ENVIRONMENTAL ASSESSMENT FOR IMPLEMENTATION OF THE INTEGRATED PEST MANAGEMENT PLAN, FORT BENNING, GEORGIA AND ALABAMA

Prepared for United States Army Infantry Center and School (USAIC/USAIS)

Prepared by Directorate of Public Works
Fort Benning, GA and AL

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ENVIRONMENTAL ASSESSMENT FOR

IMPLEMENTATION OF

THE INTEGRATED PEST MANAGEMENT PLAN,

FORT BENNING,

GEORGIA AND ALABAMA

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EXECUTIVE SUMMARY

Purpose of and Need for the Proposed Action: The Department of the Army, through regulation AR 200-5, requires all Army installations to prepare an integrated pest management plan (IIPMP). An IPMP is an internal Army compliance and management document that integrates all of the installation pest management requirements with ongoing mission activities, allows for ready identification of potential conflicts between an installation's mission and pest management, and identifies the best management practices necessary to protect and maintain the availability of mission essential properties and acreage. After initial technical review and approval, the IPMP will be reviewed annually and revised at least every five years.

Precautions are taken during pesticide application to protect the public, on and off the Installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application is approved by the Environmental Management Division. Whenever pesticides are applied outdoors, whether by manual or aerial means, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and utilizing the appropriate equipment.

The proposed action is, therefore, to implement an IPMP that uses the integrated approach to control pests on lands owned or controlled by Fort Benning via the Directorate of Public Works (DPW), Environmental Management Division (EMD). The IPMP emphasizes identification, surveillance, education, and non-chemical control techniques. Pesticides are used only as a last resort. The IPMP defines roles and responsibilities for pest management at Fort Benning. It addresses applicable legal requirements and incorporates available "pest management policies" that are consistent with the needs, goals, and objectives of the Fort Benning military mission. The IPMP is a component of the Real Property Master Plan and will be coordinated with Fort Benning's Master Plan and other component plans (e.g., Integrated Natural Resources Management Plan, Integrated Cultural resources Management Plan).

Potential Environmental Effects: The table below presents a summary of the potential environmental consequences of the preferred alternative (Alternative II) on potentially affected media. Mitigation for potential adverse effects, when applicable, is also discussed. Preliminary analysis of the alternatives resulted in a finding of no potential effect on several media, such as Wildlife, Air Quality, or Protection of Children; therefore, these media will not be presented in Table S-1. For more detailed discussion of these potential effects, see Chapter 4.0 of the EA.

Table S-1
Summary of Potential Environmental Effects and Proposed Mitigation
for Preferred Alternative (II):

RESOURCE	POTENTIAL EFFECT	MITIGATION
Soils and Vegetation	No effect	Adherence to procedures outlined in the Fort Benning IPMP and Installation SPCC; no additional mitigation proposed.

Water Quality and Wetlands	No effect	Adherence to procedures outlined in the Fort Benning IPMP, Installation SPCC, and NPDES Municipal Separate Storm Sewer System (MS4) requirements; no additional mitigation proposed.
Hazardous Materials and Wastes	No effect	Adherence to existing Installation, state, and Federal laws, regulations, and guidelines; no additional mitigation required.
Protection of Children	No effect	Adopting the best management practices of IPM in schools; no additional mitigation required.

Conclusions and Recommendations: Alternative II, "Implement Fort Benning IPMP," is the recommended course of action because it meets the purpose and need for the action while resulting in no potential effects to the environment, as long as adherence to applicable Federal, state, and Installation laws, regulations, and guidelines are adhered to. All potential adverse environmental effects would be subject to the appropriate mitigation, permitting, and monitoring, in accordance with NEPA and other Federal and state laws and regulations. Based upon the findings and conclusions of this EA, a Finding of No Significant Impact (FNSI) is appropriate and the preparation of an EIS is not required.

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Appendix B Draft Finding of No Significant Impact
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1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The Department of the Army, through regulation AR 200-5, requires all Army installations to prepare an integrated pest management plan (IIPMP). An IPMP is an internal Army compliance and management document that integrates all of the installation pest management requirements with ongoing mission activities, allows for ready identification of potential conflicts between an installation's mission and pest management, and identifies the best management practices necessary to protect and maintain the availability of mission essential properties and acreage. After initial technical review and approval, the IPMP will be reviewed annually and revised at least every five years.

This environmental assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) 42 USC 4321-4370c, its implementing regulations published by the Council on Environmental Quality (40 CFR 1500-1508), and 32 Code of Federal Regulations part 651 (Army's Regulation 200-2, Environmental Effects of Army Actions). These collectively establish a process by which Fort Benning considers the potential environmental impacts of its proposed actions and invites the involvement of interested members of the public prior to deciding on a final course of action.

1.2 DESCRIPTION OF THE PROPOSED ACTION

A "pest" is defined as any plant, animal, or other organism (except for human or animal disease-causing organisms) in a location where it is not wanted (Fort Benning, 2004). A "pesticide" is any chemical or manual method utilized for the purposes of pest control. In accordance with AR 200-5, all Army installations, activities, and sites supported with federally appropriated funds or subject to Federal approval must prepare an IPMP to address this issue. Fort Benning lands are centrally managed, share a common chain of command, and have a single point of contact (POC) responsible for pest management, and will be managed according to a single IPMP. Pests included in the IPMP are weeds and other unwanted vegetation, termites, mosquitoes, crawling insects (ants, crickets, cockroaches, etc.) and spiders, mice, gophers, and other vertebrate pests. Without control, these pests could interfere with the military mission, damage real property, increase maintenance costs and expose installation personnel to diseases. Actual pest management procedures are found in more detail in Appendix A of this EA.

Precautions are taken during pesticide application to protect the public, on and off the Installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application is approved by the Environmental Management Division. Whenever pesticides are applied outdoors, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and utilizing the appropriate equipment.

The proposed action is, therefore, to implement a IPMP that uses the integrated pest management (IPM) approach to control pests on lands owned or controlled by Fort Benning via the Directorate of Public Works (DPW), Environmental Management Division (EMD). IPM emphasizes identification, surveillance, education, and non-chemical control techniques. Pesticides are used only as a last resort. The IPM defines roles and responsibilities for pest management at Fort Benning. It addresses applicable legal requirements and incorporates

available "pest management policies" that are consistent with the needs, goals, and objectives of the Fort Benning military mission. The IPMP is a component of the Real Property Master Plan and will be coordinated with Fort Benning's Master Plan and other component plans (e.g., Integrated Natural Resources Management Plan, Integrated Cultural resources Management Plan).

1.3 LOCATION OF THE PROPOSED ACTION

Fort Benning is located south of the City of Columbus, Georgia (Figure 1, Area Map). The Installation is approximately 100 miles south-southwest of Atlanta, Georgia, and can be accessed by the major highway routes of U.S. Interstate 185, U.S. Highway 27, Georgia Highways 26 and 520, and Alabama Highway 165, in addition to several smaller county and Installation-maintained roads. This area of Georgia and Alabama is located just south of the Fall Line, which extends from central Alabama to southern New York and is a transitional area between the lower Piedmont and upper Coastal Plain Physiographic Provinces. The Fall Line is characterized by a number of rapids and falls in streams and rivers as they flow from the sloping Piedmont region into the flatter Coastal Plain.

The Installation occupies approximately 184,000 acres of land, of which approximately 172,400 acres are located in Georgia and 11,600 acres are located in Alabama. The Installation is divided into compartments, each with a letter and number designation. The Installation covers approximately 80 percent of the land in Chattahoochee County, Georgia, as well as small portions of Muscogee County and Marion County, Georgia, and Russell County, Alabama. The Chattahoochee River, which serves as the border between portions of Georgia and Alabama, traverses the southwestern tip of the Installation.

2.0 ALTERNATIVES CONSIDERED

2.1 Alternative I: "No Action/Status Quo"

The "No Action Alternative" is the only alternative to the proposed action considered in this EA. The President's Council on Environmental Quality (CEQ) regulations (40 CFR 1502.14) prescribes inclusion of the no action alternative. The no action alternative reflects the status quo and serves as a benchmark against which Federal actions can be evaluated. For this analysis, the status quo is the control of animal and plants pests at Fort Benning facilities using existing procedures. This currently involves control or prevention of wide range of insects and pests including cockroaches, rodents, termites, ants, weeds, and nuisance animals (bats, snakes). Treatments are not made according to a predetermined schedule. Instead, they are made only when and where there has been an indication that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least hazardous to non-target organisms and the general environment. It is not merely a reaction to a pest problem. It is, as indicated, a process which when followed, provides effective control.

The principles and techniques of integrated pest management shall be used to control all pests. The procedures for implementing integrated pest management shall be as follows: identify the problem and the pest(s) responsible as accurately as possible; evaluate all available management and control alternatives and establish an action threshold; choose the safest, most economical, and most efficient solution that achieves the desired result with the least environmental impact; and time the control and management techniques to achieve maximum beneficial results.

Depending upon the particular pest problem, certain situations may warrant continued use of pesticides at lower usage rates. In other situations, implementation of two or more of the below pest management policies have been found most effective control.

- **SANITATION** - The elimination of pest harborages, water and food sources to inhibit the survival of pests. It requires the cooperation of the customer, to provide the sanitary measures. To be effective in the use of other pest management controls, it is first necessary to insure that sanitation is addressed.
- **MECHANICAL -** Involves the use of traps, caulks, seals or barriers to prevent pests from entering, establishing and living in an undesired location. It may include excluding pests by using barriers, including screens, seals, nets and caulking, manually removing pests using hands, by vacuuming, or setting traps.
- **CULTURAL** - Involves manipulation of the pests environment to make it less favorable for the pest to exist. It may also be referred to as habitat modification. To accomplish this, there may have to be a change in normal practices or habits and thus make it harder to the pest populations to become established or to spread.
- **BIOLOGICAL** - The use of parasites, predators, or pathogens to control or manage pests.
- **CHEMICAL** - Should be the last control measure to be considered. There may be times when pesticides will have to be the first control strategy used because of the immediate need to significantly reduce or eliminate a pest population. This usually occurs in childcare and dining facilities, and some housing areas. There may be a situation involving a pest that threatens health or public safety. For example, a severe infestation of German cockroaches in a home or a yellow jacket nest near a school may require an immediate pesticide treatment. In general, however, pesticide applications should be made only after other control measures have been put in place.

In situations when exclusion work is needed or in areas where there is a continual failure to gain control, the Environmental Management Division may request Preventive Medicine to conduct an inspection to determine if a health hazard exists. If such a hazard exists, Preventive Medicine will document the hazard condition; however, this is not authorization to move occupants to another building. The Environmental Management Division (EMD) is responsible for the overall coordination and oversight of Fort Benning's pest management program. The chief of this division is designated the Installation's Environmental Coordinator and must work closely with the Installation's Pest Management Coordinator on issues involving pest management, including the following:

a. Prepare, monitor, and update the IPMP.
b. Coordinate with activities conducting pest surveillance or controlling pests to ensure all applicable information is recorded and reported as required by this plan.
c. Monitor the sale and distribution of pesticides on the Installation.
d. Function as a point of contact between those individuals who store and apply pesticides (e.g., public works, golf course, pest control contractors) and activities or individuals who document or deal with pesticide use in their programs (e.g., Environmental Office, Safety Office, Fire Department, Industrial Hygienist).
e. Oversee the technical aspects of the self-help program with respect to pest control items and training of family housing residents.

f. Monitor certification and continuing pest management training for pesticide applicators on the Installation.
g. Coordinate and monitor contracts dealing with pesticide application and keep a copy of each contract on file. IAW AR 200-5 - (2.14), all contracts involving pest management services not referenced in this IPMP must be forwarded to the Army Environmental Center (AEC) for review and approval, prior to implementation of the contract.
h. Coordinate with local, State and Federal agencies, as necessary, to conduct the Installation's pest management program.
i. Provide answers to questions concerning pest management from the Installation Commander, the Major Command, and Department of the Army (DA).
j. Coordinate any commercial activities' reviews and leasing agreements following the Army Pest Management Program and the IPMP.

2.2 Alternative II: "Implement Fort Benning IPMP" (Preferred Alternative)

This alternative would consist of implementing the Fort Benning IPMP to control pests on lands owned or controlled by Fort Benning, as detailed in Section 1.2 and Appendix A. This would emphasize pest identification, surveillance, education, and non-chemical control techniques. Pesticides and other pest control-related chemicals would be used only as a last resort.

3.0 EXISTING ENVIRONMENT

Initial analysis of the two alternatives determined no potential to affect (either adverse/positive or direct/indirect) several media, such as Cultural Resources and Socioeconomics; therefore, they will not be discussed in this document in any detail. Media potentially affected by either of the two alternatives, such as soils, vegetation, and others, are discussed in detail below. Although no potential effect is predicted for Protection of Children, it is briefly discussed below, as well, due to regulatory requirements and the fact that pest control activities occur in areas frequently inhabited by children, such as family housing.

3.1 Soils

There are two basic soil provinces on Fort Benning: the Georgia Sand Hills and the Southern Coastal Plains. The Georgia Sand Hills are a narrow belt of deep sandy soils with rolling to hilly topography. These soils are primarily derived from marine sands, loams, and clays that were deposited over acid crystalline and metamorphic rocks. South of the Sand Hills are the Southern Coastal Plain soils, which are divided into nearly level to rolling valleys and gently sloping to steep uplands. Southern Coastal Plain soils in this area have a loamy or sandy surface layer and loamy or clayey subsoil (Cooperative Extension Service 1993). Soils in the Russell County portion of Fort Benning range from sandy to clayey and from somewhat excessively drained to very poorly drained. The topography in this area is varied, ranging from highly dissected upland areas that have high relief to broad, nearly level stream terraces and flood plains along the Chattahoochee River and other major streams. Soils in the Blackland Prairie area, located in the west-central part of the county, are dominantly clayey and range from acid to alkaline in reaction. The topography in this area is generally smooth to gently rolling with low relief (USDA, 2002). The soil surveys completed at this time by the U. S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) for Fort Benning on the Georgia side are for Chattahoochee and Marion Counties and Muscogee County. The soil

survey for Russell County, Alabama, has recently been updated and a text version of the survey, including a description of the soils, is available through the following USDA website: http://soils.usda.gov/soil_survey/surveys/al_russell/al_russell.pdf.

3.2 Vegetation

Fort Benning is within the Longleaf Pine Ecosystem, which once covered over 90 million acres of the southeastern United States. Within this region the upland areas were historically dominated by longleaf pine (*Pinus palustris*) with a mixture of other pine species within the stands. Oaks and other less fire tolerant species dominated the drains and areas, which were not subject to natural wildfires. As a result of changes in agricultural and forestry practices and of land ownership through the past 150 years, however, the original vegetative cover has been modified to a predominantly coniferous/deciduous mixture. Vegetated acreage on Fort Benning consists of approximately 16,000 acres of lawn and grassed areas, approximately 4,000 acres of open land and old fields (shrubs and herbaceous plants), and approximately 163,000 acres of woodland (includes the ordnance impact areas and excludes the approximately 1,000 acres of water bodies). Loblolly (*Pinus taeda*) and Longleaf Pine (*Pinus palustris*) are the principal conifers on the Installation and comprise approximately 54,000 acres of the woodlands. The remaining 109,000 acres of woodland are comprised of approximately 55,000 acres of mixed pine and hardwoods and 54,000 acres of hardwood forest (personal communication, Thornton and Larimore, 2004).

There are more than 1,275 species of plants on Fort Benning. These include trees such as the Longleaf Pine and White Oak (*Quercus alba*), shrubs such as Waxmyrtle (*Myrica cerifera*), vines such as Muscadine Grape (*Vitis rotundifolia*) and Poison Ivy (*Rhus radicans*), and herbaceous groundcover such as grasses and legumes. Trees and other plants are important for many reasons, including shade, erosion control, wildlife habitat, timber products, medicinal products, and realistic training scenarios. Various controls are in place to protect plant life, but some use is authorized. For example, underbrush and grass may be cut and used for camouflage during training exercises, but no vegetation may be disturbed inside red cockaded woodpecker (RCW) clusters. Cutting of trees and live limbs in training areas cannot occur without prior approval of Directorate of Public Works (Conservation Branch) through the FB Form 144-R, Record of Environmental Consideration (REC), process.

Except for kudzu, the impact of non-native plant species on Fort Benning is largely unknown. Twenty-five or more plant species, however, can be considered invasive to differing degrees (Fort Benning INRMP, 2001). Control activities are conducted with in-house staff, by contract, or through cooperative arrangements (for example, with the U.S. Army Corps of Engineers). The Land Management Branch is responsible for managing the Kudzu Containment Project as part of the Timber Management Program (Fort Benning INRMP, 2001) and has two DoD-certified pesticide applicators who are qualified to oversee the use of both backpack- and vehicle-mounted pesticide applicator systems, and two apprentice-applicators that will meet the requirements for DoD certification in FY04. As a result, the Timber Management Section is responsible for monitoring kudzu occurrences and impacts, as well as for implementing containment/suppression measures.

3.3 Water Quality

3.3.1 Ground Water

The state of Georgia possesses some of the largest and purest groundwater aquifers in the world. Fort Benning is in the Coastal Plain hydrogeologic province of Georgia and Alabama, whose principal ground water source is the Cretaceous aquifer system. The recharge area for these aquifers is the Sand Hills area (Georgia DNR, 1986). The Georgia Geologic Survey identifies the Cretaceous aquifers in the Fort Benning area as the A-3 through A-6 aquifers. The confining strata above and below the aquifers are designated C-3, C-4, and C-5. Aquifer A-6 is part of the upper Tuscaloosa and the overlying Lower Eutaw formations. This aquifer typically has the capacity to yield approximately 50 gallons of water per minute (gpm) near the Fall Line, but yields increase to approximately 700 gpm near the southern Installation boundary. Aquifer A-6 water is usually of uniformly good quality.

Aquifer A-5 is part of the basal sedimentary sequence of the Blufftown Formation. The A-5 water is more acidic than that of A-6. Some sedimentary lenses of the A-5 aquifer contain gypsum crystals, which result in a high sulfate content. Aquifer A-4 is in the upper sedimentary sequence of the Blufftown Formation and it has increasing amounts of dissolved solids, sodium, and bicarbonate concentrations. Both the A-5 and A-4 aquifers have low yields and are usually combined with other aquifers to produce adequate supplies. The A-3 aquifer correlates with the Cusseta Sand Formation. Yields from this aquifer range from 1-10 gpm in the area around the Installation. This aquifer is not considered an individual source aquifer (Georgia DNR, 1986).

3.3.2 Surface Water

The Chattahoochee River dominates the surface water regime at Fort Benning. The Chattahoochee River, along with the Flint River to the east, is a major component of the Apalachicola River drainage basin of eastern Alabama, western Georgia, and the Florida panhandle. The principal tributary on the Installation to the Chattahoochee is Upatoi Creek, which has several lesser tributaries flowing into it.

Most streams found within the Installation boundary drain into the Chattahoochee River. A very small area in the southeast corner of the Installation drains into the Flint River Basin to the east. These two rivers join to the south and flow into the Gulf of Mexico. The largest body of water associated with the northeastern portion of the Installation is the Chattahoochee River, a major perennial stream that flows broadly over extensive lowlands in a southerly direction, separating the Georgia and Alabama portions of Fort Benning. Numerous oxbows, abandoned meander channels, isolated ponds, and wetland areas are found along the Chattahoochee River. Another significant surface water body is Upatoi Creek, which serves as the source of surface water withdrawal for drinking water, residential, commercial, and other uses on Fort Benning (INRMP, 2001). It is a major perennial stream and serves as the main drainage basin for the other streams and tributaries on Fort Benning, eventually emptying into the Chattahoochee River.

