BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 32-7064

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Civil Engineering

INTEGRATED NATURAL RESOURCES MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: HQ USAF/ILEVP (Dr. Douglas Ripley/ Capt Sharon Spradling)
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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 32-70, *Environmental Quality,* and Department of Defense Instruction (DoDI) 4715.3, *Environmental Conservation Program* (3 May 1996) and 7310.5, *Accounting for Production and Sale of Forest Products* (25 January 1988). It explains how to manage natural resources on Air Force (AF) property in compliance with federal, state, and local standards. In the United States and US territories, use this guidance with applicable federal, state, and local standards for natural resources management. For compliance requirements for installations outside the United States and its territories, the Final Governing Standards (FGS) or the Overseas Environmental Baseline Guidance Document (OEBGD) take precedence over this document. Refer to AFI 32-7006, *Overseas Environmental Program* (29 April 94). See **Attachment 1** for definitions of terms used in this instruction.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

16 Sept 97

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Chapter 1

HOW TO USE THIS INSTRUCTION

1.1. Background . This instruction addresses the management of natural resources on AF properties to comply with federal, state and local standards. This instruction gives MAJCOMs and installations a framework for documenting and maintaining AF natural resources management programs. The primary objective of AF natural resources programs is to ensure continued access to land and air space required to accomplish the AF mission by maintaining these resources in a healthy condition. MAJCOMs shall provide additional implementing guidance in their supplemental publication to this instruction. All references to MAJCOMs in this AFI include the Air National Guard Readiness Center and other agencies designated as "MAJCOM" equivalent by HQ USAF.

1.2. Responsibilities.

1.2.1. The Assistant Secretary of the Air Force for Manpower, Reserve Affairs, Installations and Environment (SAF/MI):

1.2.1.1. Oversees the AF natural resources program.

1.2.1.2. Serves as principal representative and advocate for integrated natural resources compliance with the Office of Secretary of Defense (OSD) staff, federal agencies, and Congress.

1.2.2. The Civil Engineer, Headquarters United States Air Force (HQ USAF/ILE):

1.2.2.1. Develops policy, advocates for and allocates resources, and oversees execution of AF natural resources programs.

1.2.2.2. Evaluates the performance of natural resources programs throughout the AF and reports the results to SAF/MI and MAJCOMs.

1.2.2.3. Designates one primary voting member and up to three alternates to the Department of Defense (DoD) Conservation Committee.

1.2.2.4. Reviews MAJCOM budget submittals for funding sufficiency.

1.2.3. Air Force Center for Environmental Excellence (AFCEE):

1.2.3.1. Provides technical assistance to installations on natural resources programs.

1.2.3.2. Manages natural resources training.

1.2.3.3. Reviews and assists in preparation of Integrated Natural Resources Management Plans (INRMPs) for individual installations.

1.2.3.4. Manages contracts for natural resources projects.

1.2.3.5. Receives and reviews for technical content the MAJCOM budget submittals for forestry, agricultural outleasing, and fish and wildlife programs.

1.2.4. Air Force Civil Engineering and Services Agency (AFCESA): Provides technical guidance and expertise on grounds maintenance, pest management, and water conservation.

1.2.5. Bird Aircraft Strike Hazard (BASH) Team: Provides guidance for minimizing the wildlife hazards to aircraft operations.

1.2.6. Major Commands (MAJCOMs):

1.2.6.1. Provide execution guidance and oversee implementation of natural resources management programs.

1.2.6.2. Review cooperative agreements.

1.2.6.3. Review installation Integrated Natural Resources Management Plan (INRMP) to ensure compliance with applicable directives.

1.2.6.4. Validate installation natural resources budgets, staffing, and training requirements.

1.2.6.5. Keep and oversee a database to ensure that installations perform necessary inventories of natural resources assets.

1.2.6.6. Provides guidance to installations on how to integrate natural resources information into the base comprehensive planning process.

1.2.7. Installation or Support Group Commander:

1.2.7.1. Approves the INRMP.

1.2.7.2. Provide appropriate funding and staffing to ensure implementation of the INRMP.

1.2.7.3. Controls access to and use of base natural resources.

1.2.7.4. Signs cooperative agreements between the installation and other agencies.

Chapter 2

IMPLEMENTING INTEGRATED NATURAL RESOURCES MANAGEMENT

2.1. Ecosystem Management. The chief tool for managing installation ecosystems is the installation integrated natural resources management plan (INRMP). Based on an interdisciplinary approach to ecosystem management, the INRMP ensures the successful accomplishment of the military mission by integrating all aspects of natural resources management with each other and the rest of the installation's mission. Biodiversity conservation is an integral part of ecosystem management and refers to the variety of living organisms, the genetic differences among them, and their interactions in the communities and ecosystems in which they live. Refer to enclosure 6 of DODI 4715.3 for ecosystem management principles and guidelines.

2.1.1. Installations contact their state forestry office, state game and natural resources department, United States Fish and Wildlife Service (USFWS), the Natural Resources Conservation Service, or host nation counterparts to determine if sufficient habitat warrants an INRMP. The MAJCOM makes the final decision on whether an INRMP is required.

2.1.2. In preparing or revising an INRMP: follow the guidelines in enclosure 6 of DODI 4715.3. Incorporate input from an interdisciplinary team. Develop component plans, as described in attachment 2, if the activity occurs on the installation. These component plans are part of the INRMP.

2.1.2.1. Review the plan annually and have the installation or support group commander approve necessary revisions.

2.1.2.2. Revise plan every 5 years and have it signed by the installation or support group commander.

2.2. Biodiversity Conservation. Biodiversity conservation on AF-controlled lands and waters shall be promoted when consistent with the mission and practical. Maintaining biodiversity is crucial to overall ecosystem integrity and sustainability. Failure to maintain ecosystem diversity may result in severe degradation of the land and loss of public confidence in the AF's stewardship of the land. If access to the land is subsequently denied to the AF, this will negatively impact the AF mission.

2.2.1. Maintain or restore remaining native ecosystem types across their natural range.

2.2.2. Maintain or reestablish viable populations of all native species in an installation's areas of natural habitat when practical.

2.2.3. Maintain evolutionary and ecological processes, such as disturbance regimes, hydrological processes, and nutrient cycles.

2.2.4. Plan management for a long time period to ensure consideration of changing system dynamics.

2.2.5. Perform all mission activities in concert with natural resources conservation.

2.2.6. Accommodate human use.

2.2.7. Use regional approaches incorporating cooperation with other DoD components, other federal agencies, and with adjoining property users.

2.3. Integration With Other AF Programs.

2.3.1. Coordinate new INRMPs and revisions through the installation's Environmental Protection Committee (EPC).

2.3.2. Use natural resources constraints to future installation development as the basis for future land use planning in the base general plan and the Housing Community Plan.

2.3.3. Use AF Form 332, Base Civil Engineer Work Request, or AF Form 813, Request for Environmental Impact Analysis, or DD Form 1391, Military Construction Project Data to coordinate activities that affect natural resources.

2.3.4. Integrate INRMPs with installation pest management plans and with cultural resources management plans.

2.3.5. Calculate the number of acres of the installation falling into the three grounds categories (improved, semi-improved, and unimproved) and update them annually in the INRMP. Acres under buildings shall be included in the improved category. Separate calculations shall be maintained for off-base sites, annexes, and ranges as separate and distinct installations. These figures are used for manpower allocation in the Environmental Flight Air Force Manpower Standard (AFMS 44EV).

2.4. Environmental Impact Analysis Process (EIAP). The implementation of an INRMP may constitute a potentially significant federal action as defined in 40 CFR 1508.18 (b) (2). As such, it may require consideration of potential environmental effects as described in AFI 32-7061, *Environmental Impact Analysis Process.*

2.5. Natural Resources Database Development.

2.5.1. Establish a natural resources management database and track program progress toward goals stated in the INRMP. Consult with MAJCOMs on appropriate format and software for reporting.

2.5.2. Keep maps in a scale practical for the size of the installation showing the locations of all natural resources. Review and update maps annually. If map data is digitized, use a geographic information system (GIS) database compatible with the one used for base comprehensive planning.

2.5.3. Share information on biological species and habitat diversity with The Nature Conservancy, using state Natural Heritage program databases and The Nature Conservancy's (TNC) Biological and Conservation Data System. This interaction is authorized by the Cooperative Agreement between the DoD and TNC, April 1995, and subsequent agreements accomplished between installations and state TNC chapters.

2.6. Assessing Natural Resources Damage by Other Parties. In the event that natural resources under AF control are damaged by another party, such as an accidental oil or other hazardous substance spill, the damaged installation must assess and claim damages. Refer to 43 CFR 11 for Department of the Interior guidance on claiming damages. Recovered funds will be used to restore, replace, or acquire equivalent natural resources on the installation where the damage occurred. Installations must coordinate with their MAJCOM, SAF/MIQ (the designated AF Natural Resources Trustee), and with AFLSA/JACE during the claims process.

2.7. Natural Resources Program Assessments. Internal and external assessments of natural resources programs shall be conducted as a part of the Environmental Compliance Assessment and Management

Program (ECAMP), as outlined in AFI 32-7045, *Environmental Compliance Assessment and Management Program.* A synopsis of natural resources legislation and requirements is provided at attachment 4.

2.8. Recognition of Outstanding Natural Resources Management. The AF General Thomas D. White and the Secretary of Defense environmental awards competitions recognize outstanding individual and installation contributions to natural resources management. See AFI 36-2817, *Engineering Awards Program,* for standards and submittal procedures. HQ AFCEE/EC is the point of contact for these awards.

Chapter 3

WETLANDS

3.1. Wetlands Protection. AF lands shall be managed for the goal of no net loss of wetlands. In compliance with Executive Order 11990, *Protection of Wetlands,* the AF will preserve the natural values of wetlands while carrying out its mission.

3.1.1. Do not build anything in a wetland area unless you first document that there are no practicable alternative to such construction. Any proposed action must include all practicable measures to minimize harm to wetlands, must have potential impacts analyzed in the appropriate level EIAP document, and have appropriate mitigation negotiated, authorized, and funded.

3.1.1.1. A wetlands mitigation bank is a wetland area that has been created or restored and then set aside to compensate for future actions that may negatively impact other wetlands. A wetland bank may be created when a government agency, a corporation, or a nonprofit organization undertakes such activities under a formal agreement with a regulatory agency. The value of a bank is determined by quantifying the wetland values restored or created in terms of credits. Banking can provide more cost effective mitigation and reduce uncertainty and delays for qualified projects, especially when the project is associated with a comprehensive planning effort. Development of wetlands mitigation banks is encouraged and should by pursued by AF installations when practical.

