FY19)
4	Conduct a planning level survey
5	Conduct a soil survey
6	Revise erosion plan
7	Update ESMP to include the Gray bat, Indiana bat, Northern long-eared bat, Tri-colored bat, Mohr's Barbara's buttons, and the White fringeless orchid.
8	Investigate the training needs and personnel requirements to better utilize current Geographic Information System (GIS).to track and archive Natural and Cultural resources information more effectively.
9	Investigate the training needs for Endangered Species Management
10	Conduct survey and maintenance of TYG colonies. (annually)

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APPENDIX F

Appointment Letters and Correspondence

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DEPARTMENT OF THE ARMY
ANNISTON ARMY DEPOT
7 FRANKFORD AVENUE
ANNISTON, ALABAMA 36201-4199

Jul 26 2019

TAAN-RKR

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Appointment of Installation Natural Resource Coordinator

1. Appointment: Effective immediately, the individual listed below is appointed as Installation Natural Resource Coordinator for Anniston Army Depot.

Kevin Guy, Environmental Protection Specialist, Directorate of Risk Management

2. Authority: AR 200-1, Environmental Protection and Enhancement, paragraph 4-3, 13 December 2007.

3. Purpose: Keep command informed regarding natural resource issues which may impact accomplishment of mission or result in violation of laws, policies, or regulation. Serve as the single point of contact for installation natural resource issues. Coordinate the natural resource program with all installation land users.

4. Period: Indefinite

5. Supersession: Memorandum, ANAD, TAAN-RKC, 30 January 2017, subject as above, is superseded.

MARVIN L. WALKER
COL, LG
Commanding

DISTRIBUTION:
A
All Tenants
Individual

This page is intentionally left blank

From: Gauldin, Keith
To: Guy, Kevin CIV USARMY USAMC (USA)
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review
Date: Monday, May 4, 2020 3:02:52 PM

Yes sir.

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Monday, May 4, 2020 3:01 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review

Thank you for your assistance!

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Monday, May 4, 2020 2:56 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review

Kevin,
Sorry for the delays. The signature page with my Commissioner's signature is attached. Please let me know if you have questions or should need anything additional from me. Thanks.
Keith

W. Keith Gauldin
Wildlife Section Chief
Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries, Wildlife Section
64 North Union Street, Suite 584
Montgomery, AL 36104
Phone: 334.242.3469

keith.gauldin@dcnr.alabama.gov
Caution-www.outdooralabama.com

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Monday, May 4, 2020 7:04 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review

Good Morning,

I was just following up with you to see if you had received the signed signature page from the commissioner?

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Wednesday, April 22, 2020 1:50 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review

Thanks, that is good to hear. Yes there are scientific collection permits that will to be attained and I can certainly assist you with that when the time arrives.

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Wednesday, April 22, 2020 1:33 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] Re: ADCNR INRMP Review

Thank you for the clarification. As stated in previous email correspondence, I am compiling a list of plans and surveys that need to be updated. When we are able to secure funding to complete these surveys I will be sure to correspond with your office. When planning level surveys are conducted, are there any required permitting that our installation or the contractor hired for the survey must obtain? Thank you for all of your assistance.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Wednesday, April 22, 2020 12:59 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: [Non-DoD Source] Re: ADCNR INRMP Review

Good Afternoon,

I believe I have some clarification on the comment now. If that was the last time in which a flora/fauna inventory has been completed within the Anniston Army Depot, it was recommended that the Depot complete an updated study in the future focused on state protected species within the Depot boundaries. Several of the species included in the 1994 Godwin document Table 2 (page 110 of INRMP) have changed in state protective status since 1994. The Calhoun County species list, compiled by Ashely Peters using DCNR and USFWS data that we attached, was only meant to provide a County species list with updated status labels that correspond with our 2019-2020 Applicable State Regulations 220-2-.92 Protected Nongame Species and 220-2-.98 Invertebrate Species. The county species list we provided includes species that may or may not appear within the Anniston Army Depot boundaries, so that list was not meant to replace Table 2 in the 1994 Godwin document, which would require a new survey. I feel this should clear any previous confusion with the comments, if not, please let me know.

I have the document routing to the Commissioner and will forward to you when completed. Likely early next week as staff are coming into the office intermittently, but I'll send promptly at that time. Please let me know if you have any questions. Thanks.

Keith

W. Keith Gauldin

Wildlife Section Chief

Alabama Department of Conservation and Natural Resources

Division of Wildlife and Freshwater Fisheries, Wildlife Section

64 North Union Street, Suite 584

Montgomery, AL 36104

Phone: 334.242.3469

From: Gauldin, Keith
To: Guy, Kevin CIV USARMY USAMC (USA)
Cc: Basinger, Chad J CIV (USA)
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)
Date: Monday, April 20, 2020 5:49:38 PM

Thanks Kevin, I'll be in touch.

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Monday, April 20, 2020 4:10 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Cc: Basinger, Chad J CIV (USA) <chad.j.basinger.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

The comment / question was a little confusing. I read it as your staff was asking if the your agency ,should recommend an updated survey since this one was so old. If your agency did not recommend the new survey, then maybe it would be a good idea to include an updated ADCNR version of Table 2. I guess once you hear back from your "fish folks", they can clarify that for the both of us. Thanks!

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Monday, April 20, 2020 3:58 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Cc: Basinger, Chad J CIV (USA) <chad.j.basinger.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Afternoon,
I haven't heard from our fish folks yet but in re-reading your comment and what was in our review. I understood that to be a comment to update the table if you guys (Anniston) had done a more recent survey, as we wouldn't be doing a survey on our own at Anniston. Am I misinterpreting that? Sorry for the confusion.
kg

From the ADCNR report review comment -
"We would be interested in the full document and complete survey location data. Were shiner or darter species were observed? Have any fish IBI surveys been completed on the small tributary streams within the Depot boundary? We could not find any fish records in the heritage database within their boundaries. Some of the species found during the 1994 study may be state protected now. This is a fairly old survey, should a similar updated study focusing on state protected species be recommended?
If not, it may be beneficial to include an updated ADCNR version of Table 2 of this 1994 faunal and floral survey document."