3.3.3 Stormwater

Storm water discharge in the Main Post districts of Fort Benning, GA, drains directly into the Chattahoochee River through a storm drain system. Other stormwater on the Installation drains via culverts, ditches, swales, and natural seepage and overland flow. Stormwater from the satellite cantonment areas of Harmony Church, Kelley Hill and Sand Hill, as well as the training compartments, drain directly or indirectly into nearby surface water bodies.

3.4 Wetlands

Fort Benning has an overlay map of the wetland areas on Post that was generated from data obtained from National Wetland Inventory (NWI) maps (also available at DPW for review) and USDA Natural Resources Conservation Service county soil surveys that show soil types that are hydric. Color infrared aerial photographs, and the terrain analysis for Fort Benning also provide information on hydric soils.

3.5 Wildlife

Fort Benning is inhabited by approximately 345 species of wildlife (personal communication, Swiderek, 2004). These include 152 species of birds, 47 species of mammals, 47 species of reptiles, 24 species of amphibians, 67 species of fish, and 8 species of mussels (shellfish) (INRMP, 2001). Wildlife has many values including outdoor recreation, aesthetics, environmental monitoring, ensuring proper function of the ecosystem, providing sources of domestic stock, and many more. State and/or Federal laws protect most species of wildlife, to various degrees. Harvest of game species, such as White-tailed deer (*Odocoileus virginianus*), Wild turkey (*Meleagris gallopavo*), Bobwhite quail (*Colinus virginianus*), rabbits (*Sylvilagus sp*), catfish (*Ictalurus sp.*), and Largemouth bass (*Micropterus salmoides*), is regulated by Installation personnel, Georgia Department of Natural Resources, Alabama Department of Conservation and Natural Resources, and the US Fish and Wildlife Service. Federal and state laws regarding hunting and fishing are addressed in USAIC Regulation 200-3 (Hunting and Fishing Regulation). Specific requirements for protection of some species of wildlife on Fort Benning (such as the Red-cockaded woodpecker and Gopher tortoise) are contained in USAIC Regulation 210-4 (Range and Terrain Regulation) and in Fort Benning's Endangered Species Management Plans. A more detailed discussion of wildlife, to include Federally and/or state protected species, is available in the Fort Benning INRMP. In addition, management of pesticide use and/or policies in portions of the Installation containing sensitive species and their habitat is discussed in more detail in the IPMP, Appendix A.

3.6 Hazardous and Toxic Materials/Waste

Fort Benning's Hazardous and Toxic Materials/Waste Management program has three major functions: (1) storage, handling, and disposal; (2) waste minimization; and (3) remediation. A detailed discussion of these programs is presented in the Installation Hazardous Waste Remedial Actions Program (HAZWRAP). Fort Benning operates under Hazardous Waste Facility Permit [Resource Conservation and Recovery Act (RCRA) Part B] No. HW-021 (S)-2 and Facility I.D. No. GA3210020084. These documents are available for review at the offices of the EMD.

Pesticides are classified as hazardous materials and their storage, use, and disposal are therefore regulated by Installation policy and guidelines, as well as by applicable Federal and state laws and regulations. These restrictions apply to both military and civilian personnel, whether civil service or contract.

3.7 Protection of Children

Executive Order (EO) 13045, Protection of Children from Environmental Health risks and safety risks, was issued on April 21, 1997. A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and

safety risks. These risks arise because children's neurological, immunological, digestive, and other bodily systems are still developing; children eat more food, drink more fluids, and breath more air in proportion to their body weight than adults; children's size and weight may diminish their protection from standard safety features; and children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves (Clinton, 1997).

The EO requires that the Army and other Federal agencies make it a high priority to identify and assess environmental risks that can disproportionately affect children. The EO defines environmental health and safety risks as risks to health or to safety that are attributable to products or substances that children are likely to come in contact with or ingest (such as the air they breathe, the food they eat, the water they drink or use for recreation, the soil on which they live and play, and the products which they use or to which they are exposed).

On Fort Benning, the primary locations where children may come into contact with pesticides includes in Army family housing units and Army-operated schools, recreation centers, and playgrounds.

4.0 ENVIRONMENTAL CONSEQUENCES

This section presents an analysis of the potential environmental consequences of each alternative on potentially affected media. Mitigation for potential adverse effects, when applicable, is also discussed. Preliminary analysis of the alternatives resulted in a finding of no potential effect on several media, such as Wildlife, Air Quality, or Protection of Children; therefore, these media will not be analyzed further in this section.

4.1 Soils and Vegetation

The threshold level of significance for soils is any ground disturbance or other activities that would violate applicable Federal or state laws and regulations, such as the Georgia Erosion and Sedimentation Control Act (ESCA), and the potential for Notices of Violation (NOV) for the failure to receive applicable state permits. The threshold level of significance for vegetation is loss of vegetation at a level that would substantially reduce the occurrence of a plant species or degrade the habitat of a dependent animal species at a population level on the Installation. Vegetation discussed below refers both to under-story or ground cover, such as grasses, and over-story cover, such as mature pines and hardwoods.

Alternative I: No Action/Status Quo - The no action alternative would maintain existing practices with respect to consideration of pest management and its impacts on soils and vegetation. Pesticide mixing facilities are designed and operated to prevent accidental spills. If an accidental spill should occur, clean-up procedures outlined in the Fort Benning IPMP and Installation SPCC is followed so that contamination of soil surfaces are minimized, avoided, or reduced as much as possible. The required rinse and disposal procedures would also be followed so there would be no residual pesticides discharged into or dumped onto the soil. Overall, this alternative would result in no effect to soils and vegetation; no mitigation is proposed.

Alternative II: Implement Fort Benning IPMP - Implementation of the IPMP should have a beneficial effect on soils at these facilities. The IPMP includes procedures whereby any pest management or investigation activities, having the potential to erode or degrade soils are coordinated with installation land managers before these activities are undertaken. Pesticide mixing facilities are designed and operated to prevent accidental spills. If an accidental spill should occur, clean-up procedures outlined in the Fort Benning IPMP and Installation SPCC would be followed so that contamination of soil surfaces are minimized, avoided, or reduced as much as possible. The required rinse and disposal procedures would be followed so there would be no residual pesticides discharged into or dumped onto the soil. Overall, this alternative would result in no effect to soils and vegetation; no mitigation is proposed.

4.2 Water Quality and Wetlands

The threshold level of significance for water quality is the violation of applicable Federal or state laws and regulations, such as the Clean Water Act and the Georgia Water Quality Control Act, and the potential for NOV for the failure to receive applicable Federal and state permits, such as a NPDES permit (required for all projects one acre or more in size), prior to initiating a proposed action. The threshold level of significance for wetlands is a change from one wetland type or function to another.

Alternative I: No Action/Status Quo – This alternative would consist of maintaining existing practices with respect to pest management, which currently has no known effects on surface water, groundwater, or wetlands due to continued adherence to Installation guidelines, per AR 200-5. No mitigation is proposed.

Alternative II: Implement Fort Benning IPMP - There would be no effects to surface water, groundwater, or wetlands as a result of implementing the Fort Benning IPMP. The IPMP sets up standard operating procedures whereby all pest management activities avoid adversely affecting surface water sources. Those actions that have the potential to impact surface water would be coordinated with the EMD before being undertaken. Prior to any deliberate application of pesticides to surface waters to control pests--such as aquatic weeds or mosquito larvae—or activities related to the construction of new facilities, the plan requires coordination with the EMD to determine if a NPDES permit is necessary.

Pesticide mixing facilities are designed and operated to prevent accidental spills. If an accidental spill should occur, clean-up procedures outlined in the Fort Benning IPMP and Installation SPCC and NPDES Municipal Separate Storm Sewer System (MS4) requirements would be followed so that run-off to any surface water is avoided or reduced as much as possible. The required rinse and disposal procedures would be followed so that there would be no residual pesticides entering any storm water catchments. Overall, this alternative would result in no effect to water quality and wetlands; no additional mitigation is proposed.

4.3 Hazardous Materials and Wastes

The threshold for determining significance of effects for hazardous materials and waste is the violation of applicable Federal, state and local requirements, or noncompliance with the Installation's hazardous waste (RCRA Part B) permit.

Alternative I: No Action/Status Quo – Any hazardous materials and wastes (to include pesticides) would have to be managed in accordance with existing regulations. Potential spills/releases may include discharge and/or improper disposal of chemicals; however, adherence to existing Installation, state, and Federal laws, regulations, and guidelines minimize the potential for adverse effect. Overall, this alternative would result in no effect to hazardous materials and wastes; no mitigation is proposed.

Alternative II: Implement Fort Benning IPMP - Any hazardous materials and wastes (to include pesticides) would have to be managed in accordance with existing regulations. Potential spills/releases may include discharge and/or improper disposal of chemicals; however, adherence to existing Installation, state, and Federal laws, regulations, and guidelines minimize the potential for adverse effect. Overall, this alternative would result in no effect to hazardous materials and wastes; no mitigation is proposed.

4.4 Protection of Children

The threshold level of significance for the Protection of Children is the potential for environmental health and safety risks attributable to products or substances that children are likely to come in contact with or ingest (such as the air they breathe, the food they eat, the water they drink or use for recreation, the soil on which they live and play, and the products which they use or to which they are exposed).

Alternative I: No Action/Status Quo – The no action alternative would maintain existing conditions with respect to consideration of pest management and its impacts on children. No plan now exists--except compliance with pesticide labels--to ensure that Fort Benning considers the impacts of pest management activities could have on children. Although the likelihood is small, maintenance of existing conditions could have an adverse effect upon children. Overall, this alternative would result in no effect; no mitigation is proposed.

Alternative II: Implement Fort Benning IPMP - No potential adverse effect would be expected as a result of this alternative. The IPMP--by adopting the best management practices of IPM in schools--should improve the protection of children at Fort Benning. Overall, this alternative would result in no effect; no mitigation is proposed.

5.0 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) defines cumulative impacts as the "impact on the environment which results from the incremental impact of the action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (1508.7 CEQ, 1978). The actions/projects, with the potential to result in incremental impacts all occur within a well-defined and specific geographical (spatial) region of influence (ROI); in addition, the projects are also limited on a temporal basis, since they all have the potential to be implemented within a 20-year period, as indicated by the planning documents obtained for Fort Benning, Columbus, and Phenix City. Only those actions with the potential to result in incremental impacts, when added to the implementation of the Fort Benning IPMP, are detailed below. For a more comprehensive listing of future projects in the Fort Benning-Columbus-Phenix City area, refer to the Final Environmental Impact Statement for the Digital Multi-Purpose Range Complex (April 2004), which is available for review on the Installation web page (http://www.infantry.army.mil/EMD/_program_mgt/legal/index.htm).

5.1 Past Present and Reasonably Foreseeable Actions in the ROI

The communities in the ROI contain numerous residential developments, commercial/retail facilities, industrial activities, and recreational opportunities. Pesticide use is common as a part of new construction projects; all construction contractors are required to ensure that all hazardous materials, to include pesticides, are stored and disposed in an appropriate manner and in accordance with all applicable Installation policies and guidelines and Federal and state laws and regulations. This includes hazardous materials storage lockers and, if appropriate, satellite accumulation points. For additional details regarding these responsibilities, see Appendix A. Two years ago, Columbus and Fort Benning completed a "Land Exchange," swapping two parcels of land, known as the North Tract and the South Tract, for which an EIS and ROD were prepared. Columbus is currently developing the North Tract land conveyed to it, a 2,470-acre parcel located adjacent to the Fort Benning northwestern boundary line. Development of the North Tract will be primarily industrial, mixed with recreational land use. In exchange, Fort Benning received the South Tract land, a 2,536-acre parcel located at the southernmost end of the Installation, which is currently being utilized by the Installation for training and land management (reforestation and habitat restoration) purposes; future use of the South Tract may also include land-navigation training.

FY03 Barracks Project (ongoing) – Work will consist of the construction of a new barracks complex along Dixie Road, Main Post, Fort Benning, GA. The new barracks would be located across from the existing Easley and McAndrews ranges. The project would also include the demolition of six existing buildings. Approximate size of the overall project area is 30-35 acres.

Modularity Program (FY05) –Work will consist of the development of a Unit Action Complex on Fort Benning for the placement of modular buildings in support of additional personnel associated with the temporary stationing (approximately 6 years) of the 5th Brigade of the 25th Battalion. The complex would include site development, construction, and utility connections and distribution. It is not currently known if this Unit of Action and its associated complex will be permanently attached to and built at Fort Benning or if it will be reassigned at some point in the future. However, preliminary analysis and siting is occurring in readiness for

when Fort Benning is chosen to receive this construction and additional personnel. Approximate size of the overall project area is 30-35 acres.

Receptee Barracks (FY07) – Work would consist of the construction of additional barracks, a dining facility, Soldiers' community center, and physical training building with a running track at Sand Hill. The project would also include the demolition of the existing dining facility. Approximate size of the overall project area is 10-15 acres.

The implementation of the Fort Benning IPMP is limited in nature, since it consists of the application of the IPMP to Installation lands only; therefore, the ROI for the purposes of this EA is contained within the Fort Benning boundary and does not extend into adjacent communities. No potential incremental impact, either adverse or positive, is predicted for wildlife, environmental justice, air quality, hazardous materials and wastes, or the protection of children; therefore, these media are not discussed below. The threshold level of significance for the media below is the same as previously defined in Section 4.0.

5.2 Assessment of Impacts by Media

5.2.1 Soils and Vegetation

No Action/Status Quo - Past, present, and future actions in the ROI, such as new construction, maintenance of existing facilities, and the routine pest management actions related to these actions, have the potential to contribute to minor soil contamination, due to potential spills and accidents during construction and maintenance activities and as a result of chemical pest management activities, when needed. In particular, the construction of the barracks on Main Post, Sand Hill, and Kelley Hill are the projects that have the potential for incremental impacts due to the application of pest management practices on the soils and vegetation in the ROI. Legally required mitigation measures, such as secondary containment and proper hazardous materials (such as pesticides) management, would help minimize potential soil contamination and damage to vegetation. Overall, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse impacts to soils and vegetation in the ROI.

Preferred Alternative - Actions and potential impacts in the ROI would be the same as in the No Action/Status Quo Alternative. Overall, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse impacts to soils and vegetation in the ROI.

5.2.2 Water Quality and Wetlands

No Action/Status Quo - Past, present, and future actions in the ROI, such as new construction, maintenance of existing facilities, and the routine pest management actions related to these actions, have the potential to contribute to potential contamination of water and adjacent wetlands on the Installation, due to potential spills and accidents during construction and maintenance activities and as a result of chemical pest management activities, when needed. In particular, the construction of the barracks on Main Post, Sand Hill, and Kelley Hill are the projects that have the potential for incremental impacts due to the application of pest management practices on the water quality and wetlands in the ROI. Legally required mitigation measures, such as secondary containment and proper hazardous materials (such as pesticides) management, would help minimize potential contamination. Overall, this alternative would

result in no potential for incremental impacts from ongoing activities and no cumulative adverse impacts to soils and vegetation in the ROI.

Preferred Alternative - Past, present, and future actions in the ROI, such as new construction, maintenance of existing facilities, and the routine pest management actions related to these actions, have the potential to contribute to contamination of water quality and adjacent wetlands, due to potential spills and accidents during construction and maintenance activities and as a result of chemical and non-chemical IPMP activities. In particular, the construction of the barracks on Main Post, Sand Hill, and Kelley Hill are the projects that have the potential for incremental impacts due to the implementation of the IPMP on the Installation. Legally required mitigation measures, such as secondary containment and proper hazardous materials (such as pesticides) management, would help minimize potential contamination. Overall, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse impacts to soils and vegetation in the ROI.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Alternative II, "Implement Fort Benning IPMP," is the recommended course of action because it meets the purpose and need for the action while resulting in minimal, if any, potential adverse effects. All potential adverse environmental effects would be subject to the appropriate mitigation, permitting, and monitoring, in accordance with NEPA and other Federal and state laws and regulations. Based upon the findings and conclusions of this EA, a Finding of No Significant Impact is appropriate and the preparation of an EIS is not required.

7.0 AGENCIES AND PERSONS CONSULTED

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ENVIRONMENTAL ASSESSMENT FOR IMPLEMENTATION OF THE INTEGRATED PEST MANAGEMENT PLAN, FORT BENNING, GEORGIA AND ALABAMA

APPENDIX A

INSTALLATION PEST MANAGEMENT PLAN

U. S. ARMY INFANTRY CENTER AND SCHOOL
FORT BENNING, GEORGIA 31905

February 2004

INSTALLATION PEST MANAGEMENT PLAN
FORT BENNING, GEORGIA

APPROVAL

This Installation Pest Management Plan meets the requirements of DODI 4150.7 and AR 200-5

Prepared By:

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EXECUTIVE SUMMARY

Fort Benning consists of approximately 182,000 acres of river valley terraces and rolling terrain, of which 12,000 acres are in Alabama. Stretching about 20 miles north south and east west, it covers three counties – Muscogee and Chattahoochee Counties in Georgia and Russell County in Alabama.

The contents of this plan applies to all activities and individuals working, residing or otherwise doing business on this Installation, and will be implemented to the maximum extent possible. At no time will pest management operations be done in a manner that will cause harm to personnel or the environment. Pest management responsibility will begin with those individuals that occupy or maintain buildings or open space on the Installation. Non-chemical control efforts will be used to the maximum extent possible before pesticides are used. This plan will be a working document and will be continually updated to reflect actual pest management practices. The pest management plan for Fort Benning describes the Installation's pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety and environmental requirements of the program. The program uses certified Government and contract pest management technicians to control pests.

Pests included in the plan are weeds and other unwanted vegetation, termites, mosquitoes, crawling insects (ants, crickets, cockroaches, etc.) and spiders, mice, gophers, and other vertebrate pests. Without control, these pests could interfere with the military mission, damage real property, increase maintenance costs and expose installation personnel to diseases. Actual pest management procedures are found in the Integrated Pest Management Outlines included as Appendix B.

The Installation Pest Management Plan (IPMP) is a component of the Real Property Master Plan and will be coordinated with Fort Benning's Master Plan and other component plans (e.g., Integrated Natural Resources Management Plan, Integrated Cultural resources Management Plan).

CHAPTER I. INTRODUCTION

A pest can be defined simply as any plant, animal, or other organism (except for human or animal disease-causing organisms) in a location where it is not wanted. Herbicides, insecticides, and other pesticides are used in accordance with all applicable regulations and directives.

1.1. PURPOSE AND SCOPE

The primary purpose of Fort Benning's Integrated Pest Management Plan (IPMP) is to be a working document and will be continually updated to reflect actual pest management practices on Fort Benning. This plan provides guidance for operating and maintaining an effective pest management program. Principles of integrated pest management (IPM) are stressed in the plan. IPM consists of the judicious use of both chemical and non-chemical control techniques to achieve effective pest management with minimal environmental contamination. Adherence to the plan will ensure effective, economical and environmentally acceptable pest management and will maintain compliance with pertinent laws and regulations. In IPM programs, treatments are not made according to a predetermined schedule; they are made only when and where monitoring has indicated the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least disruptive to natural pest control.

Additionally, satellite areas under the administrative control of Fort Benning are identified and briefly described.

1.2. AUTHORITY

DoD Directive 4150.7, DoD Pest Management Program, 22 April 1996, specifically identifies those implementation responsibilities that installations have for pest management. These responsibilities address various aspects of a pest management program, including: pest management plan development, self-help programs, pesticide application, record keeping, contracts, and quality assurance.

Army Regulation 200-5, Pest Management, dated 29 October 1999, identifies general requirements for the contents of Installation Pest Management Plans (IPMP), as well as criteria for achieving integration with the Installation's mission and other activities. Implements DoD policies to protect health, property, and natural resources from damage by insects, weeds, and other species in ways that promote training and readiness with minimum risks to the environment

Army Regulation 200–3: identifies the administration of pest management operations that pertain to the management of an installation's natural resources (threatened species and their habitats, fish and wildlife, aquatic resources, and lands for recreation, commercial forestry, and agricultural and grazing leases).