3.1.2. SAF/MIQ or other designated official must sign a wetlands finding of no practicable alternative (FONPA) before any action within a federal wetland may proceed as specified in Secretary of the AF Order 780.1, 10 Apr 91. In preparing the FONPA, the AF must consider the full range of practicable alternatives which will meet justified program requirements, are within the legal authority of the Air Force, meet technology standards, are cost effective, do not result in unreasonable adverse environmental impacts, and other pertinent factors. Once the practicality of alternatives has been fully assessed, only then should a statement regarding the FONPA be made into the associated finding of no significant impact (FONSI) or record of decision (ROD). The Chairperson of the MAJCOM environmental protection committee is the approval authority for FONSIs containing a FONPA for wetlands. Refer to AFI 32-7061, *The Environmental Impact Analysis Process* for further information.

3.1.3. As part of the EIAP performed for compliance with the National Environmental Policy Act (NEPA), provide the documentation required for Section 404 of the Clean Water Act (CWA), Section 401 of the CWA, or a state wetland permit. Protect wetlands that are transferred or sold to non-federal parties by fully disclosing their occurrence, specifying land use restrictions, or withholding their disposal.

3.1.4. Comply with the CWA (P.L. 95-217 as amended) before discharging any material into US waters. Request a permit from the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 to discharge fill material into U.S. waters. Submit the following to the USACE District Engineer: ENG Form 4345, *Application for Department of the Army Permit*; a vicinity map; and a plan and cross-sectional view of the action showing limits of jurisdictional waters, the normal water level, volume of fill material to be discharged below ordinary high water, and the area of waters affected. The limits of jurisdictional waters are the ordinary high-water mark in the case of streams or open water bodies, or a delineation according to the current federal methodology in the case of wetlands.

3.1.5. Section 401 of the CWA directs that any action that requires a federal license or permit (such as a Section 404 permit) must obtain a Water Quality Certificate from the state water pollution control agency. The Water Quality Certificate certifies that the action complies with state water quality criteria. You may also need state permits to undertake projects within a specified buffer zone surrounding wetlands. When applying to state agencies under state wetland protection laws, you may need to include information not required for an USACE permit, such as a delineation of a regulated buffer area. You may also be able to submit a joint application for concurrent review by the state and the USACE.

3.1.6. Get approval to undertake any actions on navigable waters, including wetlands adjacent to navigable waters, according to Section 10 of the Rivers and Harbors Act, administered by the USACE.

3.2. Wetlands Inventory and Delineation. MAJCOMs must survey all acreage under their control for potential wetlands and develop and maintain current inventories of wetlands in order to plan for long-term protection or mitigation.

3.2.1. When practical, digitize wetland inventories to simplify periodic updating, classify wetland areas in a manner consistent with the National Wetlands Inventory.

3.2.2. Obtain a jurisdictional delineation from the USACE for specific wetland areas within individual project sites.

3.2.3. The length of validity of the wetland delineation is determined by the District Regulation Office, USACE. Installations will reevaluate boundaries as often as required by their District Regulation Office, or whenever a change in definition or delineation methodology alters the demarcation.

3.3. Wetlands Monitoring and Integration with Other Programs.

3.3.1. On installations with jurisdictional wetlands, INRMPs must include long-term monitoring of trends in habitat values and plans for restoration and enhancement of wetlands habitats.

3.3.2. To facilitate integration of installation planning with other installation and MAJCOM planning programs, establish a permanent database or inventory of wetlands at each installation.

Chapter 4

FLOODPLAINS

4.1. Floodplains Protection. Executive Order 11988, *Floodplains Management,* requires all federal agencies to provide leadership and take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values of floodplains when acquiring, managing, or disposing of federal lands.

4.2. Floodplain Boundary Determination.

4.2.1. To determine whether a proposed action occurs in a floodplain, use the National Flood Insurance Program (NFIP) maps that the Federal Emergency Management Agency (FEMA) generates. NFIP maps can be ordered from FEMA.

4.2.2. If a determination cannot be made from the maps, or if maps are not available for your installation, request a hydrologic analysis from the USACE, or contract for such an analysis and have the USACE confirm and approve it.

4.3. Proposed Actions Within a Floodplain.

4.3.1. SAF/MIQ or other designated official must sign a finding of no practicable alternative (FONPA) before any action within a floodplain may proceed as specified in Secretary of the Air Force Order 790.1. In preparing the FONPA, the AF must consider the full range of practicable alternatives which will meet justified program requirements, are within the legal authority of the Air Force, meet technology standards, are cost effective, do not result in unreasonable adverse environmental impacts, and other pertinent factors. Once the practicality of alternatives has been fully assessed, only then should a statement regarding the FONPA be made into the associated finding of no significant impact (FONSI) or record of decision (ROD). The Chairperson of the MAJCOM environmental protection committee is the approval authority for FONSIs containing a FONPA for floodplains. Refer to AFI 32-7061, *The Environmental Impact Analysis Process* for further information.

4.3.2. Design or modify actions in order to minimize potential harm to or within the floodplain.

4.3.3. If action is taken that permits an encroachment within the floodplain that alters flood hazards on an NFIP map, installations must submit an analysis reflecting those changes to FEMA. Contact the MAJCOM and AFCEE/ECR for guidance, or call FEMA headquarters at (202) 646-3461 to obtain booklet MT-2, *Revisions to National Flood Insurance Program Maps.*

Chapter 5

COASTAL AND MARINE RESOURCES

5.1. Coastal and Marine Resources. The AF preserves coastal resources as part of the overall natural resources management program.

5.2. Applicability and Consistency Determination.

5.2.1. All AF activities conducted within a state's coastal zone must be consistent to the maximum extent practicable with the goals of that state's coastal zone management program, where the state has a coastal management program conducted under the federal Coastal Zone Management Act (CZMA), as amended. The CZMA requires federal agencies operating facilities within a state's coastal zone to prepare a consistency determination when undertaking actions in the coastal zone. State coastal management program requirements may vary between states.

5.2.2. Proposed AF actions within a coastal zone must have a consistency determination prepared and submitted to the appropriate state agency for regulatory coordination at least 90 days before final approval of the proposed action, unless otherwise agreed upon. If the state operates a clearinghouse for intergovernmental coordination of federal projects and programs, submission of the consistency determination should be made through the clearinghouse. A state response will be submitted to the proponent indicating whether or not the state concurs with the determination. The state response will become part of the EIAP documentation.

5.2.3. The INRMP should specifically address plan consistency with a state's coastal management program. Other existing activities should also be reviewed for consistency with the state's program (see **Attachment 2**).

5.2.4. Undertaking activities in a state's coastal zone requiring construction or operation of new facilities will require obtaining state permits for construction or operation, just as in non-coastal areas. The permit process may require mitigation through analysis of alternatives which the EIAP should include to comply with NEPA.

5.3. Coastal America Initiative. The AF entered into an agreement with Coastal America to coordinate and cooperate in the restoration and protection of coastal areas. Under this agreement, the AF establishes Coastal America Program guidance and distributes it for implementation; reviews existing policies and incorporates Coastal America goals in INRMPs; reports to the Regional Implementation Team on projects complying with the Coastal America goals; prepares a report each November identifying projects that meet Coastal America goals; incorporates Coastal America goals into the Base Realignment and Closure (BRAC) process; and coordinates with regional programs such as the Gulf of Mexico Program and the Chesapeake Bay Program.

Chapter 6

FISH AND WILDLIFE MANAGEMENT

6.1. Fish and Wildlife Management Component Plans. The fish and wildlife management component plan in the INRMP addresses the management of game and nongame species on an installation. Refer to the suggested INRMP outline in **Attachment 2** for guidelines on what to include in this component.

6.1.1. Category I installations have suitable habitat for conserving and managing fish and wildlife. Category II installations are unsuitable for conserving and managing fish and wildlife because of mission restrictions or resource limitations, or they are of limited size and do not have unimproved grounds. To obtain category II status, installations must: consult with USFWS and the state fish and wildlife agencies to determine whether consumptive or non-consumptive wildlife habitat exists on the installation and whether it has management potential; clearly define any restrictions due to mission requirements that are significant enough to preclude reasonable management of the resources, including preservation; have the installation or support group commander approve the category II status in writing; and send MAJCOM and AFCEE/ECR copies of the approval memo and supporting documentation.

6.1.2. Category I installations shall develop a fish and wildlife management component plan to the INRMP. To comply with the Sikes Act (16 USC 67 a-1[b]), United States military reservations must use professionally trained fish and wildlife management personnel to develop, implement, and enforce their fish and wildlife management programs.

6.1.3. All installations shall have a cooperative agreement with the state fish and wildlife agency and the USFWS for protecting, conserving, and managing fish and wildlife resources. This agreement must address each agency's responsibilities, wildlife law enforcement, access to the installation for agency representatives, user fee rate schedule for hunting, fishing, and trapping, and BASH techniques.

6.1.4. Ensure that non-native plants used for the purpose of game management are permitted under state and federal law and do not impose a threat to native biodiversity.

6.2. Habitat Inventories. The INRMP must include a current habitat inventory. Generally describe the habitat types using the classification scheme developed by the state Natural Heritage Office, if available, as one measure of ecosystem health. Update the inventory at least every 5 years, or sooner if significant changes occur.

6.3. Hunting, Fishing, and Trapping Programs. If practical, develop hunting, fishing, and trapping programs for recreation and wildlife population control. The fish and wildlife management components of the INRMP must include procedures for the collection of hunting and fishing fees. The collection of those fees is required by the Sikes Act. Contact MAJCOMs for detailed procedures on the collection, accounting, and budgeting of hunting and fishing fees (57X5095 Account). The Sikes Act stipulates that these fees be used on the installation where they were collected, and must be used for the protection, conservation, and management of fish and wildlife, including habitat improvement and related activities in accordance with the cooperative plan. Installations must notify their MAJCOM if they terminate hunting, fishing, or trapping programs so their 57X5095 account can be closed.

6.4. Neotropical Birds. Over 100 organizations, including the AF, officially participate in the conservation of neotropical migratory birds as part of the Partners in Flight Agreement. This agreement was established to prioritize bird conservation needs and to coordinate implementation of programs for addressing those needs. When the mission permits, the AF makes lands accessible for furtherance of the program. It also provides leadership in planning and implementing the program.

6.5. Watchable Wildlife. Thirteen private conservation organizations and federal agencies (including the AF) with large land holdings signed a memorandum of understanding to develop a Watchable Wildlife Program. The purpose of the program is to increase opportunities for people to observe native wildlife in their natural habitats and to support wildlife habitat preservation. When the mission permits, the AF makes lands accessible for furtherance of the program. It also provides leadership in planning and implementing the program. Upon establishment of Watchable Wildlife areas, MAJCOMs will: provide an annual summary of program accomplishments; assume maintenance, operation, and other management costs; coordinate with state agencies in planning and implementation; monitor the effects of public use on designated areas; and submit the Watchable Wildlife site, if public access is available, for inclusion in the state *Nature Watch* guide book.