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>

Sent: Monday, April 20, 2020 2:07 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Cc: Basinger, Chad J CIV (USA) <chad.j.basinger.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Good Evening,

Please see the attached comment sheet. We have responded to and address all the comments you provided. I have also updated the working copy of the INRMP to reflect what is on this comment sheet with the exception of the table that you referred to in the comment about the 1994 survey. Once I receive that, I can add it to the appendices. Please let us know if you have any additional comments or concerns. Thanks!

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Monday, April 20, 2020 6:34 AM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Cc: Basinger, Chad J CIV (USA) <chad.j.basinger.civ@mail.mil>
Subject: Re: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Good morning,
I'll try to wrap that up today for you. Thanks.
Keith

W. Keith Gauldin

Wildlife & Freshwater Fisheries Division

64 N. Union Street, Rm. 584, Montgomery, AL 36104 < x-apple-data-detectors://1 >

(O) 334-242-3469 (C) 334-300-3791

Email: keith.gauldin@dcnr.alabama.gov

< Caution-https://www.facebook.com/#!/pages/Alabama-Wildlife-and-Freshwater-Fisheries-Division/242269819151597 > Like us on Facebook! Visit us online: Caution-www.outdooralabama.com < Caution-http://www.outdooralabama.com/ >

On Apr 17, 2020, at 5:52 PM, Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil> wrote:

Good evening,

I was able to find the complete 1994 survey and it is attached. Also, I am requesting a copy of the updated ADCNR version of Table 2 of the survey that your staff referred to in the comments sheet emailed to me yesterday. No additional fish surveys have been completed within the boundaries of ANAD and none currently scheduled. I am currently going through all of our surveys to see which ones need to be updated and what needs to be done to request funding for them. I expect to have the comments sheets returned to you on Monday along with the updates to the appendices using the completed survey and the species list you provided.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Friday, April 17, 2020 4:03 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

The list was compiled by Ashely Peters that works in our State Lands Division using DCNR and USFWS data & listings (as described in the Calhoun 2020.pdf; 1st paragraph). You guys are welcome to use it in the INRMP.

You can also search the Natural Heritage database at the county level without a user name or password (Caution-Caution-https://heritage.dcnr.alabama.gov). If you are interested in detailed species occurrence records, there will be some extra legwork and we would need to sign an indemnity agreement to access that information.

Hope this helps and let me know if you guys need anything else.
kg

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Friday, April 17, 2020 3:24 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

No worries! This is the first time see this listing broken down like this.
Where can I find this document? Can I use this file in its entirety in my INRMP in lieu of the current chart I have in Appendix A-6?

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Friday, April 17, 2020 2:55 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023)
(UNCLASSIFIED)

Good afternoon,
Sorry about that, thought I had attached them both.
Keith

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Friday, April 17, 2020 7:30 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023)
(UNCLASSIFIED)

Good morning,

Thank you for your comments. We will address these and get back with shortly. On your attachment, the very bottom had a section for protected species. It stated about an attached list for Calhoun county, but there was just an additional blank page.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-Caution-Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Thursday, April 16, 2020 7:01 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Good Evening,
Attached are review comments by the Division. Sorry for the delay, this working remotely is a little challenging. Please let me know if you have any questions and thanks for the opportunity to review.
Regards,
Keith

W. Keith Gauldin
Wildlife Section Chief
Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries, Wildlife Section
64 North Union Street, Suite 584
Montgomery, AL 36104
Phone: 334.242.3469
keith.gauldin@dcnr.alabama.gov
Caution-Caution-Caution-Caution-www.outdooralabama.com

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Wednesday, April 15, 2020 11:31 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Good morning,

I was just following with you to see if your office has had an opportunity to review the INRMP yet. Our command staff is ready to take this document to the commander for signature, but was still needing concurrence from your office on the signature page. Thanks!

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Monday, April 6, 2020 10:42 AM
To: 'Gauldin, Keith' <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Morning,

Here is another copy of the signature page for the INRMP, but this copy has been signed by the USFWS.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Friday, April 3, 2020 2:38 PM
To: 'Gauldin, Keith' <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon,

I have attached a copy the signature page for your agency's concurrence once you have finished reviewing the document. I have sent the same page to the USFWS. There may be a chance that I send the page again for signature depending on who completes their review first. Thanks and be safe.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot

256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Tuesday, March 17, 2020 2:26 PM
To: 'Gauldin, Keith' <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Thank you and you be safe as well!

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-Caution-
Caution-Caution-mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Tuesday, March 17, 2020 2:22 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Subject: [Non-DoD Source] RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

Hello Kevin,
Yes, it's a dynamic situation here with our offices operating with a skeleton crew but I do my best to get the document circulated for comment and returned to you. Thanks and hope you guys stay well.
Keith

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Sent: Tuesday, March 17, 2020 2:18 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good evening,

With the ongoing and ever-changing threat of the COVID-19 virus, I opted not to send a hard copy for review and I also know that a large portion of workplaces are moving to tele-work when and where possible. If you need me to send a hard-copy please let me know before this Friday, March 20th.
Also, please acknowledge the receipt of the ANAD INRMP sent for review on yesterday evening via email.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Monday, March 16, 2020 5:02 PM
To: 'Gauldin, Keith' <Keith.Gauldin@dcnr.alabama.gov>
Subject: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Evening Mr. Gauldin,

I originally sent this plan for your review in November 2018, but had to make some additions based off of correspondence from the USFWS. Please review the document and provide your feedback. Once your organization has reviewed and concurs with the plan, a signed copy of the signature page will need to be sent back in an email so that I can forward on to the USFWS. The plan is currently be reviewed by them as well. The changes from the last time I sent the plan to you are highlighted on the summary of change page at the front of the document.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

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CLASSIFICATION: UNCLASSIFIED

<ANAD Faunal & Floral survey (1994).pdf>

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From: Simmons, Clint D
To: Guy, Kevin CIV USARMY USAMC (USA)
Subject: [Non-DoD Source] Re: [EXTERNAL] 2018-CPA-0189 INRMP Anniston (UNCLASSIFIED)
Date: Monday, April 6, 2020 10:24:50 AM
Attachments: INRMP REVIEW 2020 (Signature Page - 3 Apr 20).pdf

---

See attached signed letter.
Regards,

Clint Simmons

Administrative Support Assistant

US Fish & Wildlife Service

Alabama Ecological Services Field Office

1208 Main Street, Daphne, AL 36526

(251)441-5184

From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Friday, April 3, 2020 2:03 PM
To: Simmons, Clint D
Subject: [EXTERNAL] 2018-CPA-0189 INRMP Anniston (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon,