Army Regulation 40–5: identifies the requirements for protecting human health from occupational exposure to pesticides and other risks from pest management operations. Section 10–3.b. (1) of Army Regulation 40–5 requires the Installation Medical Authority to review installation pest management programs and plans.

Army Regulation 215–1: identifies the administration of pest management operations on golf courses (provides policies and procedures that influence pest management operations at installation golf courses).

Army Regulation 200-4: designed to ensure that Army installations make informed decisions regarding the cultural resources under their control in compliance with public laws, in support of the military mission, and consistent with sound principles of cultural resource management.

1.3. PLAN REVIEW AND REVISION

The IPMP is intended to be a living document. This is in keeping with an adaptive integrated pest management approach to pest management. By Department of Defense and U.S. Army policy, the IPMP is required to be reviewed annually and updated (revised) if necessary, updated as mission or environmental changes warrant, and otherwise updated at least every five years. Each updated version of the IPMP must be approved by the Army Environmental Center (AEC) before execution.

CHAPTER II. RESPONSIBILITIES

2.1. INSTALLATION COMMANDER
a. Designate a Pest Management Coordinator for all pest management activities.
b. Approve and support the Integrated Pest Management Plan (IPMP).
c. Ensure that Installation personnel performing pest control receive adequate training, and achieve pest management certification as required.
d. Ensure that all pest management operations are conducted safely and have minimal impact on the environment.

2.2. DIRECTOR OF FACILITIES, ENGINEERING AND LOGISTICS
2.2.1. Environmental Management Division
The Environmental Management Division (EMD) is responsible for the overall coordination and oversight of Fort Benning's pest management program, natural resources component and this operational plan. The chief of this division is designated the Installation's Environmental Coordinator. The Environmental Coordinator will work closely with the Installation's Pest Management Coordinator, on issues involving pest management.

2.2.1.1. Environmental Programs Management Branch: Pest Management Coordinator.
a. Prepare, monitor, and update the IPMP.
b. Coordinate with activities conducting pest surveillance or controlling pests to ensure all applicable information is recorded and reported as required by this plan.
c. Monitor the sale and distribution of pesticides on the Installation.
d. Function as a point of contact between those individuals who store and apply pesticides (e.g., public works, golf course, pest control contractors) and activities or individuals who document or deal with pesticide use in their programs (e.g., Environmental Office, Safety Office, Fire Department, Industrial Hygienist).
e. Oversee the technical aspects of the self-help program with respect to pest control items and training of family housing residents.
f. Monitor certification and continuing pest management training for pesticide applicators on the Installation.
g. Coordinate and monitor contracts dealing with pesticide application and keep a copy of each contract on file. IAW AR 200-5 - (2.14), all contracts involving pest management services not referenced in this IPMP must be forwarded to the Army Environmental Center (AEC) for review and approval, prior to implementation of the contract.
h. Coordinate with local, State and Federal agencies, as necessary, to conduct the Installation's pest management program.
i. Provide answers to questions concerning pest management from the Installation Commander, the Major Command, and Department of the Army (DA).
j. Coordinate any commercial activities' reviews and leasing agreements following the Army Pest Management Program and the IPMP.

2.2.1.2. Land Management Branch: Timber Management Section
The Land Management Branch (LMB), Timber Management Section is responsible for managing the Kudzu Containment Project and the Forest Insect and Disease Suppression Project as part of the Timber Management Program (Fort Benning Natural Resources Management Plan). Each of the pests considered under these two projects could have a direct adverse effect on Fort Benning's timber resources. As a result, the Timber Management Section is responsible for monitoring their occurrences and impacts, as well as for implementing containment / suppression measures.

2.2.1.3. Conservation Branch
The Conservation Branch (CB) is responsible for the management of certain undesirable plants, management of undesirable animals on mission lands, and capture and removal of bats and other nuisance vertebrates (except for stray cats and dogs) in the cantonment area (Fort Benning Natural Resources Management Plan). Contract services are being used as an alternative for some pest control functions.
a. Determine some pest management requirements for the Installation.
b. Initiate requests for exclusion work when necessary.

c. Request and monitor contract pest management operations.
d. Obtain and maintain adequate supplies of pesticides and pesticide dispersal equipment, and ensure that equipment is properly maintained.
e. Maintain adequate records of pest management operations.

2.2.2. Engineering Division
The Engineering Division must ensure that necessary pest management construction / protection procedures are used from the outset for all construction projects. All plans and specifications should be reviewed by the EMD as they relate to pest management. The Engineer Division also ensure that the quality assurance and surveillance functions are performed by personnel certified and trained in contract performance inspection and pest management, and whose duties include surveillance of commercial pest management services to ensure performance complies with contract specifications and legal requirements.

2.3. DIRECTOR OF COMMUNITY ACTIVITIES
a. Obtain and maintain adequate Golf Course supplies of pesticides and pesticide dispersal equipment, and ensure that equipment is properly maintained.
b. Ensure that Golf Course personnel performing pest control receive adequate training, and achieve pest management certification.
c. Maintain adequate records of pest management operations and submit monthly reports to the EMD.

2.4. U.S. ARMY MEDICAL DEPARTMENT ACTIVITY (MEDDAC)
2.4.1. Preventive Medicine Service.
(1) Conduct surveillance for pests that could adversely affect the health and welfare of the Installation.
(2) Coordinate with local health officials to determine the prevalence of disease vectors and other public health pests in the area surrounding the Installation.
(3) Perform sanitation inspections, as needed.
(4) Evaluate the health aspects of the pest management program.

2.4.2. Veterinary Services.
(1) Conduct surveillance for pests, which destroy food stored in installation facilities.
(2) Provide advice to pet owners concerning pests that may adversely affect their animals.

2.4.3. Industrial Hygiene
(1) Conduct training on the proper use of Personal Protective Equipment

2.6. BUILDING OCCUPANTS.
a. Apply good sanitary practices to prevent pest infestations.
b. Use all non-chemical and chemical pest control techniques available through the self-help program to the fullest extent before requesting further assistance from installation maintenance personnel.
c. Apply only those pesticides approved for use by the Environmental Management Division.
d. Cooperate fully with installation maintenance personnel and contractors in scheduling pest management operations, to include preparing the areas to be treated.

2.7. CONTRACT PEST MANAGEMENT PERSONNEL.
a. Be certified in accordance with FIFRA (reference (e)) by a State with an EPA-approved certification plan.
b. Provide evidence of certification and training in all appropriate pest management categories.
c. Use integrated pest management techniques to the maximum extent possible.
d. Control pests according to the provisions of this plan.
e. Operate in a manner that minimizes risk of contamination to the environment and personnel.
f. Provide labels and material safety data sheets for every pesticide used to the Environmental Management Division.
g. Use the least toxic and most effective and efficient technique and material.
h. Read and follow the pesticide label directions, know how to apply and handle these chemicals, and try to minimize the exposure to children, adults, and other non-target species.
i. Comply with the regulations and guidelines of all laws, rules and regulations, of any nature, applicable to safeguarding the environment.

CHAPTER III. INSTALLATION DESCRIPTION

The Fort Benning Army Installation is located in the southeastern United States (Figure 3) and is located in the lower Piedmont Region of central Georgia and Alabama, six miles southeast of Columbus, Georgia. It is the endpoint for Interstate Highway 185 and is situated near US Highway 27. It lies south and east of the cities of Columbus, Georgia and Phenix City, Alabama. The Installation occupies about 182,000 acres, about 170,000 acres of which are in Muscogee, Marion and Chattahoochee Counties, Georgia. Another 12,000 acres or so are in Russell County, Alabama. The Chattahoochee River meanders through the western part of the Installation and separates the Georgia and Alabama portions. Fort Benning is located within about 100 miles of Albany, Atlanta, and Macon, Georgia and Montgomery, Alabama. A comprehensive discussion regarding the natural environment (e.g. soils, geology hydrology, topography, floral and faunal communities) can be found in Fort Benning's Integrated Natural Resources Management Plan (INRMP). Topographical maps of Fort Benning filed in the Environmental Management Division Office, Building 6, Room 310. Copies of the Installation maps are found in Appendix E.

Fort Benning is the home of the United States Army Infantry School and Center and prides itself on being one of the world's premier warfighting schools and deployment centers. In peacetime Fort Benning's primary military activities include: training entry-level Soldiers, providing the Nation's primary facility for training the Infantry, conducting Airborne and Ranger candidate training, hosting the U.S. Army Western Hemisphere Institute for Security Cooperation, which has the mission to train cadets, noncommissioned officers, and officers from numerous Latin American countries and the Army's Noncommissioned Officer Academy, and providing a power projection platform for rapid deployment. Besides its resident training units, Fort Benning also is home to a number of tenant units that conduct much of their training at the Installation. Tenant units include the 3rd Brigade 3rd Infantry Division (Mechanized) and the 3rd Battalion 75th Ranger Regiment, as well as the 75th Ranger Regiment headquarters. Over 20,000 soldiers call Fort Benning home.

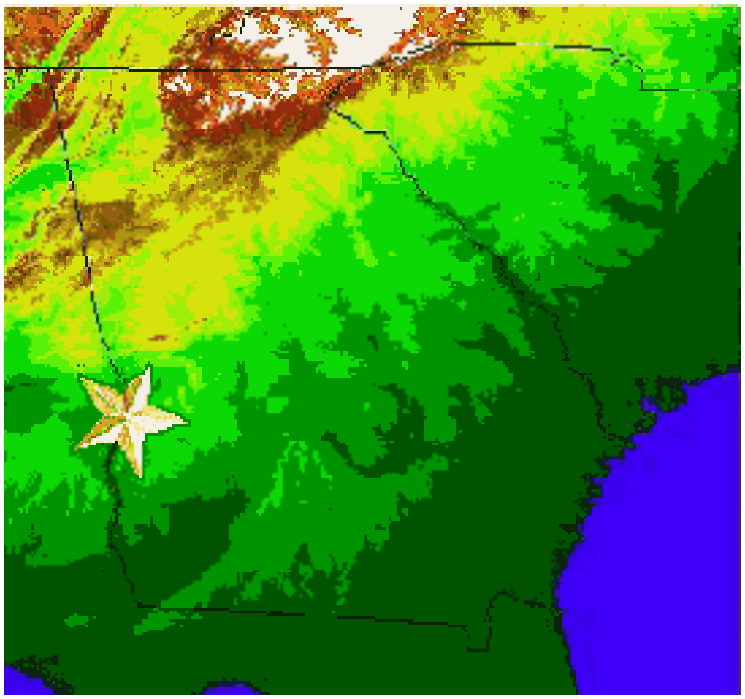


FIGURE 3

3.1. TOPOGRAPHY

Most of Fort Benning is located south of the Fall Line, however there is a small area of the Piedmont Province located in the northeastern part of the installation. The Fall Line is defined by the overlap of Coastal Plain strata on top of Piedmont rocks. This is also the area where the Piedmont basement rocks are first exposed in streams flowing to the Atlantic Ocean and the Gulf of Mexico (Gulf South Research Corporation 1999).

The location of Fort Benning in relation to the Fall Line makes the installation unusual. The result is the overlapping diversity of Piedmont and Coastal Plain habitats and the associated occurrence of ecotonal plant and animal communities. The effect is not limited to terrestrial communities, but also is reflected in the physical features and biotic composition of the streams that pass through or arise within the Installation. The predominately rolling terrain is highest in the east, rising approximately 740 feet above sea level, and lowest in the southwest along the Chattahoochee River, about 190 feet above sea level.

Along the Fall Line Sandhills, marine or fluvial sediments overlie crystalline rocks of the Piedmont. The crystalline and sedimentary deposits may be exposed in relatively close proximity. For this reason Fort Benning contains a varied topography. Upland slopes range from steep to gently sloping and comprise most of the land on the Installation. The remaining area consists of relatively flat uplands or terraces adjacent to or near the Chattahoochee River (Benson 1997).

3.2. SURFACE GEOLOGY

The sedimentary sequences of the Coastal Plain that overlie the crystalline basement rocks at Fort Benning consist of materials deposited during the Cretaceous, Tertiary, and Quaternary Periods. The Cretaceous Period sediments form the uplands and consist of the five following geologic formations. Descriptions are taken from Reinhardt and others (1994).

- Kr - Ripley Formation (Upper Cretaceous): Fine to very fine, calcareous quartz sand, massive burrowed to bioturbated, greenish-gray, weathers to dusky yellow, contains abundant muscovite, glauconite, and locally abundant carbonaceous debris; local clean quartz sand lenses. Ledge-forming, carbonate-cemented sand beds and calcareous concretions are common in upper part of unit. Thickness ranges from 133 to 250 feet. The Ripley Formation is found only along the southeastern boundary of Fort Benning. This area is also where the highest elevations on the Installation are found.
- Kc - Cusseta Sand (Upper Cretaceous): Medium to coarse quartz sand, pale yellow to light olive gray, thinly bedded to laminated clay, medium olive-gray to brownish-black, and micaceous fine sand, light olive-gray. Formation thickness ranges from 150 to 233 feet.
- Kb - Blufftown Formation (Upper Cretaceous): Fine sand to sandy clay, calcareous, glauconitic, and micaceous, light brownish-gray to olive-gray, interfingers with medium to coarse sand, quartzose, pale yellow. Locally abundant carbonaceous debris, shell beds, and calcareous concretions. Formation thickness ranges from 200 to 433 feet.
- Ke - Eutaw Formation (Upper Cretaceous): Fine to very coarse sand, very pale orange to yellow, and clay, brownish -gray. Thickness of the unit ranges from 100 to 280 feet.
- Kt - Tuscaloosa Formation (Upper Cretaceous): Fine to very coarse sand, pale yellowish-green to pale orange, crossbedded, quartzose and containing abundant potassium feldspar, interbedded with massive sandy clay, pale olive to reddish-brown, locally mottled. Gravelly and poorly bedded deposits at base difficult to distinguish from residuum on underlying crystalline rocks. Thickness ranges from 165 to 500 feet.

3.3. SOILS

There are two basic soil provinces on Fort Benning: the Georgia Sand Hills and the Southern Coastal Plains. The Georgia Sand Hills are a narrow belt of deep sandy soils with rolling to hilly topography. These soils are primarily derived from marine sands, loams, and clays that were deposited over acid crystalline and metamorphic rocks. South of the Sand Hills are the Southern Coastal Plain soils, which are divided into nearly level to rolling valleys and gently sloping to steep uplands. Southern Coastal Plain soils in this area have a loamy or sandy surface layer and loamy or clayey subsoil (Cooperative Extension Service 1993).

The soil surveys completed at this time by the U. S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) for Fort Benning on the Georgia side are for Chattahoochee and Marion Counties (Green 1997) and Muscogee County (Johnson 1983). The soil survey for Russell County, Alabama, is currently

being updated. The soil data for Russell County, Alabama used thus far has been unpublished. Based on the available soil survey data, most of Fort Benning's soils are identified as highly erodible. The degree of erodibility is determined by factors such as drainage, permeability, texture, structure, and percent slope.

3.4. CLIMATE

Fort Benning is located about 170 miles north of the Gulf of Mexico and 225 miles west of the Atlantic Ocean, with a climate classified as humid temperate. The seasons are well defined, with hot, humid summers and mild winters. The coldest month is usually January and the warmest month is usually July. Most summer days have high temperatures over 90ºF, with many reaching 95ºF, but seldom approaching 100ºF. The highest recorded temperature is 107ºF. The mean low temperature from November through February is 37ºF, but seldom drops below 20ºF. The lowest recorded temperature is 0ºF. Annual precipitation averages about 51 inches. Heaviest rainfall occurs in March, July, and December and the lightest in September, October, and November. Snow occurs occasionally, but usually quickly melts (National Climatic Data Center 1999).

3.5. HYDROLOGY

3.5.1. Stream Network and Impounded Water

The Chattahoochee River and the Flint River to the east are major components of the Apalachicola River drainage basin of eastern Alabama, western Georgia, and the Florida Panhandle. Most streams found within the Installation drain into the Chattahoochee River through Upatoi Creek on the Georgia side and Uchee Creek on the Alabama side. The most southern portion of Fort Benning drains directly into the Chattahoochee River, and the northwest portion of the Installation drains into Bull Creek. A very small area in the southeast corner of the installation drains into the Flint River Basin to the east. The proximity of Fort Benning to the Piedmont, Fall Line Sand Hills, and the Chattahoochee River increases diversity of streams within the Installation.

The largest stream associated with Fort Benning is the Chattahoochee River, which is a major river that flows through about 15 miles of the Installation, separating it into its Alabama and Georgia portions. Several dams have been built on the Chattahoochee River upstream and downstream of Fort Benning to regulate river flow and produce hydroelectric energy. The northern portion of Lake Walter F. George, on the Chattahoochee River, extends into the southwest portion of the Installation. The River Bend area, which is part of the Lake Walter F. George impoundment, constitutes the only lake on the Installation. Numerous oxbows, abandoned meander channels, isolated ponds, and wetland areas are found along the Chattahoochee River. Fort Benning receives its drinking water from the Upatoi Creek, which is a tributary of the Chattahoochee River.

On Fort Benning there are 14 man-made ponds that range in size from one to 72 acres. Additionally, numerous natural ponds such as beaver ponds are present.

3.5.2. Wetlands

The National Wetlands Inventory conducted by the U. S. Fish and Wildlife Service (1982) shows that Fort Benning contains about 16,926 acres of wetlands. The inventory described lacustrine, riverine, and palustrine systems. On Fort Benning wetlands include impounded water, flowing water, river floodplains, stream floodplains, small stream swamps, wooded seepage bogs, herbaceous and shrub seepage bogs, and gum/oak ponds.

3.5.3. Groundwater

Fort Benning is in the Coastal Plain hydrologic province of Georgia and Alabama, whose principal ground water source is the Cretaceous aquifer system. The aquifer systems are directly related to the various geologic formations. The Georgia Geologic Survey identifies these Cretaceous aquifers in the Fort Benning area as the A-3 through A-6 aquifers. Aquifer A-6 is part of the upper Tuscaloosa and the overlying Lower Eutaw formations. Aquifer A-5 is part of the basal sedimentary sequence of the Blufftown Formation. Aquifer A-4 is in the upper sedimentary sequence of the Blufftown Formation. The A-3 aquifer correlates with the Cusseta Sand Formation. The recharge area for these aquifers is the Sand Hills area, which includes Fort Benning (Georgia Department of Natural Resources 1986).

3.5.4. Fort Benning Area Hydrologic Unit

Fort Benning lies completely within the USGS Hydrologic Unit Code (HUC) 03130003. This hydrologic unit is located in parts of both Alabama and Georgia. This is a level of classification known as a cataloging unit and it

represents all or part of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature (Seaber and others 1987).

3.5.5. Watershed Management Units

Watershed management units were delineated at Fort Benning to use as a framework for monitoring water quality and erosion, watershed restoration projects, and for other management activities. Considering both the stream surface drainage network and an appropriate unit size for management purposes created the watershed management units at Fort Benning. The units had to be large enough for planning purposes, yet small enough to monitor. The watershed delineation for Fort Benning also includes those areas outside the Installation boundary that have close hydrologic connection to the Installation. Fort Benning is composed of 27 Watershed Management Units (WMUs) Fifteen of the WMUs occur completely or almost completely within the boundaries of the Installation and 12 of the WMUs are partially within the boundaries of Fort Benning.

3.6. LAND USAGE

Categories of Land Use

Fort Benning has approximately 182,000 gross acres of land with approximately 2700 buildings with a total square footage of 19,900,000. It is comprised of approximately 13,500 acres for cantonment and recreational areas, 16,100 acres of restricted dud impact area, 3,200 acres of ranges, and 6,400 acres of environmentally restricted / sensitive areas. Fort Benning also has approximately 142,200 gross acres for maneuver training.