6.6. Wildlife Damage Control.

6.6.1. Most control of nuisance wildlife will be conducted by pest management personnel, and will be described in the installation's Pest Management Plan. If natural resources personnel plan to conduct wildlife control, it must be addressed in the INRMP and should be coordinated with pest management.

6.6.2. MAJCOMs authorize emergency control measures only when wildlife endangers installation operations or the public health. The Animal and Plant Health Inspection Service (APHIS), the USFWS, and the state fish and wildlife agency should be notified as soon as practicable.

6.6.3. Coordinate efforts to solve BASH issues associated with airfield operations. Involve air traffic controllers, airfield managers, operations, flight safety, pest management, grounds maintenance, and natural resources personnel. For guidance on establishing and maintaining a bird aircraft strike hazard program, see AFI 91-202, *USAF Mishap Prevention Program* and AFPAM 91-212, *BASH Management Techniques.* Request assistance on airfield wildlife control issues, through the MAJCOM, from BASH team personnel at Headquarters AF Safety Agency, Flight Safety Wildlife (AFSA/SEFW), 9700 Avenue G, Suite 279A, Building 24499, Kirtland AFB NM 87117-5671. Natural resources personnel should provide input to both the installation's BASH plan and the Pest Management Plan. The INRMP should reference both of those plans.

6.7. Equipment and Supplies.

6.7.1. Consider using equipment already in the civil engineering inventory before using 57X5095 funds to purchase new equipment. The installation natural resources manager accounts for, inventories, and documents all equipment purchase and maintenance costs involving 57X5095 funds. The manager assigns a local registration number to vehicles purchased locally with fish and wildlife funds.

6.7.2. Report excess equipment in good condition to the MAJCOM and AFCEE/ECR for lateral disposition. Turn in irreparable excess equipment to the nearest Defense Marketing and Reutilization Office.

Chapter 7

THREATENED AND ENDANGERED SPECIES MANAGEMENT

7.1. Regulatory Basis. The Endangered Species Act (Public Law 93-205) requires protection and conservation of federally listed T/E plants and animals and their habitats. Installations that know that they have T/E species or habitat critical for such species must include a T/E species component plan in the INRMP. An installation's overall ecosystem management strategy must provide for the protection and recovery of T/E species.

7.1.1. When practical, give the same protection to candidate species that you do for species that are already listed. Although the Endangered Species Act does not require it, give the same protection to state-listed T/E or rare species when practical.

7.2. Inventories. All installations shall prepare and maintain a current inventory of T/E species and their habitats.

7.2.1. Conduct and update surveys in coordination with the USFWS (or the National Marine Fisheries Service (NMFS) if the species is a marine mammal), the state fish and wildlife agency, or non-governmental organizations such as The Nature Conservancy.

7.2.2. Include data from the T/E survey in the INRMP, and make it available to The Nature Conservancy and the state Natural Heritage Office for inclusion in the Biological and Conservation Database System.

7.3. Agency Coordination.

7.3.1. Contact the USFWS (or NMFS) and the state fish and wildlife agency to ensure that the INRMP agrees with their plans to manage the species. When proposed or ongoing actions may affect a listed species, consultation under section 7 of the Endangered Species Act must be performed (see attachment 3).

7.3.2. The Endangered Species Act also requires that installations having a listed species develop specific plans for preserving those species and their habitats. As part of the EIAP associated with individual projects on an installation, coordinate with the USFWS (or NMFS) according to Section 7 of the Endangered Species Act (see**Attachment 3**).

7.3.3. When informally or formally coordinating with USFWS or NMFS, notify the MAJCOM natural resources manager and incorporate the coordination into the EIAP developed for the action.

Chapter 8

FOREST MANAGEMENT

8.1. Forest Management. The objectives of forest management are to maintain and enhance ecological integrity to support the military mission, maintain a biological balance in the forest community, protect watersheds and wildlife habitat, and plan and coordinate the multiple use of forest lands.

8.1.1. AF lands shall be reviewed for their suitability for commercial forestry purposes. Any such use must be compatible with the military mission. Forestry operations shall also be consistent with long-term ecosystem management goals. Such operations shall be balanced with other requirements, including T/E species protection, biodiversity conservation, native plant landscaping, watershed protection, wildlife enhancement, outdoor recreation, and scenic quality. Use appropriate silvicultural treatments to maintain the forest ecosystem in a healthy condition. Uneven age management will be the primary management system used under an ecosystem management program, however, even age management may be accomplished to mimic natural disturbance necessary for re-establishment of pioneer species, under strict parameters to minimize negative ecological and socioeconomic impacts. Harvesting practices may include regeneration (clearcutting, seed tree, shelterwood, group selection and individual tree selection), intermediate and selective harvests (thinning, improvement and salvage). Never harvest forest resources for short-term profit at the expense of long-term sustainability of the resources or other ecosystem functions, such as habitat for endangered species; watershed protection; or visual, noise, and wind barrier effectiveness.

8.1.2. Installations having over 500 acres of commercial forest land must develop a forest management component plan as part of the INRMP and revise it at least every 2 years. Refer to **Attachment 2** for guidelines on this component plan.

8.1.3. Establish cooperative agreements with state forestry officials, local governments, and appropriate offices of the US Forest Service and the Bureau of Land Management. Agreements for forest management and fire control are optional, but they must comply with this instruction.

8.1.4. Minimize site impacts from silviculture operations. Consult the state forester's best management practices for the local area. These are established by each state under the authority of the CWA.

8.2. Data Management. If practical, the natural resources manager should use a computerized data management system, compatible with the base geographic information system, to record and use timber stand data.

8.3. Forest Product Sales and Contract Compliance. Sell forest products in accordance with 10 USC 2665, and comply with the forest management component of the INRMP.

8.3.1. In accordance with DoDI 4715.3 and DoDI 7310.5, do not give away, abandon or destroy forest products. They also may not be used to offset contract costs or traded for goods or services. These restrictions do not apply to installation mulching programs using materials determined to have no commercial value such as yard waste and material from emergency cleanup operations.

8.3.2. When construction site preparation generates forest products, offer the products by contract to regular buyers of forest products instead of including them in construction contracts or land sales. These forest products may include firewood and mulch as well as saw timber or pulpwood.

8.3.3. Encourage short-term sales of 1 year or less. For sales extending longer than 3 years, include a rate predetermination clause to reflect changes in market value. Collect payment for all harvested forest products with economic value, including wood harvested and used on base for electrical or heat generation.

8.3.4. In contracts for commercial harvesting of forest products, specify safeguards for ecosystem structure, composition and function, and identify penalties for damages incurred.

8.3.5. A professional forester or trained timber marker performs or supervises the following actions.

8.3.5.1. Marks either individual trees or specific areas for harvesting before a timber sale.

8.3.5.2. Estimates timber volume for sale purposes by scaling, measuring, or weighing the products or by measuring the trees before cutting. Use independent bureau scales and consumer's scales when other scaling and measuring procedures are not practical. If sales are on a weight basis, use the weight tickets from certified government or commercial scales as a basis for payment.

8.3.5.3. Regularly inspects ongoing timber harvesting activities. Documents discrepancies and reports them to the contracting office. Makes a final inspection at the conclusion of the contract. The contractor is responsible until the contracting office receives a final inspection report indicating that all contractual obligations have been met.

8.3.5.4. Evaluates and documents potential effects of tree removal through the EIAP process and includes EIAP documents in contract documentation.

8.4. Contract Policies and Procedures. Award and approve all forestry service, sales, and supply contracts according to the Federal Acquisition Regulation (FAR). Strive for annual or fixed-term contracts.

8.4.1. Deposit proceeds from forest product sales to Deposit Fund Account 57F3875.000* ADSN 333300 (* refers to the fiscal year). Contact AFCEE/ECR for detailed instructions and guidance on collection, depositing, and budgeting forestry funds.

8.4.2. Use service contracts for forest management support only when in-house, federal, or state assistance is not available. A professional forester must review all service contracts.

8.4.3. Sales contracts may provide for scheduled payments by the contractor. Contracts for services may also stipulate staggered payments to the government.

8.4.4. For each sales contract, prepare a report describing the forest products to be sold, product volume, fair market value, and harvesting specifications. Describe in detail the sales areas and technical procedures, including maps or drawings of the gross sales area and net cutting area.

8.4.5. Specify cutting rates and sales areas in the forest management component of the INRMP.

8.4.6. Mark appraisal reports of identified sales areas "FOR OFFICIAL USE ONLY," and release them only on a need-to-know basis.

8.4.7. Do not sell forest products for less than their appraised value without written justification. When practical, keep sales competitive, except when they are small-lot sales or sales to tax-supported agencies. Do not split sales into small lots to avoid competition or formal bids.

8.4.8. Use an installation permit to sell small lots of forest products (value of $5,000 or less per sale). Also use a permit when you don't have enough time to solicit formal bids. Make small-lot sales only

when they serve the best interests of the forest management program and community and base relations. For small-lot sales use an installation permit; record the permit serial numbers and sale proceeds on DoD Form 1131, *Cash Collection Voucher*; and turn in collected funds to the accounting and finance office weekly or before receipts accumulate beyond the limit set by base security regulations.

8.5. Reforestation. Integrate reforestation activities into multiple use planning for forest lands as detailed in the INRMP.

8.5.1. Use natural regeneration to renew a timber stand if you can achieve the desired species composition and stocking rate. You may use artificial regeneration to reestablish forest cover where natural regeneration is not feasible. When considering artificial regeneration, use only those species normally found in that specific ecosystem type.

8.5.2. Inspect natural or artificial regeneration annually for the first 3 years to evaluate seedling survival and coverage.

8.5.3. Evaluate stocking rates and site preparation techniques used to enhance survival and growth of new trees on the basis of their effects on other ecosystem components. If you must eliminate existing growth before planting, use low site-disturbing techniques or ecologically acceptable chemical site preparation. Use established Best Management Practices.

8.6. Timber Stand Improvement. Timber stand improvement activities will impact other components of forest lands, therefore timber stand improvement techniques must be compatible with overall ecosystem management detailed in the INRMP.

8.7. Forest Protection and Fire Management.

8.7.1. Obtain refunds for costs incurred in mission-related fire protection and wildfire fighting from installation operations, range test and evaluation, or maintenance account funds, as appropriate.

8.7.2. MAJCOMs with forested lands without commercial value must still protect them from major damage caused by wildfires, diseases, and insect attacks. Detail all forest damage control measures in the forest management component of the INRMP.