Attached you find the signature page for this document. Once Mr. Pearson provides his signature please return it to me so that I can forward to the ADCNR. Thank you.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

CLASSIFICATION: UNCLASSIFIED

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From: Guy, Kevin CIV USARMY USAMC (USA)
To: Snyder, Aundrea M CIV USARMY USAMC (USA)
Cc: Worman, George R Jr CIV USARMY USAMC (USA)
Subject: RE: INRMP (UNCLASSIFIED)
Date: Tuesday, March 31, 2020 2:36:00 PM
Attachments: SKM_C454e20033113020.pdf

CLASSIFICATION: UNCLASSIFIED

Okay and thanks! I received the signed copy of the Annual Report on Threatened and Endangered Species today. Please see the attached file.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Snyder, Aundrea M CIV USARMY USAMC (USA)
Sent: Tuesday, March 31, 2020 2:33 PM
To: Guy, Kevin CIV USARMY USAMC (USA) <kevin.guy.civ@mail.mil>
Cc: Worman, George R Jr CIV USARMY USAMC (USA)
<george.r.worman.civ@mail.mil>
Subject: INRMP

Good afternoon, Kevin.

I conducted the legal review on the INRMP. I have the binder with me (teleworking) and it will be back at the Depot on Thursday and forwarded on to the next person.

We have no legal objection, with the caveat that the final, signed FY20 Annual Report on Threatened and Endangered Species will be included instead of the draft.

Please call or email if you have any questions. I can be reached at 256-405-8060.

Respectfully,

Aundrea

Aundrea M. Snyder
Depot Counsel
Anniston Army Depot
7 Frankford Avenue
Anniston, AL 36201-4199
(256)240-3163

This page is intentionally left blank

From: Simmons, Clint D
To: Guy, Kevin CIV USARMY USAMC (USA)
Subject: [Non-DoD Source] Re: [EXTERNAL] FW: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)
Date: Thursday, April 2, 2020 8:42:35 AM

Mr Guy,
This project has been assigned to Mrs. Shannon Holbrook. Referencing your earlier email, when the process is complete, will you please send a hard copy as well as an email with a PDF copy using the reference number 2018-CPA-0189 INRMP Anniston.
Thank you,

Clint Simmons

Administrative Support Assistant

US Fish & Wildlife Service

Alabama Ecological Services Field Office

1208 Main Street, Daphne, AL 36526

(251)441-5184

From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Wednesday, April 1, 2020 5:50 PM
To: Simmons, Clint D
Cc: Pearson, Bill
Subject: [EXTERNAL] FW: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Evening,

Please see the email traffic below for the review/re-look of our INRMP. If you need me to provide a hard copy please let me know. This document is almost finished with our internal routing and review process with the exception of our commander. I will send a copy of the signature/concurrence sheet for your signature. Once I have secured a signature from your office and the ADCNR, I will forward it onto the installation commander for the final concurrence. The final and signed copy will then be sent out in whatever format you request (email, CD, and/or hardcopy).

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)

256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Thursday, March 19, 2020 3:48 PM
To: 'shannon_holbrook@fws.gov' <shannon_holbrook@fws.gov>
Subject: FW: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Evening Mrs. Holbrook,

I am sending this to you since you are the biologist responsible for listed bat and plants. I sent this to Mr. Laschet the other day and did not hear from him. I assumed that you guys may not be in the office and doing some tele-working, but when I went to your office's site to find your contact info, I noticed that Mat wasn't listed on there. Does he still work in your office? If not, can you tell me who is the Sikes Coordinator for your office that can review my INRMP and send it up to Mr. Pearson for signature? I will also be forwarding a few other emails that are concerning T&E bats and plants.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (USA)
Sent: Monday, March 16, 2020 5:08 PM
To: Laschet, Matthias <matthias_laschet@fws.gov>
Subject: ANAD INRMP Review (2018-2023) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Evening Mr. Laschet,

Here is the updated INRMP with the changes suggested from phone and letter correspondence from your office. Currently this plan is under review from the Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries, Wildlife Section. Once they concur with the plan a signed copy of the signature page will be forwarded to your office. I will have this go through our internal stakeholders while both agencies are reviewing the plan. Thank you for your patience.

v/r

Kevin Guy
Natural & Cultural Resources Specialist
Training Coordinator / Instructor
Directorate of Risk Management

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:
2018-CPA-0189

OCT 22 2018

Mr. Kevin Guy
Anniston Army Depot
7 Frankford Avenue
Anniston, AL 36201-4199

Dear Mr. Guy:

Thank you for your letter of October 4, 2018, requesting review and comments on your draft 2018 Integrated Natural Resources Management Plan (INRMP) at Anniston Army Depot (ANAD). We have reviewed your information and are providing the following comments in accordance with the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Sikes Act (16 USC 670a-670o Stat.1052), and the Migratory Bird Treaty Act of 1918, as amended (40 Stat. 755; 16 U.S.C. 703 et seq.) (MBTA).

The U.S. Fish and Wildlife Service (Service) has reviewed the draft INRMP and provide the following comments. After reviewing the recent Tennessee yellow-eyed grass (TYG) survey report (August 2018), we would like to thank you for the minor changes to your management practices that contributed to the rebound in TYG numbers on the installation. We noticed that you did not add of the federally listed bats to this Draft INRMP as previously recommended. Based on the January 2018, Planning Level Survey Report For Bats Anniston Army Depot, Alabama; Section 4.1 last paragraph which states "the survey team has determined that 13 individual species of bats, including the federally protected gray, Indiana, and northern long-eared bat, are present at ANAD", we recommend that you add the federally listed Gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalist*), and Northern long-eared bat (*Myotis septentrionalis*) to both the INRMP and the Integrated Wildland Fire Management Plan 2017-2022. This report also documents the physical presence of the Tri-colored bats on the installation. Therefore, you may wish to consider the Tri-colored bat for inclusion in the INRMP, as it is an at-risk species.

Additionally, to avoid impacts to spring/summer roosting habitat of the Indiana bat and northern long-eared bat, we recommend all tree clearing, thinning, or prescribed burning (forestry activities) be conducted during the bat inactive season, which is from October 15 to March 31. If forestry activities are planned during the bat active season, between April 1 and October 14, and no other measures to avoid adverse effects are possible, then we recommend you consult with the Service under Section 7 of the ESA prior to the start of the activities.