The improved land areas, or the cantonment area, is located in the western part of Fort Benning and is divided into four major areas: Main Post, Sand Hill, Kelly Hill, and Harmony Church. Almost all of the military maintenance and production facilities, supply facilities, operation and training facilities, community facilities, schools, medical facilities, and family and troop housing are located in the cantonment area of Main Post. Also within this cantonment area are numerous recreational facilities, golf courses and swimming pools. There is one airfield.

Fort Benning's other lands are subdivided into military training compartments. Compartment designation facilitates the scheduling of particular types of military land use (training) in a safe and orderly manner. The remainder of this section briefly describes the types of military training that occur at Fort Benning.

3.6.1. Training Areas , Ranges, Drop and Landing Zones

Areas designated for mechanized training include the Delta and Oscar training compartments. The general characteristics that typify a mechanized training area are relatively flat and open terrain, with limited natural obstacles (such as creeks and thickly forested areas). Both light and mechanized units may train in these areas. There are 63 action firing and non-firing ranges, approximately 3,200 acres. Fort Benning has ranges to accommodate small arms from the M9, 9-mm pistol up to the M2 Browning 0.50 caliber. Large caliber weapons from the 25-mm Bushmaster Canon up to the 120-mm M1 Abrams also are accommodated. The Installation also supports both mortar and field artillery rounds from 60 mm mortar rounds up to 155 mm artillery rounds.

Fort Benning supports a wide range of training; for example, Airborne and air assault training are conducted here. To support these operations, drop zones and landing zones must be maintained to provide a place for parachutists and helicopters to land.

The units described above provide a home to over 20,000 Soldiers. Because these units are on a constant training cycle, at any given time both light and mechanized forces can be found conducting training on the Installation.

Fort Benning has 9 dud areas that can accommodate all munitions except Multiple Launch Rocket System, artillery greater than 155 mm, Stinger missiles, Line-of-Sight Anti-Tank Missile, and Air Force ordnance greater than 500 pound bombs.

Pest control activities in these areas include noxious weed and brush control. Also, in some of these areas prescribed burning is done to: (1) reduce levels of hazardous fuels, (2) prepare sites identified for reforestation for seeding and planting, (3) improve and maintain federally listed (threatened and endangered) species habitat (4) improve other native species habitat, especially forage for game species, (5) manage understory hardwoods, (6) control disease, (7) improve access, (8) enhance appearance, and (9) provide a safe training environment.

3.6.2. Cantonment Areas

Main Post

The Main Post cantonment area is the central developed and industrialized area on Fort Benning. The administrative area of Fort Benning is on Main Post and consists of: the Post Headquarters and support staff, the Infantry School, the Airborne School, the School of Americas, and various military unit headquarters. Additionally, family quarters, industrial shops, and Lawson Army Airfield is located here. The Fort Benning Commissary and Main PX are located in a mall complex between Main Post and Kelly Hill. Martin Army Community Hospital (MACH) is located close to the Commissary-PX mall.

The Main Post is bordered to the west and northwest by the Chattahoochee River and to the north by Upatoi Creek, a tributary to the Chattahoochee River. Pest control activities in this area normally includes general household pest, structural pests, stored product pests, public health pests, ornamental and turf pests, and vegetation control.

Kelley Hill

Kelley Hill cantonment area is the second most developed area on Fort Benning. Troop housing, recreational areas, and medical clinics are housed in this area. It is located to the northeast of the Main Post and is bordered on the north by Upatoi Creek, a tributary of the Chattahoochee River. Pest control activities in this area normally includes general household pest, structural pests, public health pests, ornamental and turf pests, and vegetation control.

Sand Hill

Sand Hill cantonment area is a developed and industrialized area that is located in the northern portion of the Installation and is bordered to the south by the Upatoi Creek, a tributary of the Chattahoochee River. Initial and advanced individual training is conducted in this area. Sand Hill includes an infantry-training center and eight 1,040-man “star-ship” billets, as well as several training areas, medical clinics, and recreation areas. Pest control activities in this area normally includes general household pest, structural pests, public health pests, ornamental and turf pests, and vegetation control.

Harmony Church

Harmony Church cantonment area is a developed area in the far eastern portion of Fort Benning. This area straddles a ridgeline. It includes various recreational areas, barracks, and medical facilities. Pest control activities in this area normally includes general household pest, structural pests, public health pests, ornamental and turf pests, and vegetation control.

CHAPTER IV. INSTALLATION PEST MANAGEMENT

4.1. HISTORY OF PROGRAM

The Pest Control Branch in the Directorate of Public Works handled traditional cantonment area pest management activities. The then Natural Resources Management Branch (now Conservation Branch) handled the nuisance vertebrate control actions in the cantonment area, with the exception of rodents, dogs, and cats.

4.2. CURRENT PROGRAM

Because of funding shortages and staff reductions, the Pest Control Branch was eliminated in 1999. See Appendix A for current guidance on pest management practices on Fort Benning and sites supported by the Installation. Majority of the pest control services performed on Fort Benning and sites supported by the Installation are contracted to 11 local pest control companies and are provided on an "on-call" basis. The companies that provide services for pest such as insects are, American Environmental Service, Cardinal Termite Control, Harmony Creek Pest Control, Extreme Pest Control, Imperial Pest Control, Knox Pest Control, Lyon's Pest Control, and Orkin Pest Control. The companies that perform services for unwanted vegetation are All-Pro Land Management, Bowman's Lawn and Landscape Management, and Osmose. Services are provided in accordance with the contractor guidelines (Appendix H). Copies of contractor certifications are also found in Appendix H.

Contracted certified pest control operators (PCOs) provides pest control services for Army family housing, administrative buildings, troop barracks, troop medical clinics, dining facilities, childcare facilities, schools and playgrounds, athletic fields, and other miscellaneous buildings at Fort Benning, Georgia and facilities supported by Fort Benning. Pest control services include the prevention and control of termites, mites, ants, ticks, cockroaches, spiders, crickets, earwigs, wasps, hornets, yellow jackets, rodents, and other crawling and flying nuisance pests. Presently, there are eleven different companies that perform pest control services on Fort Benning. Services are rotated through the following blocks of work:

The only organizations that use DoD certified personnel for pest control services are the Land and Conservation Branches, Preventive Medicine Section, and golf course personnel.

There is one pesticide storage and mixing facility on Fort Benning. It is located at the Follow Me Golf Course (Building 1190).

All family housing residents may cancel or reschedule services at any time prior to the Contractor performing the work at no cost to the government. Pest management on Fort Benning is categorized as follows:

Scheduled
DCA / MWR Facilities
Dining Facilities
Quarters 1
LAAF – aprons

Unscheduled
Miscellaneous Buildings
Occupied Housing
Unoccupied Housing
Other Nuisance Pests

4.3. SCHEDULED

Scheduled pest control is services that occur on a recurring regularly scheduled basis. These services include dining facilities, childcare facilities, commissaries, and some MWR facilities.

4.4. UNSCHEDULED

Unscheduled pest control services are performed on an as-needed basis. These services are usually called in as a service order. Family housing residents call the Pest Control Section and other activities call the work order desk (Miscellaneous Buildings).

4.4.1. Miscellaneous Buildings

Calls are received at the Work Order Reception desk and entered into a database for download by the Environmental Management Division. Guidance for obtaining pest control services for miscellaneous buildings is enclosed in Appendix A.

4.4.2. Family Housing

Family housing units are located in the following areas:

McGraw Manor	952 units total	902 3-bedroom units;	50 4-bedroom units
Custer Terrace	883 units total	236 2-bedroom units;	647 3-bedroom units
Indianhead Terrace	457 units total	70 3-bedroom units; 3	87 4-bedroom units
McDonald Manor	83 3-bedroom units		
Norton Court	80 3-bedroom units		
Ragin Court	80 3-bedroom units		
East Main Post	573 units total	515 3-bedroom units;	58 4-bedroom units. Units are located on Vibbert Ave, Eames Ave, Iron Triangle, Miller Loop, Rainbow Ave, Austin Loop, Sigerfoos Rd, Lumpkin Rd, Baltzell Ave, White Elephants & Perkins Place.
Bouton Heights	514 units total	124 2-bedroom units;	230 3-bedroom units; 160 4-bedroom units
Davis Hill	300 units total	290 4-bedroom units;	10 5-bed room units

4.4.2.1. Self Help Pest Management

Prior to requesting contracted pest control services, residents are required to exhaust self-help capabilities. It is important that IPM strategies be used to control minor pest problems in housing and minimize the use of pesticides. Housing occupants are encouraged to use IPM techniques first before they go to the self-help store.

Weekly pest management training is given as part of the Self-help introduction briefing. In this training, occupants are taught what methods can be used to exclude or prevent pests from becoming established in their homes in the first place. Also, occupants are given a copy of Citizen's Guide to Pest Control and Pesticide Safety, as well as procedures for obtaining pest control services.

4.4.2.2. Occupied Housing

After self-help items have been exhausted, the housing resident can then request pest control services. The procedures for obtaining services are found in Appendix A.

4.4.2.3. Vacant Housing

When the occupants vacate family housing units, a pest control operator treats the unit in order to prepare the unit for the next resident. On average, seven vacant housing quarters are treated per day.

4.4.3. Other Nuisance Pests

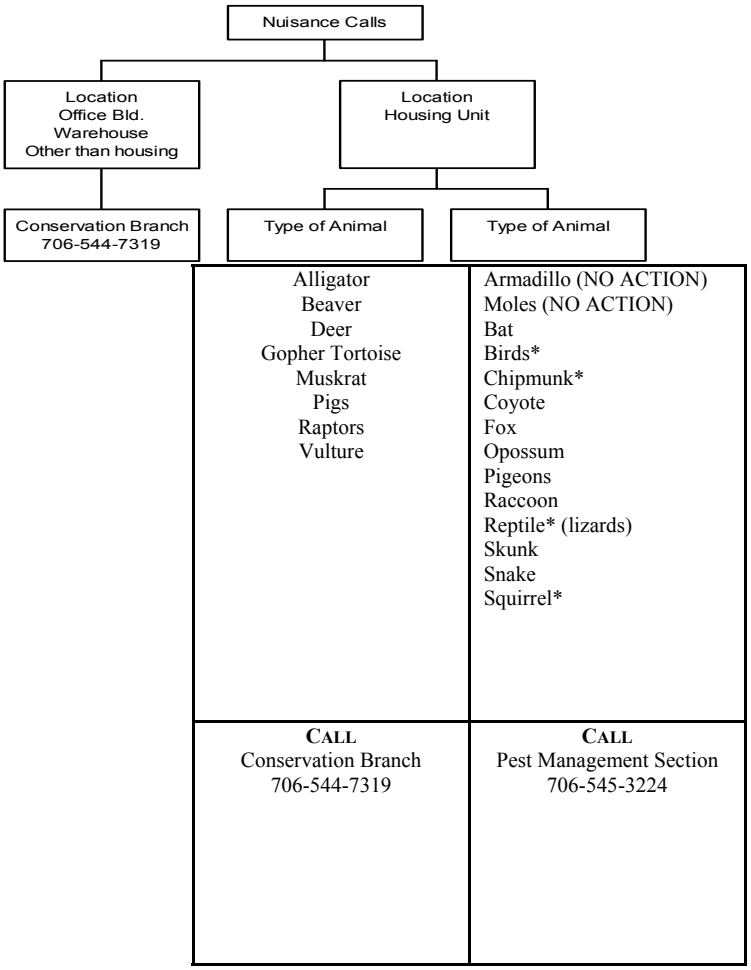
Occasionally, wildlife can become a nuisance at any hour of the day. Often, habitat modification, behavior modification, or a combination of the two can eliminate nuisance wildlife problems. The DFEL is interested in protecting wildlife species and resolving conflicts between personnel and wildlife but funding and personnel

resources are limited. Therefore, response to a complaint will be based on certain criteria (is it an immediate threat inside a building (snake, bat); is it an injured/sick raptor (hawk, owl, eagle) or endangered species; is it a nocturnal animal wandering around during the day (fox, raccoon).

Fort Benning has implemented procedures to handle nuisance wildlife complaints. Depending on the type of the complaint, either the Conservation Branch or a certified wildlife vendor will respond. The guidelines include procedures for the nuisance wildlife vendor, bat handling procedures, procedures for suspicion of rabies, and the following chart (Nuisance Wildlife Calls). A copy of the guidelines is located in Appendix A.

Because Fort Benning currently uses only one vendor that is certified to perform trapping and licensed to control nuisance wildlife, the response time varies.

Nuisance Wildlife Calls



*** No action unless inside house.**

4.4. NATURAL RESOURCES PEST MANAGEMENT

Guidelines for natural resources pest management titled "Pest Management Program: Natural Resources Component Operational Plan are found in the Fort Benning Integrated Natural Resources Management Plan Appendix B11.

4.5. GOLF COURSE PEST MANAGEMENT

Guidelines for golf course pest management are found in the Fort Benning Integrated Natural Resources Management Plan Appendix B11. A copy of the most recent updated chemical inventory sheet is located in Appendix D.

CHAPTER V. INTEGRATED PEST MANAGEMENT (IPM)

Pest management at Fort Benning involves control or prevention of wide range of insects and pests including cockroaches, rodents, termites, ants, weeds, and nuisance animals (bats, snakes). Treatments are not made according to a predetermined schedule. Instead, they are made only when and where there has been an indication that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least-hazardous to non-target organisms and the general environment. It is not merely a reaction to a pest problem. It is, as indicated, a process which when followed, provides effective control.

The principles and techniques of integrated pest management shall be used to control all pests. The procedures for implementing integrated pest management shall be as follows:

- identify the problem and the pest(s) responsible as accurately as possible
- evaluate all available management and control alternatives and establish an action threshold
- choose the safest, most economical, and most efficient solution that achieves the desired result with the least environmental impact
- time control and management techniques to achieve maximum beneficial results.

Depending upon the particular pest problem, certain situations may warrant continued use of pesticides at lower usage rates. In other situations, implementation of two or more of the following IPM practices may be the most effective control.

- **SANITATION** - The elimination of pest harborages, water and food sources to inhibit the survival of pests. It requires the cooperation of the customer, to provide the sanitary measures. To be effective in the use of other pest management controls, it is first necessary to insure that sanitation is addressed.
- **MECHANICAL -** Involves the use of traps, caulks, seals or barriers to prevent pests from entering, establishing and living in an undesired location. It may include excluding pests by using barriers, including screens, seals, nets and caulking, manually removing pests using hands, by vacuuming, or setting traps.
- **CULTURAL** - Involves manipulation of the pests environment to make it less favorable for the pest to exist. It may also be referred to as habitat modification. To accomplish this, there may have to be a change in normal practices or habits and thus make it harder to the pest populations to become established or to spread.
- **BIOLOGICAL** - The use of parasites, predators, or pathogens to control or manage pests.
- **CHEMICAL** - Should be the last control measure to be considered. There may be times when pesticides will have to be the first control strategy used because of the immediate need to significantly reduce or eliminate a pest population. This usually occurs in childcare and dining facilities, and some housing areas. There may be a situation involving a pest that threatens health or public safety. For example, a severe infestation of German cockroaches in a home or a yellow jacket nest near a school may require an immediate pesticide treatment. In general, however, pesticide applications should be made only after other control measures have been put in place.

In situations when exclusion work is needed or in areas where there is a continual failure to gain control, the Environmental Management Division may request Preventive Medicine to conduct an inspection to determine if a health hazard exists. If such a hazard exists, Preventive Medicine will document the hazard condition; however, this is not authorization to move occupants to another building.

IPM methods for common pests found on Fort Benning are located in Appendix B.

5.1. ANNUAL WORKLOAD FOR SURVEILLANCE PREVENTION AND CONTROL

The number of man-hours expended for surveillance, prevention, and control of pests on Fort Benning is currently under review and will be placed in Appendix E, in this document, at a later date.

5.1.1. Pre-Treatment Surveillance.

The work of an IPM program is to a large extent, surveillance. Much time is spent inspecting for rather than treating pests. When acceptable thresholds are reached, corrective actions are initiated. Surveillance methods include visual inspections, glue traps, aerosol flushing, and destructive or nondestructive termite inspections. Surveillance methods for typical pests found on Fort Benning are located in the following table.

PEST	SURVEILLANCE METHOD
Cockroaches	Visual, Glue traps
Ants	Visual, Glue traps
Other Arthropod Pests (Silverfish, Spider, Cricket, etc.)	Visual, Glue traps
Rodents	Visual, Fluorescent Black Light, Glue traps
Nuisance Birds	Visual
Termites	Visual
Carpenter Ants	Visual
Stored Products Pests	Visual
Adult Mosquitoes	New Jersey-type Light Traps, CDC Traps, Biting Counts, Resting Stations
Larval Mosquitoes	Dip Counts
Biting Flies	Visual
Filth Flies	Glue traps, Fly Grids, Light Attractant Traps,
Ornamental Pests	Visual
Turf Pests	Visual, Traps
Fire Ants	Visual
Weeds	Visual
Miscellaneous Pests	Visual

5.1.2. Post-Treatment Surveillance.

In order to evaluate the effectiveness of controls, surveillance is required after IPM measures are implemented.

The Fort Benning Quality Assurance and Surveillance Plan is located in Appendix F.

5.2. PRIORITY OF PEST MANAGEMENT.

5.2.1. Household Pests

Household pests are pests other than structural/wood destroying pests that invade residential homes and other buildings. Common household pests include insects such as ants, cockroaches, termites, flies, spiders and mice. These pests are very common on Fort Benning. Most pests need food, water and a place to live. Eliminating any one of those elements will help significantly in controlling the pest.

5.2.2. Disease Vectors and Medically Important Arthropods.

a. Mosquitoes

Mosquitoes are one of the primary pests located throughout all of Fort Benning. Most of the mosquitoes that bite personnel come from the artificial containers and small temporary pools of water located throughout the Post. Several viruses may be transmitted by species found on Fort Benning. Any treatment for mosquito control is initiated upon the recommendation of Preventive Medicine personnel.

To control the mosquito population, larvicide is applied to vegetative mosquito resting areas. When mosquito-borne diseases are found in the counties surrounding the Installation, then fogging may be required to control the adult mosquito population. Coordination for mosquito surveillance on Fort Benning is discussed in Appendix F, this plan.

b. Black Widow and Brown Recluse spiders

Black widow spiders are often found in undisturbed places such as dark corners, old limbs, wooden buildings, electrical boxes and pit latrines, and may rush out and bite when their webs are disturbed or when accidentally trapped in clothing or shoes. Spider bites are reported by the Health Clinic to the Preventive Medicine Section. If it is determined that pest control is needed, the appropriate control measures will be administered to help alleviate the problem.

c. Bees and wasps

Bees and wasps are found throughout the Installation. The stings are painful and cause allergic reactions in some people. These insects are normally a problem on Fort Benning during the spring and summer months. Pest control personnel treat nests.

5.2.3. Structural/Wood Destroying Pests

Subterranean termites cause damage to wooden buildings and other structures on the Installation. Treatment when termites are found has kept damage to a minimum. Carpenter ants occasionally invade wooden structures, particularly where wet conditions exist. Carpenter bees prefer to attack wood that is bare, weathered and unpainted. Annual surveys of wooden structures are necessary to find and treat structures in order to keep damage at a minimum.

5.2.4. Other Nuisance Pests

Nuisance pests include armadillos, rodents, moles, bats, birds, feral swine, snakes and squirrels. The chart in paragraph 4.4.4 lists the procedures to be followed for obtaining services to control these pests.

a. Mice and rats occasionally invade buildings. Gnawed materials in certain instances reveal the time when the rats were present. Badly damaged goods usually indicate the presence of large amounts of mice.
b. Snakes are present in virtually every conceivable habitat in the world. This includes Fort Benning. Snakes in housing areas are controlled using good sanitation and mechanical control methods.
c. Birds can cause problems on Fort Benning year-round. The major problem occurs during the hatching season when they get into the vents in family housing and under the eaves of the administration buildings.
d. Armadillos, foxes and raccoons occasionally enter family housing areas to prey on small pets.
e. Moles also exist on Fort Benning and are protected from poisoning by state law.