8.7.2.1. The MAJCOM pest management professional coordinates the use of pesticides through the installation pest management plan (AFI 32-1053, *Integrated Pest Management*). Aerial application of pesticides for forest pest suppression may be considered a major federal action that requires National Environmental Policy Act documentation under the EIAP.

8.7.3. Use prescribed burning to reduce the risk of uncontrolled wildfires and to achieve other ecosystem management objectives. Prepare written plans for prescribed burning, including: copies of all necessary approvals from outside agencies; a map showing all roads, firelines, ridges, hills, streams, and other water sources; an ignition plan, as a component of the site-specific burn plan; a prescription for acceptable weather parameters and fuel moisture conditions; all resources, including manpower and equipment, needed to conduct the burn; an assessment of impacts on wildlife and vegetation; smoke management analysis (e.g., potential impact on critical areas such as hospitals or schools); an analysis of the potential for and methods of reducing non-point source pollution; an evaluation of overall ecosystem functioning within the burn area; past fire monitoring; an evaluation to assess effects of the burn; and a contingency plan for emergency suppression, including a list of available resources such as manpower, equipment, and mutual aid. A qualified natural resource manager plans,

approves and supervises prescribed burns, to include coordinating with installation fire departments and civilian authorities, adjoining landowners, the state forestry commission, county air quality management offices, and the local air pollution control board, as necessary.

8.7.3.1. Minimize the use and creation of fire breaks. Maintain them to accommodate multiple uses as future logging roads, wildlife food plots, or recreational trails.

8.8. Designing and Constructing Timber Access Roads and Trails. In developing the forest management component of the INRMP, evaluate the existing network of roads and trails.

8.8.1. Construct new roads solely for forest management only when absolutely necessary.

Design the roads in accordance with forestry standards and environmental considerations, and in accordance with AFI 32-1032, Planning and Programming Real Property Maintenance Projects Using Appropriated Funds (APF) and AFI 32-1021, Planning and Programming Facility Construction Projects.

8.8.2. New road construction will follow topographic contours, avoid steep slopes, and be slightly outsloped to disperse drainage.

8.8.3. Streams will be crossed at right angles over culverts and bridges, keeping equipment out of stream channels.

8.8.4. All road construction should be consistent with ecosystem management objectives.

8.9. Real Property and Equipment.

8.9.1. Send requests for forestry equipment purchases to AFCEE/ECR before 31 March each year. AFCEE/ECR will determine whether excess equipment from other installation may be available to meet the need before recommending purchase of new equipment.

8.9.2. Use equipment procured and maintained with forestry funds only in the natural resources management program.

8.9.3. Keep records of all equipment operating and maintenance costs. Account for nonexpendable equipment (vehicular and nonvehicular) on equipment authorization inventory data (EAID) (AFM 67-1, volume IV, part 1, chapter 15, para. 110).

8.9.4. Take inventory of facilities and equipment during the first month of each new fiscal year.

8.9.5. Dispose of equipment from civil engineering tables of allowances according to the AF Equipment Management System.

8.9.6. Report excess equipment in good condition to the AFCEE/ECR for possible lateral distribution.

8.10. Financial Management

8.10.1. Title 10 U.S.C. 2665 authorizes refunding forest management expenses at HQ USAF from proceeds derived from the sale of forest products. These expenses may include costs of normal operations (appropriations 3400) or investment equipment (appropriations 3080). The AF program must allow for the anticipated proceeds and remain within actual proceeds each fiscal year; therefore,

reduce the forestry budget or plan supplemental funding from other authorized sources (see 12.1) during the year if anticipated proceeds do not materialize.

8.10.2. Installations submit annual reimbursable budget requests through MAJCOMs to AFCEE/ECR, which reviews them for technical sufficiency and recommends a budget to HQ USAF/ILEV. HQ USAF/ILEV approves the annual reimbursable budget and sends the approved budget to SAF/FMBOI. SAF/FMBOI issues an operating budget authority (OBA) document for all commands which have a forest management program funded from AF operations and maintenance (O&M) funds. The OBA document identifies the total expenses allowed for the forest management program. SAF/FMBOI issues these funds directly to MAJCOMs and they may not be used for any other purpose without HQ USAF/ILEV approval. MAJCOMs distribute applicable portions to their installations with authorized limitations appearing on each OBA document. The Defense Finance and Accounting Service (DFAS) identifies and consolidates refundable forest management expenses.

8.10.3. Additional budget guidance and procedures for the forest management program is located in AFI 65-601, *Budget Guidance and Procedures*, Volume 1, paragraph 10.35.

Chapter 9

AGRICULTURAL OUTLEASING

9.1. Agricultural Outleasing and Ecosystem Management. Agricultural outleasing for cropland production and grazing can be used to maintain ecologically sound stewardship of public lands. Outleasing can produce a cash flow to sustain the outleasing program, enhance other aspects of the natural resources management program, and reduce the maintenance costs of semi-improved lands. However, all agricultural operations must be compatible with the military mission and long-term ecosystem management goals.

9.2. Determining Land Suitability and Availability.

9.2.1. When assessing crop and grazing land suitability, consult with the state or local offices of the United States Department of Agriculture (USDA), Natural Resources Conservation Service (SCS), state university agricultural extension service, or other technically qualified governmental agencies. The consulting agency documents the suitability evaluation.

9.2.2. Use local land use classification systems from the Natural Resources Conservation Service to evaluate the lands for cropland or grazing suitability.

9.3. Agricultural Outleasing Component of the INRMP. Installations permitting crop production or grazing under agricultural outleases, service contracts, or special licenses must develop an agricultural component plan within the INRMP.

9.3.1. When appropriate, enter into cooperative agreements with state university cooperative extension services, the local office of the Natural Resources Conservation Service, and the local soil and water conservation district. Ask cooperating agencies to make periodic on-site reviews of the outleasing program.

9.4. Cropland and Grazing Funds. Title 10 U.S.C. 2667(d) authorizes the use of receipts of grazing and cropland lease and product sales to cover administrative expenses of leasing and to finance multiple-use land management programs. The following are authorized uses of cropland and grazing funds: salaries (limited to professional and technical support of grazing and cropland programs in support of management goals/objectives; development of INRMPs; administrative expenses (training, scientific meetings, parts, supplies, fuel, etc.); and improvements to land, especially to increase productivity. Installation natural resources managers will submit Exhibit K, RCS: DD-COMP(AR)1092, AF Form 2964, Grazing and Cropland Management Program, as part of the installation annual financial plan to their respective MAJCOM natural resources program manager.

9.5. Agricultural Outleases, Service Contracts, or Special Licenses.

9.5.1. Agricultural outleases, contracts, and licenses require the lessee, permittee, or contractor to pay cash, make improvements, provide maintenance, or do all three in accordance with AFI 32-9003, *Granting Temporary Use of Air Force Real Property.* Include with these instruments land-use regulations involving conservation of soil, water, forests, range, fish, and wildlife resources as discussed in the INRMP. Contact the MAJCOM for detailed instructions on budgeting and monitoring the financial aspects of agricultural outleases. Government-owned stock is exempt from the fee collection requirement.

9.5.2. Agricultural outleases are prepared, awarded, executed, and administered in accordance with AFI 32-9003, *Granting Temporary Use of Air Force Real Property.*

9.5.3. Schedule inspections of leased operations in accordance with AFI 32 -9003. Erect signs identifying outleased lands that the AF controls.

9.5.4. Develop, implement, and monitor service contracts in the same way you do outleases and according to AFI 32-9003.

9.6. Monitoring Systems. Monitor outleased lands to make sure that they comply with the agricultural outleasing component of the INRMP and with the land-use regulation.

9.6.1. For grazing leases, establish systems to monitor forage condition, trend, and use as well as direct and indirect impacts on surrounding land and water resources.

9.6.2. In the agricultural outleasing component of the INRMP, include a description of the monitoring program, monitoring records, and photographic documentation. The office administering grazing leases keeps this information.

9.6.3. Inspect land outleased for crop production before planting in the spring and during peak crop growth in the summer.

9.6.4. The lease will contain provisions ensuring that: best management practices (BMPs) for erosion and sedimentation control are used as discussed in the INRMP; pesticides are used only when absolutely necessary and in conformance with the installation pest management plan; all pesticide usage (in pounds of active ingredient) is reported to the base pest management shop for inclusion into the installation's measures of merit for pesticide use; and guidelines are provided and followed on the use of soil amendments such as fertilizers. Compliance with these provisions must be monitored.

9.7. Grazing Land Management.

9.7.1. Do not allow grazing in areas where soils are subject to excessive compaction, where forage plants have not developed sufficiently to support grazing, or where sensitive species or hardwood forests are present.

9.7.2. Work with state and federal agencies to ensure the assessment and control of noxious weeds as required by Federal Noxious Weed Control Act. Work with state and federal agencies to develop cooperative agreements and establish integrated management systems to control undesirable plant species. Programs will be carried out when similar initiatives are implemented on state or private lands in the vicinity of the installation.

9.7.3. Lessees must obtain approval for all prescribed burns from the installation natural resources office. Refer to 8.7.3 for further requirements for prescribed burning.

9.8. Grazing Land Improvements. Grazing land improvements include structural improvements such as fences, cattle guards, water developments, and livestock enclosures as well as nonstructural improvements such as seeding, fertilizing, and vegetation management.

9.8.1. Describe all grazing land improvements in the agricultural outleasing component of the INRMP. Evaluate their overall ecosystem impact.

9.8.2. Include specifications for improvement in the license or service contract.

9.8.3. The lease may provide that improvements become the property of the United States Government.

9.9. Cropland Management. For areas identified for crop production outleases, inventory and analyze soils for fertility and crop production suitability.

9.9.1. Identify prime and unique farmlands, as identified by the Natural Resources Conservation Service, in the INRMP as well as in the base general plan. Identifying these lands as such protects them from uses incompatible with agricultural production.

9.9.2. Do not lease land for crop production near the flightline, as crops grown may attract wildlife. Installations with flying missions must coordinate any new cropland leasing proposals with the BASH point of contact at the Safety Office. Closely monitor such areas to ensure that a BASH problem is not created.

9.10. Cropland Improvements. Improve croplands only when necessary to protect natural resources. Describe all development improvements (such as clearing, leveling, grading, draining, and terracing) and agricultural improvements (such as fertilization, liming, crop rotation, interim crops, and strip planting) in the agricultural outleasing component of the INRMP.

9.11. Real Property and Equipment.

9.11.1. Send requests for agricultural outleasing equipment purchases to AFCEE/ECR annually before 31 March to determine whether to purchase or use excess equipment from other installations.

9.11.2. Use equipment procured and maintained with agricultural outleasing funds only in the natural resources management program.

9.11.3. Keep records of all equipment operating and maintenance costs. Account for nonexpendable equipment (vehicular and nonvehicular) on equipment authorization inventory data (EAID) (AFM 67-1, volume IV, part 1, chapter 15, para. 110).