PHONE: 251-441-5181 FAX: 251-441-6222

We look forward to working with you on conservation efforts. If you have any questions or need additional information, please contact Mr. Matt Laschet at (251) 441-5842. Please refer to the reference number located at the top of this letter in future phone calls or written correspondence.

Sincerely,

William J. Pearson
Field Supervisor
Alabama Ecological Services Field Office

From: Guy, Kevin CIV USARMY USAMC (US)
To: "Gauldin, Keith"
Subject: RE: [Non-DoD Source] RE: Plan Review
Date: Wednesday, October 10, 2018 11:01:00 AM

Thank you. These documents are currently at the USFWS being reviewed.

v/r

Kevin Guy
Environmental Protection Specialist
Training Coordinator
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [mailto:Keith.Gauldin@dcnr.alabama.gov]
Sent: Wednesday, October 10, 2018 10:59 AM
To: Guy, Kevin CIV USARMY USAMC (US) <kevin.guy.civ@mail.mil>
Subject: RE: [Non-DoD Source] RE: Plan Review

You're correct, I see them now. Sorry about that, I was out in Wyoming for a couple week and now seeing them. We'll review and get back with you. Thanks.

W. Keith Gauldin
Chief of Wildlife
Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries, Wildlife Section
64 North Union Street, Suite 584
Montgomery, AL 36104
Phone: 334.242.3469
FAX: 334.242.3032
keith.gauldin@dcnr.alabama.gov
Caution-www.outdooralabama.com

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (US) <kevin.guy.civ@mail.mil>
Sent: Wednesday, October 10, 2018 10:34 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Subject: RE: [Non-DoD Source] RE: Plan Review

On the 19th of September you said an electronic file would be fine. I sent the files in two separate emails on the 25th at 1:09 pm and 1:12 pm. I also sent them to Chris Smith and Amy Silvano since they were listed on your out of office reply. Do you need me to send them again? I can try to send them though a government file sharing system.

v/r

Kevin Guy
Environmental Protection Specialist
Training Coordinator
Directorate of Risk Management
Anniston Army Depot
256.240.3051 ((Direct Line)
256.235.7475 (Production Support Team)

-----Original Message-----
From: Gauldin, Keith [Caution-mailto:Keith.Gauldin@dcnr.alabama.gov] On Behalf Of DCNR Wildlife
Sent: Wednesday, October 10, 2018 8:26 AM
To: Guy, Kevin CIV USARMY USAMC (US) <kevin.guy.civ@mail.mil>
Subject: [Non-DoD Source] RE: Plan Review

Did you send those plans by mail?

W. Keith Gauldin
Chief of Wildlife
Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries, Wildlife Section
64 North Union Street, Suite 584
Montgomery, AL 36104
Phone: 334.242.3469
FAX: 334.242.3032
keith.gauldin@dcnr.alabama.gov
Caution-Caution-www.outdooralabama.com

-----Original Message-----
From: Guy, Kevin CIV USARMY USAMC (US) <kevin.guy.civ@mail.mil>
Sent: Wednesday, September 19, 2018 7:49 AM
To: DCNR Wildlife <DCNR.Wildlife@dcnr.alabama.gov>
Subject: Plan Review

Good Morning,

I am the natural resources program manager for Anniston Army Depot. I am trying to get in touch with someone that will review natural resource management plans for military installations. We are currently updating our plan and have been in touch with the USFWS, but I cannot find any previous correspondence between our offices on plan updates and revisions. My contact information is listed below.

v/r

Kevin Guy
Environmental Protection Specialist
Training Coordinator

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

AUG 0 8 2018

IN REPLY REFER TO:
2018-CPA-0189

Mr. Kevin Guy
Anniston Army Depot
7 Frankford Avenue
Anniston, AL 36201-4199

Dear Mr. Guy:

Thank you for your letter of July 24, 2018, requesting review and comments on your draft 2018 Integrated Natural Resources Management Plan (INRMP) at Anniston Army Depot. We have reviewed your information and are providing the following comments in accordance with the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Sikes Act (16 USC 670a-670o Stat.1052), and the Migratory Bird Treaty Act of 1918, as amended (40 Stat. 755; 16 U.S.C. 703 et seq.) (MBTA).

The U.S. Fish and Wildlife Service (Service) has reviewed the draft INRMP and provide the following comments. We would like to thank and commend you on your research and efforts to ensure the continued existence of the pygmy sculpin. The Draft INRMP shows a decline in the number of Tennessee yellow-eyed grass (TYG) spikes on the installation, which is of concern for the Service. Based on this information we recommend implementing the TYG habitat management measures found in the Fort McClellan INRMP. The Service is willing to work with you to find solutions to the downward trend in TYG spike numbers. Also, based on positive bat survey results from areas outside of the installation, and the forest/timber description, the installation appears to have suitable summer roosting habitat for Indiana and northern long-eared bats; therefore, the Service would assume presence of federally listed bats on your installation.

We also recommend that you add the following federally listed species to your Draft INRMP and implement measure to conserve the species and their habitat:

Gray bat (*Myotis grisescens*) - Endangered
Indiana bat (*Myotis sodalist)* - Endangered
Northern long-eared bat (*Myotis septentrionalis*) - Threatened
Mohr's Barbara's buttons (*Marshallia mohrii*) - Threatened
White fringeless orchid (*Platanthera integrilabia*) – Threatened

In 2016 the tri-colored bat was petitioned for listing under the ESA, while not being listed it is an at-risk species that you may wish to consider for inclusion in the INRMP.

PHONE: 251-441-5181 FAX: 251-441-6222

We recommend that you implement an integrated conservation and ecosystem management approach to managing your lands. Through this management approach you would be protecting multiple species by managing habitat, creating new habitat, and by removing/preventing invasive plant species in an effort to maintain habitat for native animal species. Both Redstone Arsenal and Fort McClellan have management plans that incorporate measures that reflect this style of approach. They also have forestry measures in place that are protective to federally listed bat species. Since both of these installations (Redstone Arsenal and Fort McClellan) are Army assets, it may be a good place to find measures and procedures that protect federally listed species and their habitat, and accomplish the Army mission.