5.2.5. Ornamental Plant and Turf Pests.

Various insect pests, resulting in damage or destruction of the plants can infest trees and shrubs on Fort Benning. However, those harmful to grass often escape detection until after serious damage has occurred. These insects feed on plant roots, chew leaves, and suck plant juices. These pests include armyworms, grubs, chinch bus, mole crickets, aphids, beetles and molds. Pests that damage lawns and the golf course do cause damage and require continuing surveillance and control.

5.2.6. Stored Products Pests

Stored product pests may infest food items stored in places such as the Commissary, warehouses, shoppettes, and food service facilities. Occasional complaints are received from family housing residents. More than a dozen insect pests infest a wide range of foods including nuts, grain products (flour, corn, cereals, and pasta), birdseed, and spices. Stored product pests include a number of beetles (e.g., flour beetles, sawtooth grain beetle, and weevils) and moths (e.g., Indian meal moth and Angoumois grain moth).

5.2.7. Undesirable Vegetation

Weeds along fence lines, on road shoulders, paved surfaces (including runways and parking lots), require control using appropriate herbicides. Some control of unwanted plants is done mechanically (mowing, weedeaters, etc.). Management of noxious weeds such as kudzu is needed because it can be a major problem.

5.2.8. Other Pest Managemnent Requirements

Stray dogs and cats occasionally need to be captured on the Installation. Stray animal control in the main post area is accomplished by the Military Police. They are also responsible for dead animal carcass removal. Additionally, the requestor of any pest control service is responsible for removal of the dead pest and associated matter after treatment (i. e. wasp nests, mouse traps, glue boards).

5.2.9 Quarantine Pests

Occasionally, household goods may contain Gypsy Moths. When required, the local USDA inspector checks incoming materials for the presence of eggs, larvae, or adult moths that are usually found on outdoor furniture or swing sets. Retrograde cargo may be encountered infrequently, and will be inspected for pests on an individual basis.

CHAPTER VII. NATURAL AND CULTURAL RESOURCES PEST MANAGEMENT

The natural and cultural resources component of Fort Benning's Integrated Pest Management Program addresses those pests, and their management, that are of natural resources management concern, including any pest management activities associated with Fort Benning's Follow Me Golf Course and Lawson Army Air Field. Fort Benning contains a significant acreage of wetlands (about 14,000 acres), numerous streams and lakes, and significant amounts of habitat used by threatened and / or endangered species (either Federal and / or state listed). Many situations in which pesticides are applied to control pests at Fort Benning have the potential to contaminate surface or ground water or to adversely affect threatened or endangered species or their habitats, or wetlands.

Complete information pertaining to natural resources pest management, as well as golf course pest management can be found in The Fort Benning Integrated Natural Resources Pest Management Plan (INRMP).

Fort Benning is home to 96 species of conservation concern. This total includes 5 Federally threatened and endangered species and 6 state threatened and endangered species. Additionally, the Installation contains 15 Unique Ecological Areas (totaling about 21,400 acres) that represent the best potential examples of native plant and animal communities left on the Installation. Fort Benning also is inhabited, however, by at least 150 non-native plant species (Hastings and others 1997; supplemented by information contained in reports prepared by the state of Georgia's Natural Heritage Program). Except for kudzu, the impact of non-native plant species on Fort Benning is largely unknown. Twenty-five or more plant species, however, can be considered invasive to differing degrees (see Fort Benning INRMP section B11.7.1.2). With the exception of feral swine, even less is known about the potential impacts of non-native animals.

Control activities are conducted with in-house staff, by contract, or through cooperative arrangements (for example, with the U.S. Army Corps of Engineers). The Land Management Branch has two Department of Defense-certified pesticide applicators who are qualified to oversee the use of both backpack- and vehicle-mounted pesticide applicator systems, and two apprentice-applicators that will meet the requirements for DoD certification in FY04.

7.1. Threatened and Endangered Species Management

The purpose of this program is to ensure that installation actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species. The Threatened and Endangered Species Program is tightly integrated within the other Conservation and Land Management Branches sections and with other directorates on the installation. When construction or a training exercise is planned, a Record of Environmental Consideration (REC) is submitted as part of the National Environmental Policy Act process. The Record of Environmental Consideration is evaluated by Threatened and Endangered Species Program staff who determines the activity's impact on threatened and endangered species and then makes recommendations to protect these species. Long-term planning also is coordinated with Threatened and Endangered Species Program staff to minimize the impact on threatened and endangered species.

7.2. Cultural Resources

Cultural resources on the Installation consist of archeological sites, historic structures, and / or historic landscapes, and may include American Indian sacred sites and traditional cultural properties. Archeological sites are the material remains of past human activity, regardless of ethnic, racial, or otherwise culturally defined origin. Historic structures are those buildings and facilities that are over 50 years of age and / or those meeting the Secretary of Interior's Guidelines for eligibility for placement on the National Register of Historic Places (Register). Sacred sites and traditional cultural properties may be archeological sites or other locations that are recognized, especially by American Indians, as having religious importance or importance in the cultural practices or history of a Federally recognized Tribe or other group.

The Installation Integrated Cultural Resource Management Plan (ICRMP) integrate the entirety of the cultural and historic resources program with ongoing mission activities, allow for ready identification of potential conflicts between the installation's mission and these resources, and identify compliance actions necessary to maintain the availability of mission-essential properties and acreage. This ICRMP is the installation commander's decision

document for cultural resources management actions and for specific cultural resources compliance procedures on the Installation.

IPM has become the key strategy for managing insects in the historic areas and structures, as well as sites of archaeological importance, on the Installation. The IPM approach involves ongoing monitoring of insect populations to determine the nature and extent of infestation. It further demands that those factors that enable the pest to survive and reproduce be carefully controlled.

Some activities associated with pest management may involve mechanical control (i.e. ground disturbance for termite treatment, mowing), physical control (i.e. installation of barriers), and chemical control (i.e. use of a herbicide). Such activities include treating for pests that attack objects, infest buildings, attack structures, or harm historic landscapes. Consequently, this can present the potential for adverse impacts to cultural and archaeological resources management and may trigger compliance requirements. Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice, too, gnaw wood as well as plaster, insulation, and electrical wires. Prior to performing any pest control work that may adversely affect cultural resources, a FB Form 144-R is submitted for review.

7.3. Golf Course Pest Management

Turf health needs to be monitored regularly for the presence of problems. As problems develop, their causes must be determined and corrective measures evaluated. When problem solving in IPM, all management practices are considered along with the effects that each will have on the pests and other organisms in the area.

There are several benefits of using golf course IPM.

- Accurate pest control is achieved.
- Pesticide misuse can be minimized.
- The potential for reduction of total pesticide usage.

The Golf Course Pest Management plan has been incorporated into the Fort Benning INRMP, Appendix B11.

CHAPTER VIII. ENVIRONMENTAL PROTECTION

Precautions are taken during pesticide application to protect the public, on and off the Installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application is approved by the Environmental Management Division. Whenever pesticides are applied outdoors, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Protected migratory birds that periodically migrate through this installation cannot be controlled without a permit. No such control has been conducted.

Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and equipment. At no time are personnel permitted in a treatment area during pesticide application unless they have met the medical monitoring standards and are appropriately protected.

8.1. ENVIRONMENTAL POLICY

The National Environmental Policy Act (NEPA) requires environmental analysis of Army actions that may impact the environment. Commanders and Directors, as well as all their personnel, at Fort Benning are responsible for the quality of the general environment. The Environmental Management Division (EMD), staff is responsible for screening all activities taking place on the Installation and sites that Fort Benning supports.

8.2. CRITICAL HABITATS

Designating critical habitat is a tool to identify areas that are important to the recovery of a listed species. It is also a tool used to notify Fort Benning of areas that must be given special consideration when planning, implementing, or funding activities. The Installation is required to consult with applicable agencies on all actions that may affect critical habitat. Fort Benning currently has no designated critical habitats.

8.3. REQUIREMENTS COMMON TO ALL ORGANIZATIONS

In accordance with DODI 4150.7 E4.1.7.2, pest management consultants shall review and approve Installation contract documents for pest management operations included in augmentation contracts to ensure that appropriate pest management standards and IPM are specified.

Presently, all augmentation contracts used for maintenance services, outlease contracts, and pre-construction soil treatments for termite control, are required to be submitted to the Environmental Management Division for review. Approximately 65% of the contracts that contain pest management practices are being submitted to EMD prior to implementation. Increased coordination between Directorate of Contracting (DOC), USA Corps of Engineers (COE), DFEL – Engineering, and EMD must occur in order to achieve 100%. All contracts are reviewed in draft stages so that any additional requirements or changes can be incorporated easily into the contract. The proponent of the project that is using the contract is required to submit the project details to EMD for an environmental review early in the planning process by submitting project details on a FB Form 144-R to initiate NEPA review. The proponent includes draft contracts with the FB Form 144-R, if available. If the contract or contractor's actions for the project change, the proponent coordinates with EMD to determine if additional actions are required to protect the environment.

After review by the EMD, the FB Form 144-R will be returned to the proponent marked Concur, Concur with Conditions, or Non-concur. A finding of Concur allows the project / activity to move forward as proposed. A finding of Concur with Conditions allows a project to move forwards only after all comments are addressed and plans are in place to comply with the comments and concerns. When a finding of Non-concur is received, a project cannot take place until it either has been modified and a new FB Form 144-R is submitted. If sufficient modification to achieve a categorical exclusion is not feasible, an additional level of NEPA analysis (such as an Environmental Assessment) determines that the action can proceed. Non-compliance with the NEPA review process will result in the proponent of an action being held responsible for any adverse impacts to Fort Benning's environmental resources. The proponent will be held responsible for the cost of repair, replacement, or mitigation required correcting the unapproved action.

Some pest management activities that may be analyzed using the NEPA process are management actions associated with forest insect and disease control, site preparation for tree planting, hardwood mid-story control, and noxious weed eradication.

8.4. Pesticide Spills

Any pesticide spills are reported to the Environmental Management Division for response and notifications, if needed (545-9879 or 317-6584 – beeper). The responsible party will be held liable for all cleanup and remediation, if needed. Pesticide cleanup will be performed in accordance with the Fort Benning Spill Prevention, Control and Countermeasures Plan (October 1999).

8.5. Prohibited Activities

Special care is given when pesticides are applied in the child development center, in patient areas of the health clinic, or in family quarters where newborn infants are present. Pesticide label instructions and guidance provided in the AFPMB TIM No. 20, Pest Management Operations in Medical Treatment Facilities are followed.

Pesticides will not be used in any manner that is inconsistent with its label. Pesticide misusage at any location is a violation of Federal, state and local laws. In accordance with DoD policy, all instances of pesticide misusage and falsification of records by any contractors will be reported to the Alabama, Florida, or Georgia Departments of Agriculture, as applicable. Other reporting requirements, such as to a State Department of Natural Resources, may also be required.

8.6. National Environmental Policy Act Documentation

AR 200-2, Subpart E, Section 651.33(n) states that an EA is required for "An Installation pesticide, fungicide, herbicide, insecticide, and rodenticide-use program/plan." Therefore, an Environmental Assessment (EA) is being prepared and will be forwarded to the Army Environmental Center prior to the finalization of this IPMP.

CHAPTER IX. ENVIRONMENTAL MANAGEMENT DIVISION TRAINING

9.1. PEST MANAGEMENT TRAINING

It is the policy of the Fort Benning Army Installation to be a responsible steward of the natural and cultural resources that have been entrusted to its care. The Installation will accomplish its military mission in a manner that is compatible with protection of the environment and that achieves training and sustainability of its mission lands. The Installation recognizes the importance of environmental stewardship goals and responsibilities and, as a consequence, fully embraces pest management training for military and civilian personnel.

Training is a key component of Fort Benning's integrated pest management strategy. Fort Benning is now establishing a comprehensive Pest Management Training Program in support of its management goals and objectives for IPM. Program guidance consists of policy statements and a statement of the program's purpose, and program goals (see Appendix A).

9.2. PEST MANAGEMENT TRAINING AUDIENCES

A pest management-training program can only be successful when the right message is delivered to the people who can use it. Defining the audiences to be addressed is a crucial part of any training program. The paragraphs below describe the primary audiences the Pest Management Training Program intends to reach.

9.2.1. Environmental Quality Control Council

The Environmental Quality Control Council (EQCC) addresses a broad range of environmental issues affecting the Installation. The council advises the Installation Commander on environmental priorities, policies, strategies and programs. Additionally, the EQCC keeps the Installation Commander informed on how well the Installation is performing on protection of the environment and natural and cultural resources.

9.2.2. Tenant / Resident Unit Environmental Compliance Officers (Brigade / Battalion Level)

The Senior Environmental Compliance Officer is a brigade- or battalion-level representative responsible for unit environmental compliance, usually a field-grade officer. The SECO trains company-level Environmental Coordinators. The SECO Course discusses the impacts of environmental laws on mission, the need for environmental compliance, the Installation's environmental support structure and services, and the legal factors and liabilities associated with non-compliance with environmental regulations. Protection of listed species and their habitats, along with protection of significant cultural resources, also are discussed. The four-hour course is conducted quarterly by the Environmental Management Division and the Installation's Environmental Attorney. In addition to explaining Army and DoD regulations, the process for obtaining pest control services are explained.

9.2.3. WHINSEC (Western Hemisphere Institute for Security Cooperation)

Environmental and safety training is given to WHINSEC personnel, as requested. In addition to explaining Army and DoD regulations, the process for obtaining pest control services are explained and interpreted in Spanish for non-English speaking personnel.

9.2.4. Self-Help

Weekly, pest management briefings are given to family housing residents on integrated pest management and the procedures to follow when obtaining services. The emphasis is placed on exhausting self-help issued pest control options before calling for contracted services. Appropriate pest control application techniques are also discussed.

Everyone attending the briefing is given a copy of excerpts from the book Citizen's Guide to Pest Control and Pesticide Safety – EPA 730-K-95-001, as well as the enclosed handout titled Fort Benning Pest Management Program for AFH Occupants (Appendix A).

Fort Benning is in the process of producing brochures on IPM in Your Home, Pests on Fort Benning, and Pesticide Safety. These brochures will be distributed in the training class and to installation community life centers.

CHAPTER X. HEALTH AND SAFETY

10.1. MEDICAL SURVEILLANCE OF PEST MANAGEMENT PERSONNEL

All personnel who apply pesticides on the Installation (excluding housing residents) are included in a medical surveillance program. An initial physical examination is conducted to a baseline red blood cell (RBC) cholinesterase level. This physical examination also includes liver and kidney function tests, a complete blood count and a respiratory evaluation. A physical examination of the same scope as the initial examination is conducted annually.

Common Symptoms Produced by Cholinesterase Inhibiting Substances

Mild Poisoning	**Moderate Poisoning**	**Severe Poisoning**
Anorexia	Nausea	Diarrhea
Headache	Salivation	Pinpoint, non-reactive pupils
Dizziness	Lacrimation	Respiratory difficulty
Weakness	Abdominal cramps	Pulmonary edema
Anxiety	Vomiting	Cyanosis
Tremors of tongue	Perspiration	Loss of sphincter control and eyelids
Slow pulse	Convulsions	Muscular tremors
Coma	Impairment of visual acuity	Heart block

Personnel who handle or otherwise come into contact with wild animals on the Installation receive rabies prophylaxis, if desired. This includes military police and wildlife biologists.

The Occupational Health Section medically monitors government pesticide applicators at the Health Clinic. The contracted pest management personnel are monitored by their personal physicians for physical exams and blood tests.

If after performing the necessary testing an unacceptable result is indicated the Medical Department will be informed and will treat the applicator according to the type pesticide dispensed and procedures to follow for treatment of acute pesticide poisoning.

10.2. HAZARD COMMUNICATION.

DoD certified Preventive Health personnel are given hazard communication training, to include hazardous materials in the workplace, as part of the hospital annual training program. Additional training is given to new employees or when new hazardous materials are introduced into the workplace.

Material Safety Data Sheets (MSDS) for all pesticides and other toxic substances used in the pest management program can be found in the Environmental Management Division, Building 6. Additionally, MSDS are kept in each facility where pesticides are stored or handled (Golf Course maintenance facility - Building 1190 and Land / Conservation Branches - Building 5881).

10.3. PERSONAL PROTECTIVE EQUIPMENT

All personnel applying pesticides, whether contract or DoD applicators are required to wear appropriate and approved personal protective clothing and equipment as stated on the pesticide label and as required by applicable regulations.

10.4. FIRE PROTECTION

Pesticides are not stockpiled for storage on Fort Benning. The golf course stores pesticides in Building 1190, but only for a short period of time. Pesticide inventory lists are sent to the fire department, MACH and the MP station, annually, and updated as needed. The Fort Benning Fire Chief will determine, based on his prefire plan, which fire control efforts to employ depending on the size and type of fire at the time a fire call is reported

10.5. PEST CONTROL VEHICLES.

Commercial vehicles containing pesticides must transport them in external lockable compartments. Care must be taken to secure pesticides to prevent damage to the containers and spillage of the chemicals. At no time are

pesticides left unsecured in the vehicles when unattended. Pesticides or contaminated equipment are not placed in the cabs of the vehicles. All vehicles entering the Installation are checked and validated by the Military Police Activity office. Only vehicles belonging to the listed pest control companies are authorized to carry pesticides onto the Installation.

CHAPTER XI. SALE AND DISTRIBUTION OF PESTICIDES

11.1. SELF-HELP

The Self-Help store issues the following pest control supplies to housing residents, as requested:

Product	Size	Amt. Issued Per Request
Roach Rid/Boric Acid	1 lb.	1 per household
Combat Bait Stations - Ants	21 oz.	2 boxes / 6 baits each
AMDRO/Fire Ants	6 oz.	1 per household
Combat Bait Stations - Roaches .	49 oz.	2 boxes / 8 baits each
Glue Boards – Roaches and Mice		resident request
Flip traps – Mice		resident request

The Environmental Management Division receives a monthly report on pest control items issued from the Self-Help store.

11.2. AAFES

Pesticides sold in AAFES Shoppettes are registered by the EPA for general-purpose use. Restricted use products are not sold. Pesticide products are grouped based on type of control. A spill kit is located in the vicinity.

11.3. COMMISSARY

Pesticides sold in the Commissary are registered by the EPA for general-purpose use. Restricted use products are not sold. Pesticide products are grouped based on type of control. A spill kit is located in the vicinity.

11.4. VETERINARY CLINIC

Pesticides dispensed in the Veterinary Clinic are registered by the EPA for general-purpose use. These pesticides are used to control insects (i.e. ticks and fleas) on domestic animals. Restricted use products are not sold. Pesticide products are grouped based on type of control. A spill kit is located in the vicinity.

CHAPTER XII. PROGRAM MANAGEMENT AND AVAILABLE RESOURCES

12.1. PEST MANAGEMENT OPERATIONS

12.1.1. Staffing

Because there is no in-house pest control section, the EMD oversees contracted pest management operations. EMD staffing consists of an IPMC who oversees the entire program, a Pest Management Quality Assurance Evaluator (PMQAE) that performs quality assurance and contract administration, and a pest management technician who answers phone calls and other administrative duties. In order to have an effective pest management program; there currently is a need for at least 2 additional PMQAEs or assistants.

12.1.2. Quality Assurance

If the PMQAE identifies a control failure, the contractor will be required to inspect and re-treat the affected area(s) as needed to reestablish control. Specific factors, which influence the selection of evaluation methods for pest control services, are discussed below for each method of surveillance

1. 100% Inspection. One hundred percent inspection is generally used for those services that are needed in order to avoid any harm to government property (i.e. termite or carpenter ant control)

2. Random Sampling. Surveillance based on random sampling evaluates a portion of the work, accurately estimating the contractor performance through the use of statistical theory. Random sampling is used when 100% inspection is not required (i.e. nuisance pest control).