9.11.4. Take inventory of facilities and equipment during the first month of each new fiscal year.

9.11.5. Dispose of equipment from civil engineering tables of allowances according to the AF Equipment Management System.

9.11.6. Report excess equipment in good condition to the AFCEE/ECR for possible lateral distribution.

9.12. Financial Management. Title 10 U.S.C. 2667 authorizes refunding agriculture outleasing expenses at HQ USAF from proceeds derived from the leases. These expenses may include costs of normal operations (appropriations 3400) or investment equipment (appropriations 3080).

9.12.1. Installations submit annual reimbursable budget requests through MAJCOMs to AFCEE/ECR which will review for technical sufficiency and recommend a budget to HQ USAF/ILEV. HQ USAF/ILEV approves the annual reimbursable budget and sends the approved budget to SAF/FMBOI. SAF/FMBOI issues an operating budget authority (OBA) document. The OBA document identifies the total expenses allowed for the agricultural outleasing program. SAF/FMBOI issues these funds directly to MAJCOMs and they may not be used for any other purpose without HQ USAF/ILEV approval. MAJCOMs distribute applicable portions to their installations with authorized limi-

tations appearing on each OBA document. HQ USAF/ILEV is the only authority who may impose limitations or restrictions. The Defense Finance and Accounting Service (DFAS) maintains accounting records of the Agricultural Outleasing Program.

Chapter 10

OUTDOOR RECREATION MANAGEMENT

10.1. Outdoor Recreation. Natural resources managers work with Moral, Welfare, Recreation and Services (MWRS) and other offices in the development of outdoor recreation areas.

10.2. Outdoor Recreation Component Plan. Develop an outdoor recreation component plan to the INRMP if you have determined, in cooperation with the National Park Service (NPS) and state recreation agency officials, that your installation has outdoor recreation potential compatible with the mission.

10.2.1. Zone land designated for outdoor recreation into classes of use based on multiple use potential and ecosystem sustainability.

10.2.1.1. Class I areas (general outdoor recreation areas) are suitable for intensive recreational activities such as camping, winter sports, and water sports.

10.2.1.2. Class II areas (natural environmental areas) can support dispersed recreational activities such as hunting, fishing, birding , hiking, sightseeing, jogging, climbing, and riding.

10.2.1.3. Class III areas (special interest areas) contain valuable archeological, botanical, ecological, geological, historic, zoological, scenic, or other features that require protection.

10.3. Carrying Capacity. Determine carrying capacity for outdoor recreation by comparing MWRS visitor data against state or National Park Service outdoor recreation space standards and by monitoring recreational use to prevent damage to the resources.

10.4. Public Use of AF Lands. Promote public use of outdoor recreation resources when compatible with the military mission. MAJCOMs should encourage participation in activities such as National Hunting and Fishing Day, Arbor Day, Watchable Wildlife Programs, hiking, and swimming.

10.5. Protection of Special Areas. Portions of installation real property that have significant ecological, biological, scenic, or educational value may be set aside for conservation of those resources, where consistent with the military mission. Such areas shall be reassessed if the military needs of the installation change, during any base realignment or closure action involving the property, or if the property becomes excess and requires disposal. Areas on AF installations that contain natural resources that warrant special conservation efforts may, after appropriate study and coordination, be designated as special natural areas. The INRMP for the installation shall address management provisions for the protection of each natural area. Special natural areas include botanical areas, ecological reserve areas, geological areas, natural resources areas, riparian areas, scenic areas, zoological areas, "Watchable Wildlife" areas, and traditional cultural places having officially recognized special qualities or attributes. See AFI 32-7065 for guidance on managing cultural resources.

10.6. Off-Road Vehicle (ORV) Use. Allow use of off-road vehicles only after thoroughly analyzing the resources base. Especially evaluate the impact on erodible soils and wildlife.

10.6.1. Restrict use of off-road vehicles, including dirt bikes and all terrain vehicles, to areas that can sustain their use without damage to natural or cultural resources. Make sure all off-road vehicles are licensed and insured.

10.6.2. Close areas damaged from uncontrolled off-road vehicle use from further use. Undertake rehabilitation projects to restore the damage.

Chapter 11

LAND MANAGEMENT

11.1. Designing and Developing Landscape. Land management on AF installations addresses the protection and preservation of desirable natural and man-made land resources. Installations should design and develop landscape on improved grounds to make maximum use of regionally native plants, avoid invasive exotic species, prevent pollution by reducing chemical usage, promote design and construction practices that minimize adverse effects on natural habitat, and reduce maintenance inputs in terms of energy, water, manpower, equipment, and chemicals.

Consult the *USAF Landscape Design Guide* for additional technical guidance.

11.2. Managing and Maintaining Grounds. When properly planned, constructed, and established, installation grounds are easily maintained. Management of unimproved grounds is a natural resource function, regardless of whether the land is managed for merchantable products. Consider the following in maintaining installation grounds: determine and implement maintenance practices in accordance with the landscape designer's intent; eliminate unnecessary pruning of trees and shrubs; wherever possible, convert improved grounds to semi-improved or unimproved grounds, and convert semi-improved grounds to unimproved grounds; convert land to forests, native grasses, or natural brush cover as much as possible; and use best management practices to prevent non-point source pollution.

11.2.1. Unimproved grounds, whether forests, brushlands, grasslands or other land forms, must be protected from damage by fire even if the resources have no commercial value. Many ecosystems are fire-dependent, and when protected from wildfire may need management use of fire to maintain their function and their suitability for military use. When appropriate, include fire management as a part of the INRMP. Wildland fire protection may be the responsibility of the installation fire department or the natural resource manager, but however organized, natural resource manager must participate in fire management planning and execution to ensure ecosystem management requirements are met. Personnel executing fire management plans must be properly trained and equipped to the generally accepted professional standards as outlined in the Federal Wildland Fire Management Policy and Program Review of 1995 and the current standards established by the National Wildfire Coordinating Group.

11.3. Service Contracts.

11.3.1. Enter into grounds maintenance service contracts and outleases according to the HQ AFCESA Standardized Base Operating Support Service Contract Package, including the AF Standards for Grounds Maintenance.

11.3.2. MAJCOMs determine their own need to review and approve these contracts and leases.

11.3.3. MAJCOMs must approve all contracts, regardless of cost, that call for the use of pesticides (see AFI 32-1053).

11.3.4. Grounds development or maintenance performed by contract must comply with the land management component plan of the INRMP.

11.4. Urban Forestry.

11.4.1. Develop an urban forestry component to the INRMP. A suggested format for this plan is the *USAF Landscape Design Guide.* Include the urban forest's current status, long-term goals for maintaining existing installation tree resources, and include appendixes of technical information such as soil analyses, lists of species, and planning maps.

11.4.2. Urban forestry programs at all AF installations, should satisfy criteria for a Tree City USA (or Tree City for OCONUS installations) designation from the National Arbor Day Foundation.

11.5. Managing Pests. In accordance with DODI 4150.7, *DoD Pest Management Program*, and AFI 32-1053, the installation pest management plan must address all strategies for managing pests. Natural resources managers will coordinate with pest management to ensure that the pest management plan is integrated with the INRMP.

11.6. Non-point Source Pollution.

11.6.1. Use best management practices to minimize non-point sources of water pollution. To determine best management practices, consult the local soil and water conservation district, state agricultural extension service, or state water quality offices.

11.6.2. Make sure that your non-point source pollution control program and best management practices for specific projects are consistent with the state's non-point source pollution management program, as Section 319 of the CWA requires.

11.6.3. Incorporate specific controls into grounds management activities, such as golf course maintenance, to reduce non-point source pollution.

11.7. Irrigation and Water Management. Irrigate installation grounds only when necessary to fulfill justifiable aesthetic or functional user requirements. In new construction and landscaping use plants adapted to local conditions to reduce future needs for irrigation.

11.7.1. For technical information on plants best adapted to local climatic conditions, consult AFCESA or the state university agricultural extension service.

11.7.2. To use treated sewage effluent in irrigation systems, request approval from the U.S. Environmental Protection Agency (EPA) or the state water quality agency (AFI 32-7102) or both. You need an approved National Pollutant Discharge Elimination System (NPDES) permit to irrigate with treated sewage effluent.

11.8. Mineral Leasing. Refer to AFI 32-9003 for guidelines on leasing AF-controlled lands for mineral exploration and mining.

Chapter 12

NATURAL RESOURCES BUDGETING

12.1. Funding Sources. A wide variety of funding sources can be used for natural resources programs.

12.1.1. Installation operations and maintenance (O&M), including appropriations 3400, 3740 and 3840 are used for a wide range of natural resources projects.

12.1.2. Environmental compliance (EC) funding is appropriate in cases where a violation of an environmental law has occurred or will be prevented.

12.1.3. Pollution prevention can fund natural resources projects designed to meet AF goals in reducing the use of pesticides or ozone depleting substances or other hazardous materials.

12.1.4. Forestry reimbursable funds can be used to pay expenses of the commercial forestry programs.

12.1.5. DoD Forestry Reserve Account can fund programs and projects related to management of natural resources. Projects must compete with requests from all the military services and are approved by the Forestry Subcommittee of the DoD Conservation Committee.

12.1.6. Agricultural outleasing funds can be used to pay the expenses of operating the agricultural outleasing program and fund other natural resources programs AF-wide.

12.1.7. Hunting and fishing fees can be used to fund fish and wildlife programs and projects, but can only be used on the installation where collected.

12.1.8. DoD Strategic Environmental Research and Development Program (SERDP) can pay for certain research and development projects.

12.2. Budget Planning. Enter all environmental funding requirements, regardless of funding source, into the Federal Facilities Pollution Abatement Plan (OMB A-106). See AFI 32-7001, *Environmental Budgeting*, for specific procedures including budget request and approval procedures for the reimbursable programs.

12.3. Funding Categories. All natural resources compliance requirements shall be categorized based on the 4 (0 through III) Classes defined in attachment 4 to DODI 4715.3,. Funding for projects in Classes 0, I, and II shall be executed in time to meet future deadlines.

Chapter 13

PUBLIC RELATIONS FOR NATURAL RESOURCES PROGRAMS

13.1. Overview. The public plays an essential role in installation natural resources management. The public ultimately owns and uses the resources, provides volunteers for natural resources programs, reviews environmental documents and management plans, and provides the funds that support the natural resources program.

13.2. Access to AF Land and Water Areas.

13.2.1. Allow the public to use installation areas to enjoy natural resources, to the extent such use is not inconsistent with the military mission. Fairly distribute opportunities for recreation and indicate any public land withholdings in the INRMP.

13.2.2. Installation or support group commander designates the degree of public access allowable for all areas identified in the INRMP as suitable for outdoor recreation by assigning each area into one of five categories.