We are providing you with the following additional information; we recommend that to avoid impacts to spring/summer roosting habitat of the Indiana bat and northern long-eared bat, all tree clearing be conducted during the bat inactive season, which is from October 15 to March 31. If tree removable activities are planned during the bat active season, between April 1 and October 14, and no other measures to avoid adverse effects are possible (e.g., selective tree removal), then we recommend you consult with the Service under Section 7 of the ESA. Also on page 31 of the draft INRMP you mention the most recent survey conducted in 2011, and then on page 34 you use an inventory date of 2013. We recommend that you clarify or correct this contradiction to ensure the information is consistent. We look forward to working with you on conservation efforts.

If you have any questions or need additional information, please contact Mr. Matt Laschet at (251) 441-5842. Please refer to the reference number located at the top of this letter in future phone calls or written correspondence.

Sincerely,

William J. Pearson
Field Supervisor
Alabama Ecological Services Field Office

From:	Guy, Kevin CIV USARMY USAMC (US)
To:	"Laschet, Matthias"
Subject:	RE: [Non-DoD Source] INRMP Review (UNCLASSIFIED//FOUO)
Date:	Tuesday, July 24, 2018 1:14:00 PM
Attachments:	INRMP REVIEW 2018 (Draft - USFWS 24Jul2018)a.pdf

CLASSIFICATION: UNCLASSIFIED//FOR OFFICIAL USE ONLY

*** Attention: The attached file is only a DRAFT version and NOT FOR RELEASE TO THE PUBLIC****

Good Afternoon Mr. Laschet,

Just wanted to follow-up with you concerning our conversation we had this morning on the phone. Attached is the electronic version of the ANAD INRMP (2018-2023) I have been updating. I am in the process of sending you the hard copy as well. I will be out of the office starting tomorrow until 1 Aug 2018. I will follow-up with you also concerning a sit-down meeting with you and personnel from ANAD in regards to options and possible support for management of species here on ANAD to include the use prescribed burning. If you have any questions or concerns all of my contact info is listed below, please do not hesitate to call or email me. I know there has been a lack of commination between our staff and your office, but hopefully we can change that.

v/r

Kevin Guy
Environmental Protection Specialist
Training Coordinator
Directorate of Risk Management
Anniston Army Depot
☎ *256.240.3051 ((Direct Line)*
☎ *256.235.7475 (Production Support Team)*

From: Laschet, Matthias [mailto:matthias_laschet@fws.gov]
Sent: Tuesday, July 24, 2018 8:53 AM
To: Guy, Kevin CIV USARMY USAMC (US) <kevin.guy.civ@mail.mil>
Subject: [Non-DoD Source] INRMP Review

Mr. Guy,

Thank you for contacting the Alabama Ecological Services Field Office for review of your INRMP. I look forward to reviewing the INRMP and providing comments. Please feel free to contact me any time if you have questions or concerns related to impacts to listed species or their habitat.

If you would like to meet with me please let me know, I review all Military Base activities in Alabama for the Service.

Thank you

--

Matt Laschet
Fish and Wildlife Biologist
U.S. Fish and Wildlife
1208 B Main Street
Daphne, AL 36526
251-441-5842

CLASSIFICATION: UNCLASSIFIED//FOR OFFICIAL USE ONLY

Integrated Natural Resource Management Plan Review Notes

INRMP Review (Annual & 5 yr. Update)

Stakeholder Chad Basinger (Installation Forester)
Donald Heard (Fire Chief) or Samuel Hazle (Asst. Fire Chief)
Brad Williard (Chief, Environmental Compliance and Restoration Division)
Nathan Coburn (Water Program Manager)

FROM: Kevin Guy

DATE: 11 January 2018

Plan sections to be updated & action items

We have come to that time where we are required to update the ANAD INRMP for the 5-year review. I started this review on 30 November 2017. The following areas listed below in the various bullets are sections that we need to address from my review of this document. Please look over the sections of this document that pertain to you to determine if there are additional items that may need updating in any way. To allow sufficient time for the proper routing for additional concurrence with Legal, Strategic Communication Office, U.S. Fish and Wildlife Service, and the Alabama Division of Wildlife and Freshwater, the final suspense for this review is 12 March 2018. Record any response below or directly into the working copies of the files associated with the INRMP. So that they are noticeable, please make your responses a different color. The link below will take you to the working copies of the listed documents.

Document(s) location:

W:\Environmental Work Requests\INRMP 2018 Review

- Pg.11 para[c]
  - A limited firewood program is in operation. Is this true?
  - CHAD'S RESPONSE: This is still true

- Pg.11 para[2a]
  - Section needs to be updated once the forest inventory is completed
  - CHAD's RESPONSE: The forest inventory has been funded, but not completed. We need to use the current info available and update once the new inventory is completed.
  -

- Pg.12 para[d] Is the compartment entry schedule still up to date?
  - CHAD'S RESPONSE
  - Comp 8 – 2018 Comp 2 -2023
  - Comp 5 – 2019 Comp 9 - 2024
  - Comp 1 – 2020 Comp 11 - 2025
  - Comp 3 – 2021 Comp 10 - 2026
  - Comp 4 – 2022 Comp 6 - 2027

- Pg.17 para[1c]
  - Prescribed burns will be assisted by the Installation forester, who is the a prescribed burning manager. Is that statement true? I know we do not conduct any prescribed burns, but is this written to reflect what would happen if ANAD did conduct prescribed burns?
  - CHAD'S RESPONSE: The certified prescribed burn manager resides within the Fire Department, not the Installation Forester.
  - SAMUEL HAZLE RESPONSE: Yes we would request assistance from the Installation Forester if we were conducting prescribed burns. If a prescribed burning manger is needed, not sure why do to not conducting prescribed burns, it would be the Fire Chief. Verbiage is sufficient.

- Pg.18 para[2]
  - The phone number for the NR Spec. (Kevin Guy) needs to be updated to 3051.
  - RESPONSE

- Pg.18 para(3)
  - This section talks about various types of training that may be conducted by the ANAD Fire Dept. in conjunction with the Installation forester. Is this section true? What are these training classes and are they documented in TED?
  - CHAD'S RESPONSE: In para 3a, you can take out "with the assistance from the Installation Forester." I can't answer for what training they've had. I haven't been involved with it though.
  - SAMUEL HAZLE RESPONSE: Historically we have not included the Installation forester in proficiency training but we can if needed. Training classes are listed in TEDS as ANAD Natural Cover Fires and Mobile Water Supply.