3. Planned Sampling. Planned sampling is similar to random sampling in that it is based on evaluating a portion of the work as the basis for evaluating the contractor's performance. Planned sampling is generally used to determine if there is a control failure or if the contractor is performing in accordance with the standards set by Fort Benning (i.e. ornamental and turf pest control, dining facilities, and scheduled weed control services).

4. Unscheduled Inspections. An unscheduled inspection is performed whenever there is a reason to believe that pest control service are not being performed in accordance with applicable Fort Benning guidelines.

5. Validated Customer Complaints. Building occupants can provide quick response to unsatisfactory and/or work not performed and can serve as the remote eyes of the PMQAE. A customer complaint record is maintained which document the nature of the complaint and, if valid, whether the problem was corrected or not. Customer complaints are recorded and passed to the contractor in accordance with the standard rework and call back procedures specified. Depending on the circumstances, customer complaints are usually handled within 24 hours.

In order to have an effective and successful pest management program, Fort Benning will find it necessary to hire additional manpower. Presently, approximately 10% of the necessary QA inspections are being performed. The IPMC has other responsibilities within the Environmental Management Division, and the pest management technician currently is not classified in the correct job description. Even though he is detailed into the position, he is still pursuing DOD certification training.

12.1.3. Agricultural Outleases.

The Agricultural Outlease Program consists currently of an approximate 600-acre area of Lawson Army Airfield. This area was planted in 1999 with Tifton 44 hybrid common Bermudagrass. The outlease program may expand in the future to other areas of the Installation. At present the Tifton 44 hybrid and the non-hybrid common Bermudagrass are the only plant species that Fort Benning intends to approve for use by leaseholders on the Installation. The outlease program was initiated at Fort Benning primarily to reduce the cost of the Installation mowing contract. It is likely that the Agricultural Outlease Program will remain a haying operation.

12.2. CONTRACT SUPPORT

It was determined that it would be more cost effective for Fort Benning to use contracted pest management services for majority of its pest control services. As a result, procedures and guidelines were established to comply with all applicable regulatory guidelines as they relate to pest management and control. To ensure that all of the provisions

of FIFRA and DODI 4150.7 were met (certification, recordkeeping and application and etc.) it was decided that all pest control services would be obtained through the Environmental Management Division (see memo –app D).

12.3. Enforcement Activities

In order to ensure that Fort Benning is in compliance with applicable regulations and Directives, guidance has been distributed throughout the Installation as it relates to pest management (App A). Failure to comply could result in a Notice of Violation (NOV) from USEPA, a monetary fine of up to $5K per day per violation, and if criminal penalties are imposed, up to a $50K fine and a maximum 3 year jail sentence.

Regulators can use their administrative powers to cite a violation in a NOV or Notice of Deficiency (NOD). The regulators may provide the Installation a chance to correct minor deficiencies without further enforcement action. Alternatively, a NOV can contain civil fines or can require a consent order. Civil fines against the Installation are paid out of operational funds, which can impact mission resources. A consent order is a binding agreement in which the Installation promises compliance action in return for the regulator's agreement to withhold any further enforcement action.

Additionally, under the Responsible Corporate Officer Doctrine, a person in a position of authority who has the responsibility to ensure environmental compliance and who should have known of prohibited actions may be criminally liable, even if they did not know of the violation. This extension of criminal liability is based on the notion that environmental crimes are treated as "public welfare offenses" rather than involving individual victims.

The Army also may initiate action against violators, both Army personnel and civilians. Administrative action can be taken against civil service and military personnel who disregard their environmental responsibilities. Additionally, certain laws allow the Army to recoup damage to government property, as may occur with illegal dumping or releases into the environment. Fort Benning is committed to investigating environmental violations and taking appropriate actions. The military police and the Criminal Investigative Division of Fort Benning have investigated prior environmental violations. The aim is proactive management of environmental resources, while meeting mission requirements, to minimize or eliminate violations. Fort Benning works in partnership with regulators and the public whenever possible to meet this goal.

Fort Benning's enforcement of environmental violations does not substitute for any actions required by law or regulations (for example, notifications to regulators). Fort Benning's enforcement also is not a guarantee against regulator enforcement actions against an individual, a unit, or the Army. The Installation maintains environmental compliance through a program that includes appropriate training, resourcing, and monitoring, as well as enforcement. This compliance program supports the Fort Benning training mission.

Presently, Fort Benning has one DoD certified PMQAE, who is trained in quality assurance inspection procedures and operations, monitors work in order to ensure that contract personnel are performing services as requested. If the PMQAE suspects violations, the PMQAE notifies the Environmental Attorney and the Installation Pest Management Coordinator (IPMC) to determine if the contractor is meeting the requirements specified in the contract. The PMQAE will also work the Contracting Officer or his representative, if applicable, to resolve suspected violations.

Prior to performing work, pest control operators are required to sign a document that specifies the type of service to be performed. All of the regulatory requirements that must be met are also included. If a contractor fails to comply with those provisions, appropriate actions will be taken.

Any violations of law or regulations are documented thoroughly. Fort Benning has reporting requirements, such as for spills of pesticides or pesticide-containing products on the Installation, even if a contractor caused the spill.

CHAPTER XIII. FIVE YEAR PLAN

This plan addresses the direction and needs of the pest management program for the period 2003-2008. Listed below are the primary areas of the program that will have a major impact on the ability have an effective pest management program.

Manpower and Equipment Resource Levels
Manpower is currently available to handle pesticide treatments in-house or to administer contracts for kudzu eradication. Land Management Branch personnel accomplish spot treatment applications and administer / oversee broadcast treatments accomplished under contract.

13.1. PESTICIDE APPLICATORS

A certified operator is defined as any individual who applies pesticides and who has been authorized to do so by successfully completing an approved training program, that is followed by formal certification by either the Department of Defense or a state with an Environmental Protection Agency-approved certification plan.

The initial certification is good for a 3-year period of time following attendance and successful completion of the DOD training course. A one-week recertification course is required every 3 years at the expiration of the DOD certification. This course is also nonresident and involves TDY expenses. The IPMC and the contract quality assurance evaluator are also required to receive the training and certification mentioned above.

Erin Menefee - IPMC
Gregg Mohler – PMQAE

13.1.1. Installation Pesticide Applicators

DoD personnel whose job responsibilities involve the application of pesticides on Fort Benning

Mark Byrd – Natural Resources
Michael Fuller – Natural Resources
Beau Dudley – Natural Resources
Ray Meredith – Golf Course

13.1.2. OJT Apprenticeship

DoD personnel who are not certified under the Department of Defense or State plan during an apprenticeship period not exceeding 1 year and who must apply pesticides under the supervision of a DoD certified applicator.

Louise Williams – Golf Course
Curtis Fowler – Natural Resources

13.2. RECURRING PEST MANAGEMENT REQUIREMENTS

a. Family Housing - continual.
b. Work orders - continual.
c. LAAF aprons – biannually.
d. DCA/MWR facilities – continual, as needed.
e. Parade and PT fields – continual, as needed.

13.3. OTHER PEST MANAGEMENT REQUIREMENTS

a. Utility right-of-way clearing – performed through contract.

13.4. PEST CONTROL CONTRACT

There is no formal pest control contract in place. Of the seven companies that responded, none met all of the requirements of the contract. Pest control operations are now being performed by using the IMPACT Visa card. To date, other mechanisms for obtaining pest control services are being explored.

13.5. EQUIPMENT

Because there is no in-house pest control section on Fort Benning, pesticide equipment is limited to the Golf Course, Conservation and Land Protection Branches.

Equipment	Size (gal)	Purchase Date
Boom sprayer (Cushman)	150	1987 (in need of repair – used to spray turf paint in the winter)
Pull sprayer (Vann)	500	1994 (only used as a water source)
Power sprayer	300	2002
Skid sprayer	200	1999
Backpack sprayer	5	1997
Boom sprayer (Vann)	150	2003
Boom sprayer (Vann)	200	unknown
Sprayer (Northern Tool)	200	unknown

13.6. PESTICIDE USAGE REPORTS

Records of pesticide applications and non-chemical pest management operations are maintained on a daily basis using a computer-generated form equivalent to the DD Form 1532–1 (Pest Management Maintenance Record). The Installation Pest Management Coordinator is responsible for summarizing the monthly reporting information at the Installation level and for forwarding this information to the appropriate authority. All records and reports are archived after two years for permanent retention.

13.7. PROGRAM FUNDING SUPPORT

Services for pest management for buildings that are deemed "installation operated" are funded through the BASOPS Operations and Maintenance (O&M) Account. All buildings and facilities that require pest management services and are occupied by reimbursable tenants or money generating facilities, must ensure that adequate funding is provided prior to services are rendered.

Environmental Program Requirements (EPR) reporting system which requests Operations and Maintenance, Environmental Compliance and Prevention Funds (OMA/ECAP), is used to fund projects that relate to emergency pest management applications, pest management plan updates, training and etc. Annual funding requests are submitted in the spring and fall and projected for 5 years. To date, Fort Benning has not received any funding from EPR submittals.

13.71. Summary of IPMP Implementation Costs

The average annual costs of fully implementing the IPMP are estimated to be $640,000.00. These total annual costs represent an estimate of the cost of implementation: however, some variability from year-to-year can be expected. The total cost is based on the amount of pest control services needed for Fort Benning and sites supported by the Installation to adequately gain control of pests. It is based on total square footage and acres to be treated average frequencies of treatment and salaries for the IPMC, PMQAE and 2 - PMQAE assistants.

13.8. COMMAND SUPPORT

The Installation Commander and other personnel in command positions at Fort Benning fully support this IPMP. The command is dedicated to ensuring the long-term sustainability of the environmental resources and the management of those resources necessary to support the military mission.

The Installation Commander should lead in environmental stewardship by ensuring that personnel at all levels are fully engaged in the daily activities necessary for successful implementation if this plan. To ensure top-down implementation of this IPMP, the Command should project environmental, health and safety protection as a vital

part of mission implementation. Leadership should impress upon all personnel the importance of each individual taking responsibility for his or her role in carrying out of the provisions of the IPMP. The Command should hold each responsible individual accountable for actions required by this IPMP and other applicable environmental requirements, by use of the established disciplinary system.

Implementation efforts must be realistically evaluated and revised as needed. The Installation Commander has various committees tasked with duties that will assist with implementation of the IPMP, such as Environmental Quality Control Committee. Annual review processes such as the Installation Status Review, Environmental Compliance and Assessment, Environmental Quality Report, and chemical usage reporting are all mechanisms to monitor the success of IPMP implementation.

CHAPTER XIV. PEST MANAGEMENT SUPPORT FOR OFF-SITE AND TENANT LOCATIONS

Fort Benning has responsibility for four satellite locations. Two of the locations (Camp Merrill and Camp Rudder) are training facilities used by the Ranger Training Brigade, which is headquartered at Fort Benning, Georgia. The third location is a recreation area managed by Fort Benning's Directorate of Community Activities (Morena Point or Destin Recreation Area) and the fourth location is a small navigational aid building site used by Lawson Field Operations. Fort Benning also has administrative responsibility for Fort McClellan, which is located near Anniston, Alabama. However, Fort McClellan maintains a small staff to implement the Base Realignment and Closure (BRAC) initiative.

14.1. CAMP FRANK D. MERRILL

Camp Frank D. Merrill, which is located near Dahlonega, Georgia, is home to the 5th Ranger Training Battalion. Ranger mountain training is taught at Camp Merrill. Fort Benning has authority to use 287 acres of the Chattahoochee National Forest for construction and operation of Camp Merrill under a special use permit and memorandum of agreement (MOA) with the U.S. Forest Service, Chattahoochee National Forest. Camp Merrill is self-contained and provides its own potable water and wastewater treatments. The 5th Ranger Training Battalion also has the use of radio communication sites at Brawley Mountain and Black Mountain from USFS under a separate special use permit. Ranger training is conducted on Chattahoochee National Forest land, which is under control of the U.S. Forest Service. Fort Benning owns approximately 90 acres in Dahlonega, Georgia where Porter Village is located. Porter Village is a family housing complex for Camp Merrill personnel. Fort Benning and Camp Merrill coordinate closely with USFS to properly evaluate any environmental planning, analysis, or permitting due to army initiatives. A local certified pest control company in the Dahlonega area performs all pest control services in Porter Village. Pesticide usage reports are forwarded to Fort Benning, monthly.

14 2. CAMP RUDDER

Camp Rudder is located at Eglin Air Force Base, Florida and is home to the 6th Ranger Training Battalion. Ranger swamp training is taught at Camp Rudder. The U.S. Air Force owns the land where Camp Rudder exists, but Fort Benning uses the area under an Intraservice Support Agreement (ISSA). The ISSA does not address environmental impacts, but Fort Benning coordinates closely with Eglin Air Force Base environmental staff to properly evaluate any environmental planning, analysis, or permitting due to Army initiatives. Pest control services are administered through Eglin Air Force Base personnel.

14.3. MORENA POINT (DESTIN RECREATION AREA)

Morena Point is a 13-acre recreation area located directly on the Choctawhatchee Bay in Destin, Florida. Fort Benning's Directorate of Community Activities runs the facility. The area has been designated the USAIC Destin Recreation Area and is equipped with cottages, motels, tent and trailer camp sites, and marina facilities for use by military personnel. All activities conducted at Morena Point that require environmental planning, analysis, or permitting will be evaluated and coordinated through Fort Benning's Environmental Management Division. All pest control services are performed by a local certified pest control company in the Destin / Fort Walton Beach, FL area. Pesticide usage reports are forwarded to Fort Benning, monthly.

14.4. NAVAIDS

An area owned by the Army that is approximately 5.75 acres in size is located approximately three miles southwest of the Installation boundary in Russell County, Alabama. The site is the location of a NAVAIDS building (BLDG #9) used by Lawson Army Airfield. All activities conducted at this site that require environmental planning, analysis, or permitting is evaluated and coordinated through Fort Benning's Environmental Management Division. A local certified pest control company in the Fort Benning area performs all pest control services.

Maps of Camp Merrill, Camp Rudder and Morena Point are located in Appendix G.

14.5. MORALE WELFARE AND RECREATION (MWR) AND TENANT FACILITIES

Even though MWR (money generating) and tenant facilities are required to provide funding for pest control, services are still obtained through the EMD.

CHAPTER XV. REFERENCES

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APPENDIX A. GUIDANCE

APPENDIX B. IPM MANAGEMENT OUTLINES

INTEGRATED PEST MANAGEMENT OUTLINE NO. 1

PEST: GERMAN COCKROACHES

Site: Family Housing

1. Purpose: To control nymph and adult German cockroaches in family housing.

2. Surveillance.

a. Conducted by: Occupants. Pest control operators (PCOs) between occupancy and when services are requested following self-help failure. Preventive medicine upon special request.

b. Methods: Visual observation and glue traps.

c. Frequency: As necessary.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: Use glue traps in kitchens and bathrooms when a minor infestation of cockroaches occurs. Eliminate cockroach harborage by caulking (or filling with other materials) minor cracks, crevices, holes in walls and floors, or other areas where there are small cracks and holes, which could be used by cockroaches.

(b) Conducted by: Occupants- glue traps and caulking materials can be obtained from Self-Help.

(2) Type: Biological.

(a) Method and Location: None.

(b) Conducted by: None.

(3) Type: Cultural.

(a) Method and Location: Clean up spilled food and place stored food items in closed containers. Eliminate harborages (stacks of cardboard, paper bags, and clutter in warm, moist locations); Fix leaky faucets and drains; empty garbage frequently, in the evening (roaches feed at night); keep drawers, counters, stovetops clean; store food in refrigerator instead of on the counter; empty refrigerator defrost pan often; use glue traps and replace when full.

(b) Conducted by: Occupants.

b. Chemical.

(a) Basis for Treatment: Presence of German cockroaches in housing.

(b) Method and Location: Use self-help items where cockroaches have been seen. Apply bait stations in locations where cockroaches have been seen (e.g., kitchen and bathroom cabinets, under appliances, under sinks, etc.). Place the bait stations along the junction between walls and floors for maximum effectiveness.

(c) Conducted by: Occupants.

(d) Pesticide. Common Name: Combat

(e) Control Standard: Continue bait station use for 30-60 days. Bait stations should be removed when empty or after 60 days, whichever is shorter, to prevent the empty containers from providing cockroach harborage.

c. Chemical.

(a) Basis for Treatment: Cockroaches still present after bait stations have been used and failed to control the infestation.

(b) Method and Location: Boric acid sprinkled or poofed with a bulb duster or plastic squeeze bottle to create a thin layer of powder will continue to kill roaches as long as it is kept dry. (Note: boric acid will be poisonous to children or pets if ingested in large quantities, so apply it in cracks and crevices where it can remain effective for years.)

(c) Conducted by: Occupants.

(d) Pesticide. Common Name: Boric Acid

(e) Control Standard: Children and pets should not be in treatment area until after application is completed. Do not treat pets with this product. Avoid contamination of food and ornamental plants. Any powder visible after application must be brushed into cracks and crevices or removed. Apply only in areas inaccessible to children and pets. If cockroaches are still found, then call the pest management technician for assistance.

c. Chemical.

(a) Basis for Treatment: Cockroaches still present after self-help measures have been used and failed to control the infestation.

(b) Method and Location: Keep cabinets and sinks free of food. Reduce clutter in kitchen cabinets, under stairs, or in the attic.

Apply residual pesticides to harborage areas in kitchens, bathrooms and other areas where cockroaches are found.

(c) Conducted by: Pest management technicians.

(d) Pesticide. (a) Common Name: Maxforce, (b) EPA Registration Number: 64248-14. (a) Magnetic Roach Food, (b) 54452-2

(e) Control Standard: No callbacks indicate successful treatment. Spot treat quarters where follow-up control is indicated.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: Place gel in areas away from exposed food and food contact surfaces.

6. Environmental Concerns: Avoid getting pesticide in areas where water can become contaminated, and in air ducts of buildings.

7. Remarks: Most light infestations are controlled through sanitation and habit modification practices.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 2

PEST: GERMAN COCKROACHES

Site: Food service facilities

1. Purpose: To control nymph and adult German cockroaches in food service facilities.

2. Surveillance.

a. Conducted by: Food service, MEDDAC, and PCOs.

b. Methods: Visual observations by workers. Glue traps by other inspectors. Preventive medicine conducts inspections for cockroaches.

c. Frequency: Daily by food service personnel. During sanitation inspections or conducted as a special survey for cockroaches by MEDDAC. Monthly by PCOs.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: Eliminate cockroach harborage by caulking (or filling with other materials) minor cracks, crevices, holes in walls and floors, or other areas where there are cracks and holes, which could be used by cockroaches.

(b) Conducted by: Pest management technicians and augmented by food service and maintenance personnel.

(2) Type: Mechanical and Physical.

(a) Method and Location: Use glue traps when a minor infestation of cockroaches occurs. Eliminate cockroach harborage by caulking (or filling with other materials) minor cracks, crevices, holes in walls and floors, or other areas where there are small cracks and holes, which could be used by cockroaches.

(b) Conducted by: PMQAE

(3) Type: Biological.

(a) Method and Location: None

(b) Conducted by: None.

(4) Type: Cultural.

(a) Method and Location: Use good sanitation to reduce food and water for cockroaches. Clean up spilled food from work surfaces, walls and floors. Wash dirty dishes and cooking containers following use - do not leave exposed food in the facility overnight. Remove bags, boxes and other potential harborage from kitchens, storerooms, etc. Keep food in sealed containers when not in use. Standing water should be eliminated and leaking pipes should be fixed.

(b) Conducted by: Food service personnel.

b. Chemical.

(a) Basis for Treatment: Cockroaches found during surveillance

(b) Method and Location: Crack and crevice residual application.