13.2.2.1. Category A is open to the general public regardless of association with the military or other DoD agencies.

13.2.2.2. Category B is open to DoD employees, guests, family members, and retirees only.

13.2.2.3. Category C is open to installation personnel and guests, permanent change of station or temporary duty personnel, and their family members only. This category does not include retirees or DoD employees from other installations or military services not on permanent change of station or official temporary duty, except as guests.

13.2.2.4. Category D is open to installation military and civilian personnel only. This category includes only those personnel assigned permanent change of station or official travel duty at the installation. It excludes family members, guests, retirees, and other DoD employees.

13.2.2.5. Category E is closed.

13.2.2.6. An installation or area may have multiple designations. For example, an area may be designated category E for hunting and category A for fishing.

13.2.3. Allow federal and state officials who furnish professional advice and technical assistance and persons who conduct research on natural resources to enter AF installations after considering pertinent mission, security, safety, and legal restrictions. The installation commander issues such people entry permits or identification cards, if required.

13.2.4. Researchers may collect plants, animals, mineral, or fossils on installation lands for valid scientific purposes when compatible with the mission, approved by the installation or support group commander, and the required federal or state permits have been obtained.

13.3. Special Restrictions. An installation may determine that the disclosure of information on the location or character of natural or cultural resources may create a substantial risk of harm, theft, or destruction of such resources, an invasion of privacy, trespass on Government property, or interfere with the military mission. In such cases, the installation shall ensure that documents and other data provided to the public do not disclose this information.

13.4. Public Relations. The installation natural resources manager works with the base public affairs office to establish an ongoing natural resources public relations program.

13.4.1. Use programs, events, and news releases to publicize installation efforts in integrated natural resources management.

13.4.2. Sponsor public events associated with commemorative days such as National Hunting and Fishing Day, Earth Day, and National Arbor Day.

13.4.3. When appropriate, undertake projects with The Nature Conservancy, Ducks Unlimited, the National Arbor Day Foundation, or other local environmental organizations. For example, establish a living tree memorial, or start a cooperative ecological restoration project.

13.4.4. Heighten public awareness through existing programs such as Coastal America and Tree City USA.

13.4.5. Develop environmental education programs in cooperation with local educational institutions.

13.4.6. Regularly issue news releases announcing upcoming events and accomplishments in installation natural resources management.

Chapter 14

NATURAL RESOURCES MANAGEMENT TRAINING AND RESEARCH AND DEVELOPMENT

14.1. Overview. Encourage individuals living or working on AF installations to demonstrate good environmental stewardship. Incorporate environmental and natural resources awareness training into information forums at all levels, including formal course curricula.

14.2. General In-house Training. Introduce natural resources information and programs at newcomer's orientation briefings. Obtain information, training resources, and materials from AFCEE/ECR. A variety of sources provide contract instruction in natural resources management.

14.3. Commander Training. Air Staff and AFCEE natural resources managers help to train wing commanders, base civil engineers, and other senior officers in natural resources management. Use the *DoD Commander's Guide to Biodiversity* as an instructional aid for installation commanders.

14.4. Training Professional Natural Resources Managers.

14.4.1. Natural resources managers at category I installations (see 6.1.1) must take the course "oD Management of Cultural and Natural Resources."

14.4.2. Permit and fund professional natural resources managers to attend appropriate national, regional, and state conferences and training courses. Encourage professional registration, e.g. the Ecological Society of America.

14.4.3. Obtain and use the DoD publication *Conserving Biodiversity on Military Lands -- A Handbook for Natural Resources Managers* (1996).

14.5. Research and Development Procedures. For specific guidance on conducting natural resources research and development, see AFI 32-7004, *Civil Engineering Research and Development Program.*

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Attachment 1

GLOSSARY OF TERMS

Terms

Agricultural Outleasing—The use of DoD lands under a lease to an agency, organization, or person for growing crops or grazing animals.

Biological Diversity—The variety of life forms, the ecological roles they perform, and the genetic variability they contain within any defined time and space.

Commercial Forest Land—Land under management capable of producing at least 20 cubic feet of merchantable timber per acre a year. It must be accessible and programmed for silvicultural prescriptions. The smallest area for this classification is 5 acres. Roadside, streamside, and shelterbelt strips of timber must have or be capable of producing a crown width of at least 120 cubic feet to be classified as a commercial forest.

Cooperative Agreement—A written agreement between an AF installation and one or more outside agencies (Federal, state, or local) that coordinates planning strategies. It is a vehicle for obtaining assistance in developing natural resources programs.

Critical Habitat—Any air, land, or water area (excluding existing synthetic structures or settlements that are not necessary to the survival and recovery of a listed species) and constituents thereof that the USFWS has designated as essential to the survival and recovery of an endangered or threatened species or a distinct segment of its population.

Cropland—Land primarily suitable for producing farm crops, including grain, hay, and truck crops.

Ecosystem Management—An approach to natural resources management that focuses on the interrelationships of ecological processes linking soils, plants, animals, minerals, climate, water, and topography. Managers view such processes as a living system that affects and responds to human activity beyond traditional commodity and amenity uses. They also acknowledge the importance of ecosystem services such as water conservation, oxygen recharge, and nutrient recycling.

Endangered Species—Any plant or animal listed as endangered by the Federal Government.

Exotic Species—Any plant or animal not native to a region, state, or country. (This definition excludes certain game species that have become established, such as pheasants.)

Fish—Fresh and salt water fin-fish, other aquatic vertebrate organisms, and crustaceans and mollusks.

Floodplains—Lowland or flat areas adjoining inland and coastal waters, including areas on offshore islands, that are prone to flooding.

Forest Land—Land on which forest trees of various sizes constitute at least 10 percent of the area. This category includes open land that is capable of supporting trees and is planned for forest regeneration and management.

Forest Management—Developing, conserving, and protecting forest resources to ensure that they provide sustained yield and multiple use.

Forest Products—Plant materials in wooded areas that have commercial value, such as sawlogs, veneer (peeler) logs, poles, pilings, pine needles, cordwood (for pulp, paper, or firewood), fence posts, mine

timber, Christmas trees (from unsheared trees cut during intermediate harvests), and similar wood or chemical products.

Game—Any species of fish or wildlife for which state or federal laws and regulations prescribe hunting seasons and bag or creel limits.

Grazing Land—Land with vegetative cover that consists of grasses, herbs, and shrubs valuable as forage.

Grazing Systems—Specialized methods of grazing management (the manipulation of livestock grazing to accomplish a desired result) that define systematically recurring periods of grazing and deferment for pastures or management units.

Habitat—An area that provides the environmental elements of air, water, food, cover, and space necessary for a given species to survive and reproduce.

Highly Erodible Soils—Soils that, because of their physical properties or slope, the US Department of Agriculture, Natural Resources Conservation Service, identifies as being highly susceptible to wind or water erosion.

Improved Grounds—Grounds on which personnel annually plan and perform intensive maintenance activities. These are developed areas of an installation that have lawns and landscape plantings that require intensive maintenance. They usually include the cantonment, parade grounds, drill fields, athletic areas, golf courses (excluding roughs), cemeteries, and housing areas.

Integrated Natural Resources Management Plan (INRMP)—A natural resources management plan based on ecosystem management that shows the interrelationships of the individual component plans as well as mission and land use activities affecting the basic land management plans.

Integrated Pest Management (IPM)—A planned program incorporating continuous monitoring, education, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, materiel, or the environment. IPM includes methods such as habitat modification, biological control, genetic control, cultural methods, mechanical control, physical control, regulatory control, and the judicious use of least-hazardous pesticides.

Land Management Unit—The smallest land management division that planners use in developing specific strategies to accomplish natural resources management goals. Land management units may correspond to grazing units on agricultural outleased lands, stands or compartments on commercial forest lands, various types of improved grounds (for example, athletic fields, parks, yards in family housing, or landscaped areas around administrative buildings), or identifiable semi-improved grounds (for example, airfield areas, utility rights-of-way, or roadside areas).

Land-Use Regulation—A document that prescribes the specific technical actions or land use and restrictions with which lessees, permittees, or contractors must comply. It derives from the grazing or cropland management plan and forms a part of all outleases, land use permits, and other contracts.

Livestock—Domestic animals kept or raised for food, by-products, work, transportation, or recreation.

Multiple-Use—The integrated, coordinated, and compatible use of various natural resources to derive the best benefit while perpetuating and protecting those resources.

Multiple-Use and Sustained Yield Management—The care and use of natural resources so as to best serve the present and future needs of the United States and its people without impairing the productivity

of the land and water.

Natural Resources Management Professional—A person with a degree in the natural sciences who manages natural resources on a regular basis and receives periodic training to maintain proficiency in that job.

"No Funds" Service Contract—An agreement by which a party performs a land management service for a consideration other than funds. Such a contract exists, for example, when a party hired to establish, control, or remove vegetative cover or growth agrees to take payment for the service in the form of the growth that results.

Non commercial Forest Land—Land not capable of yielding forest products of at least 20 cubic feet per acre a year because of adverse site conditions. The classification also includes productive forest land on which mission requirements, accessibility, or non compatible uses preclude forest management activities.

Outdoor Interpretation—Observing and explaining the history, development, and significance of our natural heritage and natural resources.

Outdoor Recreation—Recreation that relates directly to and occurs in natural, outdoor environments.

Outdoor Recreation Resources—Land and water areas and associated natural resources that provide, or have the potential to provide, opportunities for outdoor recreation for present and future generations.

Prime Farmland—Land that has the best combination of chemical and physical characteristics for producing food, feed, forage, fiber, and oil-seed crops and is also available or potentially available for these uses. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops under modern farming methods. Existing pasture land, rangeland, forest land, and other land not in an urban buildup condition is considered eligible for designation as prime farmland, providing it meets the other criteria.

Rangeland—Land on which the native vegetation is predominantly grasses, grass-like plants, herbs, or shrubs suitable for grazing or browsing use. It includes lands revegetated naturally or artificially to provide a forage cover that is managed like native vegetation. It also includes natural grasslands, savannas, shrubland, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Recreation Carrying Capacity—The level of recreational use that an area can sustain without damage to the environment.

Reforestation—The renewal or regeneration of a forest by natural or artificial means.

Rotation Age—The planned number of years between the regeneration of a forest stand and its final cutting at a specified stage of maturity.

Semi-Improved Grounds—Grounds where personnel perform periodic maintenance primarily for operational and aesthetic reasons (such as erosion and dust control, bird control, and visual clear zones). These usually include grounds adjacent to runways, taxiways, and aprons; runway clear zones; lateral safety zones; rifle and pistol ranges; picnic areas; ammunition storage areas; antenna facilities; and golf course roughs.