- Pg.19-20
  - On these pages there are references to the detection, reporting, and response of fire on ANAD. Are these sections up to date to include the transportation equipment chart?
  - SAMUEL HAZLE RESPONSE: Yes.

- Pg.23 para[3b]
  - Is this section up to date?
  - CHAD'S RESPONSE: This is up to date.

- Entire Plan
  - All references to FMWR need to be updated with DFMWR
  - RESPONSE

- Pg.24 para[2a-3]
  - Bow Hunting; is this the only type of hunting currently conducted on ANAD?
  - Dear Population health. Needs to be updated once a deer count/survey is completed
  - CHAD'S RESPONSE In para 2a, there are two places where the word "bow" is included before the word hunting. Just delete "bow". We also have a limited turkey hunt.

- Pg.25-26 para[2b-g]
  - Updated status on the health of these various wildlife populations
  - CHAD'S RESPONSE: 2b, There are future plans to have limited turkey hunts. Everything else stays the same.

- Pg.26 para[3a-b]
  - Are T&E species status updates available/needed?
  - The plan states that annual reports of the T&E status will be reported to the commander for approval. When is the last documented update to the commander?
  - CHAD'S RESPONSE: Not sure of this answer. Ken Ingram and Lori Thomas did this before you got there.

- Pg.27 para[4a]
  - Is this section still up to date?
  - CHAD'S RESPONSE: This is up to date.

- Pg.27 sec[E1-5]
  - Does this section need to be revised? Prescribed burn not being conducted! Are the other management guides being done?
  - CHAD'S RESPONSE: E1, you could add the words "when allowed" at the beginning of that sentence. E5, you can delete this statement.

- Pg.28 sec[E6-10]
  - Are these sections up to date and being conducted responsible parties listed?
  - CHAD'S RESPONSE: These are true.

- Pg.29-36
  - Is this plan still valid and in effect? CHAD'S RESPONSE: I'm not sure of this answer. The USFWS could probably give more clarification.
  - No visible signs of the TYG was noticed this year. Areas had a lot of over-growth. Action Needed section of this appendix states that things to be done to increase chance for TYG survival, these actions need more oversite and tracking to completion.
  -

- Need clarification on what para[2] under really means. In this section of the plan it refers to ANAD's TYG population as 1 of 15 protected sites and will be a 10-year self-sustaining population for 10 years. We are obviously pass that 10-year window. WHAT NOW? CHAD'S RESPONSE: The USFWS could give more clarification, I'm not sure. The plan also speaks of coordination with other agencies for recovery efforts was approved on 28 July 1995. When is the last record of any outside agency correspondence concerning the TYG population to include any surveys? CHAD'S RESPONSE: The last I have is 2009. The plan states 2011 on pg.34 [sec.3.0 para (2)].
- Pg.36 sec [5.0] states that annual inventories will be conducted by a qualified outside agency. Who is that agency and POC? Last inventory in the INRMP was done by Lori Thomas (DRK) and Dan Spaulding (Contractor) on 4 Sep 2013. Chad Basinger and myself conducted an internal inventoy of the TYG on 5 Oct 2017. This inventory needs to be added to the plan. CHAD'S RESPONSE: I would assume that Mr. Dan Spaulding would be a good contact. I'm pretty sure he's local too.
- Work orders (WO) to conduct maintenance on TYG sites are to be done between 1 Nov-31 Jan. When was the last WO completed? Is their documentation? One needs to be submitted ASAP! CHAD'S RESPONSE: I'm not sure of the last work order submitted. I would guess it would have been when Lori Thomas was here.
- Pg.35 sec.4.0 para.B2 has a maintenance time line of 1 Dec – 31 Jan. on pg.30 under Actions needed states a time line of 1 Nov -31 Jan. Which date are we going to use? CHAD'S RESPONSE: 1 Nov – 31 Jan
- Is the estimated conservation cost ($10,000) on pg. 30 still sufficient over the next five years? Are these funds available? CHAD'S RESPONSE: I don't know where this number came from. It was before my time. It seems to be working though.
- A REC is needed for this plan updated!
- CHAD'S RESPONSE: This is true.

- Entire Document
  - An OPSEC review must be completed.

- MOA between DRK and DPW concerning clarification on authorities and responsibilities for Natural and Cultural Resources implementation for ANAD is not signed or dated in the INRMP. Are any updates needed to this MOA?
  - CHAD'S RESPONSE: Your guess is as good as mine????? Lol

- Pg. 37 (ANAD Erosion Control Plan)
  - Is all the info listed in the plan still up to date?
  - CHAD'S RESPONSE: Water Program Manager should review this.

ACTION ITEMS

No.	Action	Responsible Organization	Suspense
1	Fire Dept. review pgs. 17-21	DES-Fire	NLT 12 March 2018
2	Find out POC for USFWS	Chad Basinger	NLT 12 March 2018
3	Determine outside agency or contractor for TYG survey	Chad Basinger	NLT 12 March 2018
4	Find out if the Recovery plan for the TYG is still in effect for ANAD (10-yr plan?)	Chad Basinger	NLT 12 March 2018
5	REC for INRMP Plan through Glen Milner	Kevin Guy	NLT 1 February 2018
6	Review and update Appendix B (Erosion Plan)	James Bearrentine	NLT 12 March 2018
7	Review and update responsibilities MOA	Chad Basinger and Brad Williard	NLT 12 March 2018
8	Schedule a Commander's Review Meeting	Kevin Guy and Brad Williard	NLT 19 February 2018
9	Review previous work orders and schedule FY18 maintenance of TYG sites.	Chad Basinger and Kevin Guy	NLT 18 January 2018
10	Compile comment from ANAD stockholders.	Kevin Guy	NLT 13 March 2018
11	Quick review new changes added	DES-Fire, Chad, Kevin, Brad	NLT 14 March 2018
12	Sent out plan for review to outside agencies	Kevin Guy	NLT 19 March 2018
13	Gather input from outside stakeholders / agencies	Kevin Guy	NLT 20 April 2018

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APPENDIX G

Implementation Regulations, Guidance, and Reference Documents Listing

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The plans and documents listed below are used for the creation, revision, and implementation of the INRMP. These plans are to be verified during the annual review process and replaced with the most current versions. These plans are available to be view in hardcopy in the Natural Resource manager's office or on the DRK shared drive files under the *natural resources regulations and Implementation documents* folder.