(c) Conducted by: PCOs.

(d) Pesticide. Common Name: MaxForce. EPA Registration Number: 64248-14.

(e) Control Standard: No live cockroaches found 30 days following treatment. When sanitation and harborage present problems in a facility, a reduction in the number of cockroaches in glue traps may indicate the effectiveness or limitation of chemical control efforts.

c. Chemical.

(a) Basis for Treatment: Presence of cockroaches.

(b) Method and Location: Place bait stations in locations where cockroaches have been seen (e.g., cabinets, under appliances, under sinks, etc.). Place the bait stations along the junction between walls and floors and in equipment voids for maximum effectiveness.

(c) Conducted by: PCOs.

(d) Pesticide. Common Name: Maxforce. EPA Registration Number: 64248-11

(e) Control Standard: Leave bait stations in place until bait is gone. Remove empty bait stations to preclude cockroaches using them for harborage sites.

4. Precautions for Sensitive Areas: Do not apply to areas where aquariums are present.

5. Prohibited Practices: Do not apply pesticides on food items, utensils, or on food preparation surfaces. Do not let unauthorized personnel in the facility during treatment.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Pesticides should be considered the last option in controlling cockroaches. As long as poor sanitation or harborage exist, the effectiveness of chemicals to control cockroaches may be limited.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 3

PEST: GERMAN COCKROACHES

SITE: Barracks, offices and other administrative buildings

1. Purpose: To control nymph and adult German cockroaches in building areas where people store and/or eat food on an occasional basis (e.g., break areas, coffee rooms, vending areas, etc.).

2. Surveillance.

a. Conducted by: Occupants. PCOs when services are requested following self-help failure. MEDDAC upon special request.

b. Methods: Visual observation and glue traps.

c. Frequency: As necessary.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: Use glue traps in break areas or in other areas where food is eaten or stored when a minor infestation of cockroaches occurs. Eliminate cockroach harborage by caulking minor cracks, crevices, and holes where cockroaches may hide. This may not be required in these types of facilities; however, should cockroaches get out of hand (repeat professional treatment required), then harborage elimination may be required.

(b) Conducted by: Occupants

(2) Type: Biological.

(a) Method and Location: None.

(b) Conducted by: None.

(3) Type: Cultural.

(a) Method and Location: Place stored food items in closed containers. Keep break areas clean and clean up spilled food immediately. Rinse out food containers (e.g., soda cans, coffee cups, etc.) to reduce cockroach food. Keep papers, bags, boxes and other items off the floors in areas where food is present to eliminate harborage areas for the cockroaches.

(b) Conducted by: Occupants.

b. Chemical.

(a) Basis for Treatment: Presence of cockroaches.

(b) Method and Location: Apply bait stations in locations where cockroaches have been seen (e.g., cabinets, desks, under sinks, etc.). Place the bait stations along the junction between walls and floors for maximum effectiveness.

(c) Conducted by: PCOs.

(d) Pesticide. (a) Common Name: Maxforce. EPA Registration Number: 64248-11

(e) Control Standard: Continue bait station use for 30-60 days.

b. Chemical.

(a) Basis for Treatment: Cockroaches found during surveillance

(b) Method and Location: Crack and crevice residual application.

(c) Conducted by: PCOs.

(d) Pesticide. Common Name: Maxforce, EPA Registration Number: 64248-14.

(e) Control Standard: No live cockroaches found 30 days following treatment. When sanitation and harborage present problems in a facility, a reduction in the number of cockroaches in glue traps may indicate the effectiveness or limitation of chemical control efforts.

c. Chemical.

(a) Basis for Treatment: Cockroaches still present after baiting measures have been used and failed to control the infestation.

(b) Method and Location: Apply residual pesticides to harborage areas in kitchens, bathrooms and other areas where cockroaches are found.

(c) Conducted by: PCOs.

(d) Pesticide. (a) Common Name: Suspend (b) EPA Registration Number: 432-763, (a) Demand CS (b) 100-1066, (a) Siege Gel, (b) 241-313, and (a) Demon EC 100-1004.

(e) Control Standard: No callbacks indicate successful treatment. Spot treat areas where follow-up control is indicated.

4. Precautions for Sensitive Areas: Cholinesterase inhibiting pesticides are not applied in areas that infants may occupy.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Cockroach elimination usually responds to good sanitation and habitat modification.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 4

PEST: OTHER COCKROACHES

Site: Sewers, decaying organic matter, plants, crawl spaces, throughout the Installation

1. Purpose: To prevent cockroach infestations throughout the Installation.

2. Surveillance.
   a. Conducted by: PMQAE, PCOs
   b. Methods: Visual observation in places where these cockroaches have been a problem.
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate moisture in basements and other belowground areas in buildings that could support cockroaches - this is most likely to occur in the main post area. Ventilate wet or damp areas under buildings. In buildings that experience frequent invasion of American cockroaches, drains, particularly those in the basements or on ground level, should have grates or screens over the openings with a mesh size less than 1/8-inch. Utility doors should fit tightly, and pipe chases and other entry points should be sealed.
         (b) Conducted by: Installation maintenance personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   c. Chemical.
         (a) Basis for Treatment: American cockroaches found in basements, crawl spaces, utility tunnels, etc.
         (b) Method and Location: Apply residual pesticide to harborage areas and other areas where cockroaches are found.
         (c) Conducted by: PCOs.
         (d) Pesticide. (a) Suspend (b) EPA Registration Number 432-763, (a) Demand CS (b) 100-1066, and (a) Demon EC 100-1004, (a) Maxforce, (b) 64248-14, (a) Dragnet SFR, (b) 279-3062, (a) Demon WP (b) 100-990, (a) Tempo SC Ultra, (b) 3125-498, (a) Cynoff, EC (b) 279-3081, (a) Orthene 97, (b) 59639-91.
         (e) Control Standard: No callbacks indicate successful treatment. Spot treat areas where follow-up control is indicated.

4. Precautions for Sensitive Areas:

5. Prohibited Practices: Do not apply pesticides in food handling facilities while food is being prepared or served. Do not apply pesticides in childcare facilities while students are in the building. Application of pesticides can not occur later than 4 hours prior to students entering classrooms. In medical facilities, applications can not occur if patients in facility are being seen or treated.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: American cockroaches are not a problem as long as they stay in the sewer system. However, at times the cockroaches invade family housing units or other buildings on main post. Successful control involves treating the attic, crawl space, and exterior cracks in the buildings and finding and treating likely cockroach harborages.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 5

PEST: STORED PRODUCTS INSECTS

Site: Food storage

1. Purpose: To control insects that damage food and fiber products.

2. Surveillance.
a. Conducted by: Building occupants, MEDDAC, and PCOs.
b. Methods: Visual observations for insects and/or conditions that could favor insect infestations in stored food products. Particular attention should be given to rodent bait stations when they are in use since most baits are subject to insect infestation.
c. Frequency: Monthly in food service; daily in the Commissary and its warehouses.

3. Pest Management Techniques.
a. Non-chemical.
(1) Type: Mechanical and Physical.
(a) Method and Location: Clean up spilled food materials that may attract and provide a food source for insects at least daily. Vacuuming works better than sweeping in particle-filled cracks and crevices.
(b) Conducted by: Facility personnel.
(2) Type: Biological.
(a) Method and Location: None.
(b) Conducted by:
(3) Type: Cultural.
(a) Method and Location: Damaged goods should be kept in tight-fitting containers. Infested products are removed immediately upon discovery.
(b) Conducted by: Facility personnel.
b. Chemical.
(a) Basis for Treatment: Insects found in products or in the food storage areas.
(b) Method and Location: 2-gallon sprayer - apply around pallets, floor/wall junctures, and other areas where insects may be present.
(c) Conducted by: PCOs.
(d) Pesticide. (a) Common Name: Intruder HPX. (b) EPA Registration Number: 9444-183.
(e) Control Standard: No evidence of insects for 30 days following treatment.

4. Precautions for Sensitive Areas: Do not apply pesticides to food products or packages/outer wrappings of food.

5. Prohibited Practices: Do not treat when building is occupied.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 6

PEST: MOSQUITOES

Site: Cantonment area

1. Purpose: To control adult mosquitoes on the main post area, including family housing.

2. Surveillance.

a. Conducted by: MEDDAC Preventive Medicine.

b. Methods: Larval surveys in standing water on main post; light traps distributed on main post in areas where people are most concentrated when mosquitoes bite.

c. Frequency: In season (March – freezing temperatures), larval surveys done weekly; adult light traps operated twice per week.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: Screens should be placed on windows on buildings occupied at night to exclude adult mosquitoes. Temporary standing water sites should be graded or filled to eliminate mosquito breeding. Precautions must be taken not to damage wetlands. Eliminate artificial container breeding sites.

(b) Conducted by: Occupants and installation maintenance personnel.

(2) Type: Mechanical and Physical.

(a) Method and Location: Control burns are performed in order to reduce resting sites and cover for mosquito populations.

(b) Conducted by: Land Management Branch personnel.

(3) Type: Biological. Bacillus thuringiensis (Bti).

(a) Method and Location: Applied to mosquito larvae found in standing water throughout the installation. If effective, no live mosquito larvae should be present 5 days after treatment.

(b) Conducted by: MEDDAC Preventive Medicine.

(4) Type: Chemical.

(a) Basis for Treatment: Standing water and sewer drains treated when mosquito larva are present or suspected.

(b) Method and Location: None.

(c) Conducted by: MEDDAC Preventive Medicine

(d) Pesticide. (a) Common Name: Altosid XR Mosquito Briquets (b) EPA Registration Number: 2724-421.

(e) Control Standard: Time only. 30-90 days depending on the briquet size. Larva that is still present in treated water but will not emerge as adults.

(4) Type: Chemical.

(a) Basis for Treatment: Standing water and sewer drains treated when adult mosquitoes are first found in light traps exceed 25 female mosquitoes/trap/night. (b) Method and Location: None.

(c) Conducted by:

(d) Pesticide. (a) Common Name: Altosid XR Mosquito Briquets (b) EPA Registration Number: 2724-421.

(d) Control Standard: Mosquito numbers are reduced in trap below the 25-mosquito level.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Do not damage or eliminate wetlands.

7. Remarks: Mosquito control discussed in this worksheet is for mosquito larvae found on the Installation. If disease (e.g., encephalitis, West Nile Virus) is found in the mosquito population in the surrounding counties, then treating the Installation main cantonment areas through mosquito fogging operations should be considered.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 7

PEST: ANTS

Site: Family Housing

1. Purpose: To eliminate ants from family housing units.

2. Surveillance.
   a. Conducted by: Occupants
   b. Methods: Visual observations.
   c. Frequency: As required.

3. Pest Management Techniques.
   a. Chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Ant bait stations, available through self-help, can be placed along baseboards or runways used by ants.
         (b) Conducted by: Occupant.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by: None
      (3) Type: Cultural.
         (a) Method and Location: Spilled food items, to include pest food, should be cleanup up immediately. Food products that are not being used should be kept in containers with tight fitting lids.
         (b) Conducted by: Occupants.
   b. Chemical.
         (a) Basis for Treatment: Ants seen in the quarters.
         (b) Method and Location: Pesticide applied to ant mounds near entryways into the residence. Pesticide can be obtained from Self-Help.
         (c) Conducted by: Occupant.
         (d) Pesticide. (a) Common Name: AMDRO. (b) EPA Registration Number: 241-322-51036.
   b. Chemical.
         (a) Basis for Treatment: Ants seen in the quarters.
         (b) Method and Location: Pesticide applied to foundations and doorsills outside buildings.
         (c) Conducted by: PCO.
         (d) Pesticide. (a) Common Name: Tengard Perimeter Insecticide. (b) EPA Registration Number: 70506-6, (a) Suspend (b) 432-763, (a) Maxforce, (b) 64248-14, (a) Dragnet SFR, (b) 279-3062, (a) Demon WP (b) 100-990, (a) (a) Talstar PL, (b) 279-3168, (a) FICAM W, (b) 45639-1, (a) Drione Dust (b) 432-992, (a) Niban Granular, (b) 64405-2.
      (e) Control Standard: No callbacks to treated quarters within 30 days following treatment.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: Do not apply pesticides in food handling facilities while food is being prepared or served. Do not apply pesticides in childcare facilities while students are in the building. Application of pesticides can not occur later than 4 hours prior to students entering classrooms. In medical facilities, applications can not occur if patients in facility are being seen or treated.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Ants are a minor problem - placement of a barrier around external building openings appears to control ants before they can enter. Ant problems occasionally occur in other buildings than those in family housing; however, the same information contained in this outline applies.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 8

PEST: SPIDERS

Site: Buildings and other structures

1. Purpose: Eliminate poisonous spiders (black widow and brown recluse spiders) and nonpoisonous spiders from buildings or other workplaces.

2. Surveillance.

a. Conducted by: Building occupants.

b. Methods: Visual observations - spiders are frequently found in dry, cool, usually undisturbed places inside buildings; in carports, utility sheds and other outdoor storage areas; and under buildings.

c. Frequency: As required.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: using a broom or vacuum cleaner in most cases can eliminate Spiders and their webs. Maintenance of screens and weather-stripping around doors and windows will keep out small insects that the spiders use for food. Glue traps can also be placed next to door jambs to intercept incoming spiders (if it is suspected they are coming into the building from outside) - the traps can also be used to determine if further control efforts are needed, depending on the number and species of spiders caught. Glue traps are available through self-help. Remove all spider webs.

(b) Conducted by: Building occupants.

(2) Type: Biological.

(a) Method and Location: None.

(b) Conducted by:

(3) Type: Cultural.

(a) Method and Location: Spiders can be discouraged through good housekeeping, both inside and outside. Keep boxes, old equipment, and other items neatly stored on shelves, particularly in garages and basements; clean up and dispose of trash, debris, old equipment, etc.

(b) Conducted by: Building occupants.

b. Chemical.

(a) Basis for Treatment: Spiders present in or around building or structure.

(b) Method and Location: 2-gallon sprayer - Applied to webs or directly to the insects.

(c) Conducted by: PCO.

(d) Pesticide. (a) Common Name: Suspend SC. (b) EPA Registration Number: 464-571. (a) Demand CS (b) 100-1066, (a) PT 565 Plus XLO, (b) 499-310, (a) Demon WP (b) 100-990, (a) Saga, (b) 432-755.

(e) Control Standard: Application of pesticide by the PCO should not be done unless the occupants have first tried self-help and their efforts have failed to control the spiders. No complaints or callbacks should be received within 30 days after treatment.

4. Precautions for Sensitive Areas: Do not apply in areas with children less than 6 months old.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Spiders need to eat insects and other arthropods to maintain an infestation. When spiders are simply seeking shelter from the outside, they will die if a food source is not readily available. For this reason, good housekeeping is essential in preventing or suppressing spider infestations.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 9

PEST: BEES AND WASPS

Site: Occupied buildings

1. Purpose: To control stinging insects in and around occupied buildings.

2. Surveillance.
   a. Conducted by: PCOs, Building occupants.
   b. Methods: Visual observations.
   c. Frequency: As required.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Screening windows and doors; removal of wasp nests; and removal of bee hives by a beekeeper.
         (b) Conducted by: Occupant, with the exception of beehive removal.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
         (a) Basis for Treatment: Bees and wasps found in or around buildings.
         (b) Method and Location: Hand-held aerosol applied directly to insects and nests.
         (c) Conducted by: PCOs.
         (d) Pesticide. (a) Common Name: PT515 Wasp-Freeze. (b) EPA Registration Number: 499-362, (a) Wasp and Hornet Jet Freeze, (b) 9444-98.
         (e) Control Standard: Bees and wasps are killed following treatment.
   c. Chemical.
         (a) Basis for Treatment: Bees and wasps found in or around buildings - insects must present a health risk or interfere with mission accomplishment.
         (b) Method and Location: 2-gallon sprayer - Applied to nest sites or directly to the insects.
         (c) Conducted by: PCO.
         (d) Pesticide. (a) Common Name: (a) Delta Dust (b) 432-772, (a) Demon WP (b) 100-990, (a) Dragnet SFR, (b) 279-3062, Sevin Dust (b) 2935-320.
         (e) Control Standard: No callbacks to treated buildings within 5 days following treatment.

4. Precautions for Sensitive Areas: Treat with carbaryl only where unwanted bees and wasps are found; this insecticide is extremely toxic to bees and may harm these insects where they are not presenting a problem. Areas where bees are beneficial to man (e.g., beehives, flower beds, etc.) should be avoided.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Beekeepers are called when swarms of bees are found in order to preserve the queen and her workers; chemicals are used only as a last resort for control.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 10

PEST: TERMITES

Site: Buildings and other structures

1. Purpose: To prevent termites from damaging structures on the Installation.

2. Surveillance.
   a. Conducted by: PMQAE
   b. Methods: Visual observations following occupant or Housing inspector complaints;
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate water sources that could support termite colonies - this is most likely to occur in the main post area where grass watering or broken utility lines provide water next to foundations and under buildings. Ventilate wet or damp areas under buildings. Repair and replace infested wood and structural material.
         (b) Conducted by: Installation maintenance personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
         (a) Basis for Treatment: Pretreat soil under new construction. Treat active termite infestations when they are found.
         (b) Method and Location: Soil injection.
         (c) Conducted by: PCO.
         (d) Pesticide. (a) Common Name: Premise 75, (b) EPA Registration Number: 3125-455 .
         (e) Control Standard: No subsequent termite infestations or damage from treated structures for five years after application.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: Do not apply when people are in buildings.

6. Environmental Concerns: Avoid getting pesticide in areas where water can become contaminated, and in air ducts of buildings.

7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 11

PEST: TICKS

Site: Outdoor areas

1. Purpose: To prevent ticks from biting people and pets.

2. Surveillance.
   a. Conducted by: PMQAE.
   b. Methods: Tick drags following occupant's complaints.
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Proper wearing of clothing outdoors can prevent ticks from readily gaining access to skin. Long pants should be worn and tucked into boot tops or socks.
         (b) Conducted by: Site users, particularly soldiers in the field.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: When a site has a high population of ticks present, an alternate site should be selected for activities whenever possible.
         (b) Conducted by: Site users.
   b. Chemical.
         (a) Basis for Treatment: Ticks expected to be in the area.
         (b) Method and Location: Repellent applied to skin.
         (c) Conducted by: Individuals to be protected.
         (d) Pesticide. (a) Common Name: DEET. (b) EPA Registration Number: 58007-1.
         (e) Control Standard: Ticks do not attached to skin for feeding.
   c. Chemical.
         (a) Basis for Treatment: Repellent applied to clothing.
         (b) Method and Location: Aerosol spray applied to clothing.
         (c) Conducted by: Individuals to be protected.
         (d) Pesticide. (a) Common Name: Permethrin. (b) EPA Registration Number: 50404-5.
         (e) Control Standard: Ticks do not attached to skin for feeding.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: None.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 12

PEST: LICE

Site: Building areas occupied by personnel with louse infestations

1. Purpose: To control lice on clothing, bedding or other surfaces.

2. Surveillance.
   a. Conducted by: Infested individuals.
   b. Methods: Visual observation.
   c. Frequency: As necessary.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: None.
         (b) Conducted by:
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Bedding and clothing can be washed in hot water with detergent.
         (b) Conducted by: Infested personnel.
   b. Chemical.
         (a) Basis for Treatment: Presence of lice in bedding, mattresses, furniture or other surfaces.
         (b) Method and Location: Aerosol spray applied to surfaces.
         (c) Conducted by: PCOs.
         (d) Pesticide. (a) Common Name: Pyrethrin. (b) EPA Registration Number: 4816-635.
         (e) Control Standard: No live lice 24 hours after treatment.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Personnel with louse infestations should first be directed to the local medical treatment facility - treatment of the individual is a medical problem. Head, pubic, or body lice rarely leave the body or clothing of the infested individual. Laundering clothing and bedding should be done before any pesticide application is considered. On rare occasions, a light application of pyrethrin (contact insecticide) may be needed if live lice are still encountered on clothing.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 13

PEST: FLEAS

Site: Family housing and other buildings

1. Purpose: To control fleas in family quarters and in other buildings when fleas are a problem.

2. Surveillance.
   a. Conducted by: Building occupants.
   b. Methods: Visual observation.
   c. Frequency: As required.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Vacuuming carpets and upholstered furniture will help to control fleas - be sure to empty the cleaner bag immediately after vacuuming since the fleas which have been removed are usually not killed. Pet bedding must also be vacuumed and washed in hot water and detergent.
         (b) Conducted by: Building occupants.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Dogs and cats should be treated with an approved insecticide to control fleas - the Veterinary Clinic has suitable products for sale and will give advice on various products which can be safely used on pets.
         (b) Conducted by: Pet owners.
   b. Chemical.
         (a) Basis for Treatment: Flea infestations in buildings.
         (b) Method and Location: 2-gallon sprayer - treat interior of buildings in accordance with label directions.
         (c) Conducted by: PCOs.
         (d) Pesticide. (a) Common Name: Precor IGR (b) EPA Registration Number: 2724-352-50809, (a) . Dragnet FT (b) EPA Registration Number: 279-3062, (a) Archer AGR, (b) 10182-433, (a) Ultracide, (b) 499-404.
         (e) Control Standard: No live fleas 7-14 days following treatment.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Fleas may become a serious problem if quarters that contain pets are vacated for extended periods of time (e.g., vacation, between occupancy and etc). During this time, flea larvae develop into pupae and wait for the presence of pets or people to pupate. When this happens, many newly emerged, hungry adult fleas are suddenly present. Before obtaining flea control services for housing, the resident must show proof of treatment for all pets from the Veterinary Clinic.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 14

PEST: MICE

Site: Food storage warehouses, dining facilities

1. Purpose: To control mice in the commissary, storage facilities, and AAFES Shoppettes.

2. Surveillance.

a. Conducted by: Food service personnel, MEDDAC, PMQAE, and PCOs.

b. Methods: Visual observations for damage or droppings.

c. Frequency: Daily by warehouse, and shoppette, personnel. As needed by MEDDAC. As needed by PMQAE in response to customer complaints. Monthly by contract PCOs.