Silviculture—A branch of forestry dealing with the development and care of forests.

Stewardship—The management of a resources base with the goal of maintaining or increasing the resources' ' value indefinitely into the future.

Threatened Species—Those federally listed species of flora and fauna that are likely to become

endangered within the foreseeable future throughout all or a significant portion of their range and that have been designated for special protection and management pursuant to the Endangered Species Act.

Timber Management—The application of silvicultural knowledge and prescriptions to forest lands within economic and environmental constraints to produce a sustained yield of forest products.

Timber Stand Improvement (TSI)—Silvicultural treatments applied to existing stands to improve their quality, composition, condition, or rate of growth (such as pruning, thinning, releasing, and prescribed burning).

Unimproved Grounds—Grounds normally managed by the natural resources staff on an installation or in firing ranges or annexes in support of the AF mission and to achieve integrated resources goals defined in the INRMP. All grounds not expressly defined as improved or semi-improved are unimproved. Unimproved grounds include weapons firing and bombing ranges; forest lands; croplands and grazing lands; grasslands or ranges; lakes, ponds, and wetlands; and areas in the airfield beyond the safety zones.

Unique Farmland—Land, other than prime farmland, used for producing specific high-value food and fiber crops at the time of designation. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high-quality or high yields of a specific crop under modern farming methods. Examples are citrus, tree nuts, olives, and cranberries.

Urban Forests—Planted or remnant native tree species existing within urbanized areas such as parks, tree-lined residential streets, scattered tracts of undisturbed woodlands, and cantonment areas.

Watchable Wildlife Areas—Areas identified under the Watchable Wildlife Program as suitable for passive recreational uses such as bird watching, nature study, and other nonconsumptive uses of wildlife resources.

Wetlands—Areas inundated or saturated by surface or ground water at a frequency and a duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Attachment 2

INRMP OUTLINE

This outline serves as a suggested format. Tailor it to your installation's program. If a component program does not exist on the installation, omit that section from the INRMP. Use the publication *Conserving Biodiversity on Military Lands -- A Handbook for Natural Resources Managers* as a guide for INRMP preparation.

A General Information.

1.Purpose of the plan. Discuss the plan as a road map for natural resources management based on an interdisciplinary approach to ecosystem management.

2.Management philosophy. Explain:

- How you developed the plan in an interdisciplinary manner.
- How the plan integrates with the mission and the base comprehensive planning process.
- That the plan presents overarching as well as specific goals.
- That you need to monitor all management strategies and adjust them as needed.
- The land classification used in the plan.

3.Authority. Cite DoDI 4715.3, DoDI 7310.5, AFPD 32-70, AFI 32-7064 and AFI 32-7065.

4.Use of the plan. Explain that:

- The plan integrates all aspects of natural resources management with each other and the rest of the installation's mission.
- The installation or support group commander has approved the plan and subsequent revisions.
- The installation EPC and the MAJCOM have reviewed the plan.
- The AF must consider its goals and objectives when planning projects and mission changes.

5.Term definitions. Define terms and land management categories, using attachment 1.

B.Installation Location and Mission.

1.Location and area. Give a general description and an area map.

2.Installation history. Emphasize former land uses and management practices.

3.Current military missions. Describe major units and missions, including major tenant units.

4.Surrounding communities. Give a general description.

5.Proximity of the installation to local and regional natural areas (such as greenways, parks, and river corridors). Include areas within 3 to 5 miles of the installation and discuss any habitat similar to that found on the installation.

C.Mission Impacts on the Local Environment.

- 1.Current major impacts. Concentrate on protracted problem areas that have the greatest impact on ecosystems functioning. Briefly discuss major pollution concerns and programs, such as:
- Number of permitted air and water pollution point sources.
- AICUZ or other noise problems associated with airfield operations, low-level training routes, or ranges.
- On-going problems with hazardous waste.
- Ground water contamination and IRP sites.

2.Known future mission impacts. Summarize the potential impacts of projected changes in missions, BRAC, aircraft, and other mission elements.

D.General Physical Environment.

1.Climate. Generally describe the climate, attaching a climate table showing average temperatures, precipitation, and other features.

2.Total acreage and general distribution of improved, semi-improved, and unimproved base lands. Get this information from the base general plan or the planning office, and show it on a base map.

3.Topography. Discuss elevations and slope, showing the information on a base map.

4.Geology and soils. Discuss soil series and general geology, showing major soil types on a base map.

5.Watersheds, wetlands, and drainage patterns on base. Discuss and show this information on a base map, including natural and artificial drainage ways.

6.Impoundments. Discuss size, water quality, use, and other characteristics, showing impoundments on a base map.

E.General Biotic Environment.

1.Historic vegetative cover on base. Discuss this information in terms of natural ecosystems.

2.Current native vegetative cover remaining on base. Emphasize areas of known or potential threatened or endangered or highly sensitive plant species, showing them on a base map.

3.Turf and landscaped areas. Discuss these areas generally, addressing predominate varieties of turf grasses, ground covers, and tree and shrub species.

4.Native fauna on base. Address known or potential threatened or endangered species and seasonal migrants. Map any critical habitat known to occur on base.

F.Management Issues and Concerns.

1.Natural resources constraints to installation planning and missions. Discuss and develop a composite map of major constraints such as critical habitat, wetlands, flood plains, sensitive plant communities, highly erodible soils, and steep slopes.

2.Threatened or endangered species and critical habitats. Discuss:

- The status of inventories.
- Relationship of any on-base critical habitat with similar local and regional habitat.
- Health of existing on-base critical habitat.

3.Wetlands. Discuss:

- The status of inventories and delineations.
- Pending Section 404 and 401 permits.
- Health of existing wetlands.
- Any involvement with local or regional wetlands banking.

4.Watershed protection. Discuss:

- Waste water or storm water management issues.
- Regional programs such as the Chesapeake Bay Protection Act.
- Non-point source pollution issues.
- Cooperative programs with other governmental or private organizations.

5.Fish and wildlife management. Discuss:

- Bird Aircraft Strike Hazard (BASH) program. Reference BASH plan.
- Demand for the resources.
- Requirements for habitat improvement.
- Public access issues.
- Fee structures.
- Watchable Wildlife programs.
- Wildlife pest problems.

6.Grounds maintenance. Discuss:

- Disease, insect, and general maintenance issues associated with turf areas and ornamental planting areas. Reference the pest management plan.
- Non-point source pollution problems associated with pesticides and fertilizers.
- Programs handling solid wastes associated with grounds maintenance activities.
- The urban forestry program.

7.Commercial forestry. Discuss:

- Current status of commercial forestry management.
- Ecosystem management within commercial forest areas.

- Fire protection.

8.Outdoor recreation and public access. Discuss:

- Interface with MWRS.
- National Park Service involvement.
- Off-road vehicles.
- Public access.

9.Agricultural outleasing. Discuss:

- Land currently used for agriculture.
- Interface with the Natural Resources Conservation Service.
- Land use regulations.
- Monitoring programs.

10.Coastal issues. Discuss:

- Coastal America program involvement.
- Consistency determinations.
- Marine animal protection.
- Coastal Zone Protection issues
- Coastal Barrier Resources

11.Geographic Information System. Discuss:

- Equipment availability.
- Resources mapping status.
- Interface with Base General Plan.

12.Constraints to natural resources management such as cultural resources.

G.Management Goals and Objectives. For each area discussed under management issues and concerns, provide the overarching goals and objectives. For example, under Wetlands, a goal might be to complete delineation of all jurisdictional wetlands. Objectives under this goal might be to:

- Obtain existing wetlands information from the National Wetlands Inventory database of the USFWS.
- Perform on-the-ground delineations to USACE specifications.
- Map all delineated wetlands on an existing AutoCAD or GIS system.
- Develop a tracking mechanism to ensure that wetland status is regularly updated.
- Another goal under Wetlands might be to restore degraded wetlands. Objectives under this goal might be to:
- Identify existing degraded wetlands that have the greatest potential for restoration.
- Prioritize wetlands for restoration based on a feasibility and cost analysis performed or reviewed by an outside agency or contractor.

- Secure program funding for long-term restoration work.

When complete, this section of the INRMP should provide a clear direction and concrete approach to natural resources programs for the next 5 years.

H.Identification, Classification, and Mapping of Installation Natural Resources Management Units.

Natural resources management units will include:

- Grounds categories.
- Land use categories.
- Land management units.

1.Grounds categories follow the traditional divisions of improved, semi-improved, and unimproved grounds.

2.Land use categories are subunits of each grounds category. For example, under improved grounds, land use categories may include:

- Grounds areas around housing units, dormitories, administrative areas, and industrial areas.
- Parks, playgrounds, and athletic fields.
- Parade grounds and golf courses.
- For unimproved grounds, land use categories may include:
- Agricultural outleased land.
- Commercial forestry land.
- Native prairie areas.
- Wooded stream corridors.

3.Land management units are the smallest identifiable units used in developing natural resources management goals. The division and size of natural resources management units may vary with the installation resources base and the degree of detail needed to develop specific management activities. In some cases, it may be necessary to define only a few land management units, doing most planning at the land use category level. Regardless of division size, develop a numbering system to identify each level, and use this system in developing a base map for the INRMP. As subunits of land use categories, land management units might correspond to:

- Grazing units on outleased land.
- Timber stands for commercial forestry areas.
- Units of improved grounds' land use categories, such as multi-family units, single family units, and senior officer housing.

I.Component plans and their associated budgets implement the INRMP. Develop component plans according to your resources base and management approach.

- List projects to be accomplished within the following 2 fiscal years that contribute to the management goals and objectives identified in section G. For each project, state:
- Purpose of the project.
- How the project contributes to natural resources management goals and objectives.
- Specific land use categories and land management units on which the project will take place (include site maps).
- Detailed description of project activities and schedules.
- Material and labor requirements.
- Required outside agency coordination.
- Priority of the project compared to other projects in the same component plan.
- Sources of funds.
- Impact on other proposed projects, if any, and impact on overall ecosystem functions.
- For each component plan, include an appendix of associated information (see section J).

J.Suggested Enclosures for Component Plans.