Implementation Regulations, Guidance, and Reference Documents Listing

I. **Endangered Species Act of 1973***
II. **The Sikes Act, 2004****
III. **DoDI 4715.03 - Natural Resources Conservation Program, March 18, 2011****
IV. **DoDM 4715.03 – INRMP Implementation Manual, November 25, 2013****
V. **DoDD 4715.11, Environmental and Explosives Safety Management on** Department of Defense Active and Inactive Ranges Within the United States, May 10, 2004****
VI. **DoDM 4150.07 Vol. 3 – DoD Pest Management Training and Certification Program, May 23, 2013 (Incorporating Change 1, December 21, 2017)****
VII. **Army Wildland Fire Policy Guidance Memorandum, September 4, 2002****
VIII. **AR 200-1 - Environmental Protection and Enhancement, 13 December 2007^^**
IX. **ANAD Integrated Wildland Fire Management Plan, December 2017****
X. **ANAD Planning Level Survey for Bats, January 2018****
XI. **Invasive Species Report, November 2003****
XII. **ANAD Integrated Pest Management Plan, December 2003****

^^ Files are only available electronically due to size
** Files are in hardcopy in Natural Resources office

APPENDIX H

ANAD Deer Hunting SOP

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TAAN-PW 16 July 2014

Standard Operating Procedure (SOP)

Deer Hunting at
Anniston Army Depot (ANAD)

1. Purpose: To provide guidance and establish policies and procedures for administration and operation of hunting for deer at ANAD.

2. References:

a. AR 200-1, Environmental and Protection, 13 Dec 07.

b. ANAD Regulation No. 200-3, Hunting and Fishing on Anniston Army Depot (ANAD), 30 June 2011.

3. Mission: To use hunting as a natural resources management tool to reduce the current deer population to an adequate number that the area will support.

4. Responsibilities:

a. The Installation Natural Resource Specialist is designated as the Hunting Program Manager and is responsible to the Director of Public Works, for overall management, planning, and oversight for all hunting.

b. The Directorate of Community and Family Activities (DCFA), in conjunction with the depot Hunting Program Manager, will manage the hunting program. The number of hunters will be managed and limited to ensure the hunting activity will be conducted in a safe manner.

c. A hunting committee will review all areas of the hunting program, develop a depot-hunting map, and provide coordinated input to local regulation changes. Members of the committee will come from the Safety Office (SO), Directorate of Emergency Services (DES), Directorate of Public Works (DPW), DCFA, and Anniston Defense Munitions Center (ADMC). The Hunting Program Manager will serve as Chairman of the committee. The committee will meet before hunting season each year and at the call of the Chairman.

d. DES will provide a Game Warden. The DES will investigate hunting violations. The findings of the investigation will be provided to the Director of Public Works for action and/or may result in DES issuing a U. S. District Court Violation Notice.

5. Purpose and procedures for hunting in the Ammunition Limited Area (ALA):

a. Deer hunting is a natural resources management tool to reduce the deer herd size from its present over-populated condition and to maintain good habitat and deer herd health.

b. The ANAD deer season will coincide with the dates of the State deer-hunting season.

c. An annual hunter safety/security/SOP orientation meeting will be held prior to the beginning of the State-hunting season. This meeting will cover requirements from each functional area and all information in the SOP. All requirements and updates will be briefed to the hunters.

d. Hunting will be limited to employees who are cleared to enter the ALA. Guest(s) will only be allowed by the Commander.

e. Hunters will have to comply with State law and have a favorable background investigation on record (NAC, ENTNAC, SSBI, BI, etc.). Anyone charged or convicted with a felony or firearms violation will not be allowed to hunt.

f. To be eligible to hunt in the ALA, a person must meet all of the following:

(1) Attend a hunter orientation meeting.

(2) Fill out a Morale, Welfare, and Recreation (MWR) application issued by DCFA.

(3) Sign a Covenant Not to Sue form.

(4) Pay an annual hunting fee.

(5) Possess a current State of Alabama Hunting License.

(6) Be a DoD Employee or Military Member assigned to ANAD.

(7) Possess a current ANAD identification card.

g. Hunting Operations in the ALA:

(1) All vehicles entering and exiting ANAD are subject to a vehicle search by security personnel. A hunter list will be developed from the hunter orientation meeting sign-up sheets and verified by comparing with the MWR applications and Covenant Not to Sue forms. DCFA will maintain a list to include hunter name and area assigned.

(2) All hunters will be checked in, and all hunters will be required to sign-in and sign-out before leaving the installation.

(3) The Game Warden will verify hunters have appropriate permits and weapons, and give security briefing on restricted/off-limit areas and check-in/check-out requirements.

(4) On a given hunt day, hunters will report to the Physical Fitness Center to select their hunt area by putting their ANAD hunting permit in a box for the 5:00 a.m. drawing. When a card is drawn out, the hunter will select their hunt area and their name will be written in the area selected on a master hunt map for that day. A copy of the daily hunt map will be provided to DES personnel at the Coosa gate, with one copy each provided for Hunt Management personnel and the DCFA employee at the Physical Fitness Center.

(5) Hunting is permitted only on weekends/holidays and other established non-duty days from sunrise to sunset unless the entire ALA is closed due to ammunition operations. Hunting is not authorized within 1,250 feet of any active operations and an appropriate distance from non-ammunition operations.

(6) No hunting will be allowed within a 2,500 foot radius of the demolition pit and 1,200 foot radius of the burning grounds.

(7) No weapons will be fired in the direction of igloo doors. Hunting from the top of igloos or walking on the igloos is not permitted.

(8) No hunting will be allowed in I Block, where most Category (CAT) I and II ammunition is stored or near CAT I and II operations.

(9) DES and Hunt Management personnel will patrol the area to monitor the hunters and to notify them of safety/security concerns or to recall them.

(10) ANAD SO will coordinate with ADMC to ensure appropriate quantity distance protection is afforded the hunters from any active ammunition operation, and with other organizations to determine if any other work is active in the area. The SO will provide any additional restrictions to the master hunting map on the Thursday before each scheduled hunt day.

(11) Hunters will board a government vehicle and be taken into the ALA and dropped off and picked up at their designated hunting area. A different government vehicle will follow the hunters with equipment onboard. These vehicles will be subject to an inspection upon entering and exiting the ALA. No Privately Owned Vehicles (POVs) will be permitted within the ALA.

(12) All weapons will be transported in a hard equipment case.

(13) When a hunter harvests a deer, they will go to the nearest access road and wait to be picked up by a government vehicle. Deer must be field dressed in the woods, out of sight of buildings and/or roadways. Hunter assistance runs will be made throughout the hunt. The hunter and deer will be taken to Physical Fitness Center for checking out. Every hunter must check out at the Physical Fitness Center when leaving for the day for accountability purposes.

(14) Hunters will not leave their selected hunting area unless accompanied by Hunt Management personnel or the depot Game Warden. Hunters will not leave their hunting area to trail a wounded deer that has exited the hunting area. Hunting Management personnel and/or the depot Game Warden will help hunters in trailing a wounded deer. The depot Game Warden may choose to appoint ALA badged volunteers to assist in the trailing of a wounded deer. For help with tracking a wounded deer or requesting hunting assistance, hunters and others will call 256-235-6222.

6. Purpose and Procedures for Hunting in the Controlled Area (CA):

a. Deer hunting is a natural resources management tool to reduce the herd size from its over-populated condition and to maintain good habitat and deer herd health.

b. The ANAD deer season will coincide with the dates of the State deer-hunting season.

c. An annual safety/security/SOP orientation meeting will be held prior to the beginning of the State-hunting season. This meeting will cover requirements from each functional area and all information in the SOP. All requirements and updates will be briefed to the hunters.

d. Hunters will have to comply with State law and have a favorable background investigation on record (NAC, ENTNAC, SSBI, BI, etc). Anyone charged or convicted with a felony or firearms violation will not be allowed to hunt.

e. To be eligibility to hunt in the CA, a person must meet all of the following:

(1) Attend a hunter orientation meeting.

(2) Fill out a Morale, Welfare, and Recreation (MWR) application issued by DCFA.

(3) Sign a Covenant Not to Sue form.

(4) Pay an annual hunting fee.

(5) Possess a current State of Alabama Hunting License.

(6) Be a DoD Employee or Military Member assigned to Anniston Army Depot.

(7) Be an ANAD Civilian Retiree.

(8) Be a Military Retiree.

(9) Be an immediate Family Member of and ANAD employee.

(10) Possess a current ANAD identification card.

f. Hunting Operations in the CA:

(1) All vehicles entering and exiting ANAD are subject to a vehicle search by security personnel. A hunter list will be developed from the hunter orientation meeting sign-up sheets and verified by comparing with the MWR applications and covenant not to sue forms. MWR will maintain a log to include name and area assigned.

(2) All hunters will be checked in, and all hunters will be required to sign-in and sign-out before leaving the installation.

(3) The Game Warden will verify hunters have appropriate permits, verify appropriate weapons, give security briefing on restricted/off-limit areas, and check-in/check-out requirements.

(4) On a given hunt day, hunters will report to the Physical Fitness Center to select their hunt area by putting their ANAD hunting permit in a box for the 5:00 A.M. drawing. When a card is drawn out, the hunter will select their hunt area and their name will be written on a master hunt map for the day, in the area selected. Hunters will be given a 7" x 7" area number card to display on their dashboard of their POV while hunting. A copy of the daily hunt map will be provided to Emergency Services personnel at the Coosa gate, one copy for Hunt Management personnel, and one copy to the employee at the Physical Fitness Center.

(5) Hunting is permitted only on weekends/holidays and other established non-duty days from sunrise to sunset. All hunting may cease at anytime due to mission requirements.

(6) Hunters, with their weapons in a proper case, will use their POV to travel to and from their designated hunting area in the CA. Security guards and Hunt Management personnel will patrol the area to monitor the hunters and to notify them of safety/security concerns or to recall them. These vehicles will be subject to inspection upon entering and exiting the depot.

(7) All weapons will be transported in a hard equipment case.

(8) When a hunter harvests a deer, they must notify the Game Warden or Hunt Management personnel before exiting the depot. The hunter and deer must be taken to the Physical Fitness Center for checking out. Every hunter must check out at the Physical Fitness Center when leaving for the day and turn in their white 7" x 7" area card for accountability purposes.

(9) Hunters will not leave their selected hunting area unless accompanied by Hunt Management personnel or the Depot Game Warden. Hunters will not leave their hunting area to trail a wounded deer that has exited their hunting area. Hunting Management personnel and/or the Depot Game Warden will help hunters in trailing a wounded deer. The Depot Game Warden may choose to appoint properly ANAD badged volunteers to assist in the trailing of a wounded deer. For help with tracking a wounded deer or requesting hunting assistance, hunters and others should call 256-235-6222.

7. Force Protection Condition (FPCON) Measures:

a. At FPCON Normal to Alpha at the time of the hunt, the Major Subordinate Command (MSC) Commander may approve bow hunting in accordance with this policy annually.

b. At FPCON Bravo to Charlie, the Headquarters U.S. Army Materiel Command Commanding General (HQ AMC CG) will approve the hunting program in accordance with this policy and antiterrorism measures necessary to protect the installation and personnel.

c. At FPCON Delta, there will be no hunting.

8. Contacts and Emergency Information:

a. Mr. Chad Basinger (256-741-5808) is the Hunting Program Manager.

b. The depot Game Warden will be provided by DES (256-235-6222).

c. DCFA representative is Mr. Andrew Burns (256-235-7549).

d. Personnel may change as necessary to meet mission needs.

e. Emergency phone calls can be made by dialing 911 for an ambulance or other emergency needs or conditions. All 911 calls made on cell phones will be answered by the Calhoun County

911 system. Callers should state they are on the Anniston Army Depot and the calls will be routed to the depot emergency dispatcher. All 911 calls made on depot landline phones will be routed directly to the depot emergency dispatcher.

f. If operational necessity dictates (increased security concerns/threats or ammunition mission support requirements) either the Commander, ADMC, or the Commander, ANAD, may cancel or discontinue hunting for that day or for a longer period as conditions warrant.

g. A system of public warning sirens is in use at the depot to alert personnel to a hazard (this could be anything including a chemical accident or incident, tornado, etc.). In addition to the siren, a vehicle will be driven through stand areas signaling the hunt is terminated by sounding the horn with three short blasts (10 second intervals). Upon hearing the siren or horn, all hunters will immediately go to the access road to be picked up by the bus or a government vehicle.

Michael M. Mathews

MICHAEL M. MATHEWS
Director of Public Works

CF: All Hunters

END OF DOCUMENT