Threatened and Endangered Species:

- Lists of state and federally-listed species known from the installation and from the county where the installation is located
- Coordinated protection and mitigation measures for species and their habitats. Include appropriate references from official USFWS recovery plans for each T/E species.
- Copy of the latest installation threatened or endangered species survey report
- Assessment of significant species from the State Natural Heritage Office.
- Copies of any recovery plans involving the installation
- Procedures and responsibilities for consulting with the USFWS (terrestrial species) or the National Marine Fisheries Service (marine species) before funding or conducting any action likely to affect listed species or their critical habitat.
- Section 7 consultations, biological opinions and other USFWS coordination
- State fish and wildlife coordination
- Maps showing critical habitat
- Aerial photography
- Environmental compliance budget for threatened or endangered species

Wetlands:

- Jurisdictional wetlands delineation reports

- Current and pending Section 404 and 401 permits
- Mitigation plans
- Copies of signed FONPAs (FONPA)
- Approvals pending Section 10 of the Rivers and Harbors Act
- Maps showing hydric soils
- National Wetlands Inventory (NWI) maps
- Maps showing any state-required buffer areas surrounding wetlands and a narrative description of constraints within these buffer areas
- Soil boring data
- Aerial photography
- Information on any wetlands banking projects within watersheds encompassing the installation
- USFWS and Natural Resources Conservation Service contacts and coordination
- Environmental compliance budget for wetlands

Watershed Protection:

- Non-point source pollution plans addressing soil erosion prevention, pesticide and fertilizer use, and other natural resources management activities
- Map showing permitted waste water and storm water discharge points
- Floodplain maps

Flood plain/flood way regulations:

- State water quality reports and information on rivers and streams within or adjacent to installations
- Copies of cooperative agreements and implementation plans for watershed protection
- Sections of spill plans addressing watershed protection on the installation
- Water quality monitoring programs and sampling points
- Environmental compliance budget for watershed protection

Fish and Wildlife Management:

- Installation classification
- Access policy and user programs
- USFWS and state fish and wildlife agency coordination and cooperative agreements and review procedures
- Maps of managed fish and wildlife areas
- Specific management objectives and strategies for all appropriate species (e.g. game, nongame, and threatened and endangered (T/E) species
- Habitat inventories and management (see 6.2)

- Description of management practices (such as stocking, food plots, fishing and hunting permits and fees, and wildlife law enforcement)
- Regulations for hunting, fishing, and trapping programs (if implemented)
- Animal damage control procedures such as depredation permits
- Bird Aircraft Strike Hazard (BASH) plan
- Local zoonotic disease concerns (Lyme disease, rabies, mosquito-borne encephalitis)
- Specifications for equipment and materials used in fish and wildlife management (such as source of fish for stocking, pesticides used in rough fish management, and guzzler construction materials)
- Allocation of personnel and equipment over the life of the INRMP.
- Analysis of current and projected demand for the resources
- Watchable Wildlife program information
- Non-consumptive wildlife management, such as bird nesting programs
- Cooperative agreement and coordination with other state, federal and private agencies promoting migratory neotropical bird habitat
- Environmental compliance budget for fish and wildlife management

Grounds Maintenance:

- Cooperative agreements on land management with the state agricultural extension service and the Natural Resources Conservation Service
- Landscape plan, with lists of approved plant materials
- Golf course maintenance plan
- Sections of the storm water management plan
- Specifications for landscape construction materials and irrigation system components
- Best management practices for erosion control, pollution prevention, and pesticide usage
- Copies of grounds maintenance contracts
- Environmental compliance budget for grounds maintenance
- O & M budget for grounds maintenance
- Cropland and grazing budget for grounds maintenance
- Urban forestry issues
- BASH mowing requirements

Forestry:

- State coordination and cooperative agreements
- Maps and detailed descriptions of individual forest stands
- Maps of timber access roads
- Current forest resources inventory data and statistical summary by stands or compartments

- Description of silvicultural management practices (such as timber stand improvement techniques, harvesting methodology, reforestation practices, fire protection and management, and endangered species protection)
- Specifications (tree species used in commercial reforestation plantings, seedling suppliers, rodent and insect control products and practices, forestry equipment)
- Local and regional timber product markets and financial analyses
- Forestry budget

Outdoor Recreation:

- National Park Service cooperative agreement and coordination
- Maps and detailed descriptions of outdoor recreational areas
- Public accessibility
- Specifications (trail construction techniques and materials, shelter construction, signage)
- Analysis of current and future demand for outdoor recreation
- Outdoor recreation budget (part of the fish and wildlife budget)

Agricultural Outleasing:

- Natural Resources Conservation Service coordination and cooperative agreements
- Suitability determinations for land currently in cultivation
- Maps and detailed descriptions of outleased land by land use category or land management unit (soil types, erodibility, fertility based on soil analyses, productivity potential, location of prime and unique farmland, photographic documentation of leased land condition, current vegetative cover)
- Monitoring systems (lease compliance checklist and inspection schedules)
- Specifications for construction and maintenance of improvements
- Land use regulations (access regulation, animal control, cultivation practices, grazing management, crop rotation, prescribed burning, resources protection measures)
- Cropland and grazing budget

Coastal Zone Management:

- Coastal issues
- State consistency determinations
- State-issued coastal zone permits
- Coastal America initiatives
- Environmental compliance budget for coastal issues

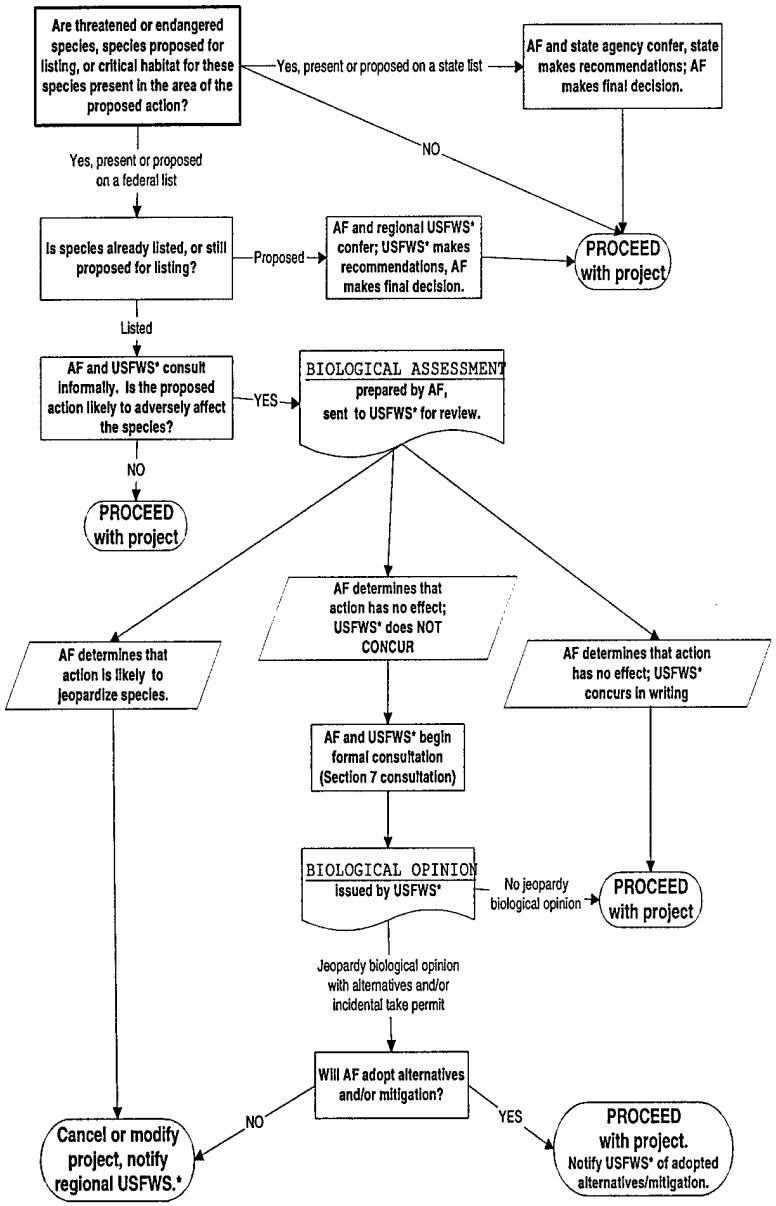
Geographic Information System:

- Equipment lists
- Installation personnel trained in geographic information system usage
- Training requirements, schedules, and budgets

Attachment 3

ENDANGERED SPECIES ACT COORDINATION

Figure A3.1. Actions Required for Areas with Endangered or Threatened Species.



*If species is a marine mammal, consult with the National Marine Fisheries Service instead of USFWS.

Attachment 4

LIST OF NATURAL RESOURCES LEGISLATION AND REQUIREMENTS

Animal Damage Control Act (7 USC 426-426b; 47 Stat. 1468)

Bald Eagle Act of 1940 (16 USC 668-668d; 54 Stat. 250)

Clean Water Act (CWA) of 1977 (P.L. 95-217 as amended)

Coastal Barrier Resources Act (16 USC 3501 et seq)

Coastal Zone Management Act (16 USC 1451 et seq)

DoD Directive Instruction 4715.3, "Environmental Conservation Program"

Endangered Species Act (16 USC 1531 et seq)

Estuary Protection Act (16 USC 1221-1226; 82 Stat. 625)

Executive Order 11514, Protection and Enhancement of Environmental Quality

Executive Order 11988, Flood plains Management

Executive Order 11989, Off-Road Vehicles on Public Lands

Executive Order 11990, Wetlands Management

Farmland Protection Act (7 USC 4201 et seq)

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Land Policy and Management Act of 1976 (43 USC 1701)

Federal Noxious Weed Act of 1974 (7 USC 2809 et seq)

Federal Water Pollution Control Act of 1977

Fish and Wildlife Conservation Act (P.L. 96-366, 16 USC 2901)

Fish and Wildlife Coordination Act (16 USC 661 et seq)

Forest and Rangeland Renewable Resources Planning Act of 1974 (P.L. 93-378, 16 USC 1601 et seq)

FY 91 Defense Appropriations Act

Lacey Act of 1900 (16 USC 701, 702; 31 Stat. 187, 32 Stat. 285)

Marine Mammal Protection Act of 1972 (P.L. 92-533)

Migratory Bird Conservation Act (P.L. 89-699, 16 USC 715)

Multiple Use Sustained Yield Act of 1960 (16 USC 528 et seq)

National Environmental Policy Act (42 USC 4341)

National Forest Management Act of 1976 (P.L. 94-588, 16 USC 1600 et seq)

National Trails Systems Act (16 USC 1241-1249)

Rivers and Harbors Act of 1899 (33 USC 401 et seq)

Secretary of the Air Force Order 780.1, Wetlands

Secretary of the Air Force Order 790.1, Floodplains

Sikes Act (16 USC 670 et seq) "Conservation Programs on Military Reservations"

Soil and Water Conservation Act (P.L. 95-193, 16 USC 2001)

Taylor Grazing Act (P.L. 73-482, 43 USC 315 et seq)

Title 10 USC 2665: Forest Management

Wild and Scenic Rivers Act (16 USC 1274 et seq)

Wild Horses and Burros Act (16 USC 1331-1340; 85 Stat. 649)

Wilderness Act of 1964 (16 USC 1131-1136); 78 Stat. 890; PL 88-577)