3. Pest Management Techniques.

a. Non-chemical.

(1) Type: Mechanical and Physical.

(a) Method and Location: Eliminate openings to the buildings that are greater than 1/4-inch. Particular attention should be given to loading doors since they do not always close tightly. Snap traps and sticky glue boards may be used to capture mice when an infestation is found.

(b) Conducted by: Installation maintenance personnel are requested to make building modifications such as weather stripping, door repair, etc. The PMQAE may set traps or place glue boards for surveillance; the PCOs usually set traps and glue boards when extensive trapping is required.

(2) Type: Biological.

(a) Method and Location: None.

(b) Conducted by:

(3) Type: Cultural.

(a) Method and Location: Utilize good sanitation to reduce food and water for mice. Clean up spilled food products immediately. Remove bags, boxes and other potential harborage from food storage areas. Keep salvage and break areas clean at all times; keep food in closed containers. Store pallets of food at least 24 inches from walls to permit routine cleaning, inspection, and rodent control.

(b) Conducted by: Warehouse or shoppette personnel.

b. Chemical.

(a) Basis for Treatment: Mice or evidence of mice found during surveillance.

(b) Method and Location: Placing bait stations in areas of mice activity

(c) Conducted by: PCOs.

(d) Pesticide. (a) Common Name: Contrac, (b) EPA Registration Number: 12455-36, (a) WeatherBlok XT, (b) 100-1055.

(e) Control Standard: No product damage from mice. If mouse baiting is instituted following evidence of a large mouse infestation, then significant reduction in the number of droppings should be seen in and around bait stations within the first 30 days following bait placement. If there is no evidence of mice following 30 days of baiting, then the bait stations should be removed unless there is a past history of repeated infestations. Bait stations should be serviced at least monthly.

4. Precautions for Sensitive Areas: See pesticide labels for precautions.

5. Prohibited Practices: Do not place rodenticides where the bait will be accessible to children or pets. Bait must be placed in tamper proof containers and a graph of placements must be sent to the Environmental Management Division.

6. Environmental Concerns: None.

7. Remarks: Pesticides should be considered the last option in controlling mice. As long as entry points into buildings exist, then trapping or baiting may be the only alternatives for control. The presence of spilled food products and/or poor housekeeping (e.g., pallets against walls, old boxes and equipment kept in the warehouse, etc.) will adversely impact any baiting or trapping program.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 15

PEST: MICE

Site: Family housing, offices, barracks, and other administrative buildings

1. Purpose: To control mice in the family quarters and in other administrative areas on the Installation.

2. Surveillance.
   a. Conducted by: Building occupants.
   b. Methods: Visual observations for damage or droppings.
   c. Frequency: As required.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Snap traps and sticky glue boards may be used to capture mice when an infestation is found - these items can be obtained from self-help. Eliminate openings to the building that are greater than 1/4-inch; particular attention should be given to doors and areas on the outside of the building where pipes and other utility lines enter.
         (b) Conducted by: Facility personnel may set traps or place glue boards for minor infestations; the PCOs usually set traps and glue boards when extensive trapping is required. Installation maintenance personnel are usually requested to make building modifications such as weather stripping, door repair, etc.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Utilize good sanitation to reduce food and water for mice. Clean up spilled food products immediately or daily at the latest. Remove bags, boxes and other potential harborage from basements, kitchens, closets, etc.
         (b) Conducted by: Building occupants.
   b. Chemical.
         (a) Basis for Treatment:
         (b) Method and Location: None.
         (c) Conducted by:
         (d) Pesticide (a) Common Name: Contrac, (b) EPA Registration Number: 12455-36, (a) WeatherBlok XT, (b) 100-1055. Common Name: (b) EPA Registration Number:
         (e) Control Standard: No evidence of mice droppings or damage after 30 days.

4. Precautions for Sensitive Areas:

5. Prohibited Practices:

6. Environmental Concerns: None.

7. Remarks: As long as entry points into buildings exist, then trapping may only be successful as long as other mice do not enter from the outside. The presence of spilled food products and/or poor housekeeping (e.g., boxes and equipment kept in basements, closets, etc.) will provide harborage for mice, allowing them to breed in the structure. If this occurs, and trapping by occupants fails to control the problem, then the Environmental Management Division should be contacted to evaluate the situation.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 16

PEST: BIRDS

Site: Warehouses, loading docks, family quarters, and other buildings

1. Purpose: To prevent birds from nesting in unwanted areas.

2. Surveillance.
   a. Conducted by: Conservation Branch; Occupant
   b. Methods: Visual observation.
   c. Frequency: As needed in response to customer complaints.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Birds can be prevented from building nests in unwanted areas by placing screening or nets over the areas where birds need to be excluded.
         (b) Conducted by: PCO; Conservation Branch.
      (2) Type: Mechanical and Physical.
         (a) Method and Location: Nest removal. Nests can be removed as long as the birds have not laid eggs. Nest removal may require a permit from the U.S Fish and Wildlife Service.
         (b) Conducted by: Conservation Branch.
      (3) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (4) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
         (a) Basis for Treatment:
         (b) Method and Location: None.
         (c) Conducted by:
         (d) Pesticide. (a) Common Name: (b) EPA Registration Number:
         (e) Control Standard:

4. Precautions for Sensitive Areas: Nests cannot be removed once eggs are laid.

5. Prohibited Practices: None.

6. Environmental Concerns: Restrict activities that may injure or kill birds. Under the provisions of the Migratory Bird Treaty Act, the unauthorized take of migratory birds is a strict liability criminal offense that does not require knowledge or specific intent on the part of the offender. As such, even when engaged in an otherwise legal activity where the intent is not to kill or injure migratory birds, violations can occur if bird death or injury results.

7. Remarks: Birds should be discouraged from nesting only in areas where they cannot be tolerated (e.g., family housing - near windows and doors, loading docks). Birds tend to use the same nesting areas year after year, indicating those sites where exclusion (screens or nets) or repelling (monofilament lines) should be strongly encouraged since nest removal is very labor-intensive and may result in the inadvertent removal of bird eggs.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 17

PEST: OTHER VERTEBRATE PESTS

Site: Cantonment area

1. Purpose: To control vertebrate animals (stray dogs and cats, skunks, raccoons, etc.) in the main post area.

2. Surveillance.
   a. Conducted by: PCOs, Military Police, and Conservation Branch.
   b. Methods: Visual observation.
   c. Frequency: In response to complaints.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Live trapping with wire or solid cage traps.
         (b) Conducted by: PCOs, Military Police.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
         (a) Basis for Treatment:
         (b) Method and Location: None.
         (c) Conducted by:
         (d) Pesticide. (a) Common Name: (b) EPA Registration Number:
         (e) Control Standard:

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Stray pets are apprehended by the Military Police and taken to the Veterinary Clinic. Wild vertebrates (skunks, raccoons, etc.) are trapped by the PCO and released off the main post area. Refer to Nuisance Wildlife call chart (par. 4.4), to determine whom to call.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 18

PEST: SNAKES

Site: Cantonment area/other mission areas

1. Purpose: To remove snakes, especially poisonous species, from the main post area or other areas where they interfere with the mission or other post activities.

2. Surveillance.
   a. Conducted by: All personnel.
   b. Methods: Visual observation.
   c. Frequency: As necessary when snakes are encountered in an unwanted area.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Capture with snake loop and removal.
         (b) Conducted by: PCO, and Conservation Branch.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Avoidance - if at all possible, bypass snakes. Snakes generally prefer to avoid people. Most encounters with snakes can be avoided by simply allowing the snake to leave the area. The biggest risk of snakebites comes from people going out of their way to handle or otherwise provoke snakes into a defense attitude. If snakes cannot be avoided, **DO NOT HARM OR KILL SNAKES!!!**
         (b) Conducted by: Personnel encountering snakes.
   b. Chemical.
         (a) Basis for Treatment:
         (b) Method and Location: None.
         (c) Conducted by:
         (d) Pesticide. (a) Common Name: (b) EPA Registration Number:
         (e) Control Standard:

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Snakes, both poisonous and nonpoisonous, will be captured alive and removed to a location where they will not cause any harm or disrupt installation activities.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 19

PEST: UNWANTED VEGETATION AND BROADLEAF WEEDS

Site: Parade fields, lawns, family housing, sidewalks, building foundations, fencelines, and other areas

1. Purpose: To control broadleaf weeds and other unwanted vegetation in lawns and grassy areas.

2. Surveillance.
   a. Conducted by: Installation maintenance personnel, building occupants, PMQAE
   b. Methods: Visual observations.
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Mowing grass to maintain a uniform height may result in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing condition by flowering just above the surface of the ground, but below the height of most commercial mowers.
         (b) Conducted by: Family housing residents, installation maintenance personnel, contracted lawn service.
   b. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Weed eaters can be used, but are very labor-intensive. In addition, once vegetation is cut, new growth will quickly replace those parts of the plants that have been removed.
         (b) Conducted by: Building occupants.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Proper fertilization and watering of grassy areas promotes good grass growth. This practice will prevent many broadleaf weeds from taking hold and growing.
         (b) Conducted by: Family housing residents, contracted lawn service.
   c. Chemical.
         (a) Basis for Treatment: Presence of broadleaf weeds in grass.
         (b) Method and Location: Selective herbicide application is performed using a boom sprayer on parade fields. Residents perform broadleaf weed control in family housing lawns; Weeds in small grassy areas are treated with herbicide using a hand sprayer.
         (c) Conducted by: Contracted lawn personnel.
         (d) Pesticide. (a) Lesco Three-way (b) EPA Registration Number: 10404-43, (a) Roundup Pro Concentrate, (b) 524-529, (a) Roundup Pro, (b) 524-475, (a) Fusilade II, (b) 10182-393, (a) Lesco Prosecutor (b) 228-366-10404, (a) Image (b) 241-319.
         (e) Control Standard: Broadleaf weed are killed within two weeks following treatment.
   d. Chemical.
         (a) Basis for Treatment: Vegetation around the bases of hydrants and utility poles, vegetation along fence lines, and vegetation on or along sidewalks and building perimeters.
         (b) Method and Location: Hand or power sprayer. Chemical is applied IAW label directions to unwanted vegetation.
         (c) Conducted by: PCO.
         (d) Pesticide. a) Common Name: Glyphosate. (b) EPA Registration Number: 524-308-AA.
         (e) Pesticide. a) Common Name: Arsenal. (b) EPA Registration Number: 241-273.
(f) Control Standard: Vegetation is killed within two weeks following treatment.

4. Precautions for Sensitive Areas: See the pesticide label for precautions.

5. Prohibited Practices: Avoid contact with foliage, green stems or fruit of crops, desirable plants and trees. Avoid direct application to any body of water. Avoid drift that could damage desirable plants; do not spray if wind is over 5 miles per hour.

6. Environmental Concerns: Avoid getting pesticide in direct and indirect waterways, and in air ducts of buildings.

7. Remarks: Herbiciding should be used as a last resort for obtaining control.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 20

PEST: BROADLEAF WEEDS

Site: Golf course

1. Purpose: To control broadleaf weeds on the Golf Course fairways.

2. Surveillance.
   a. Conducted by: Golf Course Superintendent.
   b. Methods: Visual observations.
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Mowing grass to maintain a uniform height may result in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing condition by flowering just above the surface of the ground, but below the height of most commercial mowers.
         (b) Conducted by: Golf Course maintenance personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Proper fertilization and watering of grassy areas promotes good grass growth. This practice will prevent many broadleaf weeds from taking hold and growing.
         (b) Conducted by: Golf Course maintenance personnel.
   b. Chemical.
         (a) Basis for Treatment: Presence of broadleaf weeds in grass.
         (b) Method and Location: Selective herbicide application is performed using a boom sprayer on the fairways. Weed control is incorporated into a fertilizer application early in the season. The fairways are treated with herbicide using a boom sprayer when the combination weed and feed operations are not programmed.
         (c) Conducted by: Golf Course maintenance personnel.
         (d) Pesticide: see label
         (e) Control Standard: Broadleaf weeds are killed within two weeks following treatment.

4. Precautions for Sensitive Areas: See the pesticide label for precautions.

5. Prohibited Practices: None.

6. Environmental Concerns: Never spray near water or when there is wind. Pesticide can drift directly into streams or drainage ditches, polluting our waterways. Pesticide may also drift into unintended areas, damaging desirable plants.

7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 21

PEST: UNWANTED VEGETATION

Site: Utility lines and right-of way clearing

1. Purpose: To reduce damage utility lines clear of trees and undergrowth in order to alleviate damage to the lines and other potential safety hazards.

2. Surveillance.
   a. Conducted by: Installation maintenance personnel, PCOs
   b. Methods: Visual observations.
   c. Frequency: As needed.

3. Pest Management Techniques.
   a. Non-chemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Trees, stumps, roots, brush, weeds and other material is removed from the area to clear undergrowth and brush.
         (b) Conducted by: Contractor.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
         (a) Basis for Treatment: To manage vegetation growth for right-of-way clearing
         (b) Method and Location: Ultra Low Volume herbicide sprayer
         (c) Conducted by: Contractor
         (d) Pesticide. (a) Arsenal: (b) EPA Reg. 241-346, (a) Krenite S (b) 352-395. (a) Garlon 4, (b) 62719-40
         (e) Control Standard: No vegetation remains after two weeks of treatment.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Never spray near water or when there is wind. Pesticide can drift directly into streams or drainage ditches, polluting our waterways. Pesticide may also drift into unintended areas, damaging desirable plants.

7. Remarks:

ENVIRONMENTAL ASSESSMENT FOR IMPLEMENTATION OF THE INTEGRATED PEST MANAGEMENT PLAN, FORT BENNING, GEORGIA AND ALABAMA

APPENDIX B

Draft FINDING OF NO SIGNIFICANT IMPACT (FNSI)

1. Description of the Proposed Action: The Department of the Army, through regulation AR 200-5, requires all Army installations to prepare an integrated pest management plan (IIPMP). An IPMP is an internal Army compliance and management document that integrates all of the installation pest management requirements with ongoing mission activities, allows for ready identification of potential conflicts between an installation's mission and pest management, and identifies the best management practices necessary to protect and maintain the availability of mission essential properties and acreage. After initial technical review and approval, the IPMP will be reviewed annually and revised at least every five years.

Precautions are taken during pesticide application to protect the public, on and off the Installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application is approved by the Environmental Management Division. Whenever pesticides are applied outdoors, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and utilizing the appropriate equipment.

The proposed action is, therefore, to implement a IPMP that uses the integrated pest management (IPM) approach to control pests on lands owned or controlled by Fort Benning via the Directorate of Public Works (DPW), Environmental Management Division (EMD). IPM emphasizes identification, surveillance, education, and non-chemical control techniques. Pesticides are used only as a last resort. The IPM defines roles and responsibilities for pest management at Fort Benning. It addresses applicable legal requirements and incorporates available "pest management policies" that are consistent with the needs, goals, and objectives of the Fort Benning military mission. The IPMP is a component of the Real Property Master Plan and will be coordinated with Fort Benning's Master Plan and other component plans (e.g., Integrated Natural Resources Management Plan, Integrated Cultural resources Management Plan).

2. Finding of No Significant Impact (FNSI): the EA (EA) titled "Environmental Assessment for Implementation of the Integrated Pest Management Plan, Fort Benning, Georgia and Alabama," was prepared and evaluated pursuant to the National Environmental Policy Act (Public law 91-190, 42 USC. 4321 et seq.). This EA concluded that the proposed action does not constitute a "major Federal action significantly affecting the quality of the natural and human environment" when considered individually or cumulatively in the context of the referenced Act, including both direct and indirect impacts. Therefore, the preparation of a more detailed environmental document, an Environmental Impact Statement, was not required.

3. Summary of Potential Environmental Effects and Proposed Mitigation for the Preferred Alternative (Alternative II: "Implement IPMP"):

RESOURCE	POTENTIAL EFFECT	MITIGATION
Soils and Vegetation	No effect	Adherence to procedures outlined in the Fort Benning IPMP and Installation SPCC; no additional mitigation proposed.
Water Quality and Wetlands	No effect	Adherence to procedures outlined in the Fort Benning IPMP, Installation SPCC, and NPDES Municipal Separate Storm Sewer System (MS4) requirements; no additional mitigation proposed.
Hazardous Materials and Wastes	No effect	Adherence to existing Installation, state, and Federal laws, regulations, and guidelines; no additional mitigation required.
Protection of Children	No effect	Adopting the best management practices of IPM in schools; no additional mitigation required.

4. Public Comments:

a. The EA and draft FNSI for the proposed action will be made available to the public for a review period of 30 days starting from the first day of publication (25 June 2004) in "The Columbus Ledger-Enquirer," in accordance with part 1501.4 (e)(1) of Title 40 of the Code of Federal Regulations and Army Regulation 200-2. These documents will be available at the W.C. Bradley Memorial Library, South Lumpkin Library, Fort Benning Main Post Library, and on the Installation website: www.benning.army.mil/EMD/Legal&PublicNotices.htm. A notice of availability (NOA) of the EA and draft FNSI will also mailed to all agencies/individuals/organizations on the distribution (mailing) list for the proposed action.

b. Summary of Public Comments: Reserved until completion of the public review and comment period.

FINDING OF NO SIGNIFICANT IMPACT
REVIEWED AND APPROVED BY:

_____
Date

_____
Ricardo R. Riera
Colonel, IN
Garrison Commander

ENVIRONMENTAL ASSESSMENT FOR IMPLEMENTATION OF THE INTEGRATED PEST MANAGEMENT PLAN, FORT BENNING, GEORGIA AND ALABAMA

APPENDIX C

DISTRIBUTION LIST FOR PUBLIC NOTICE

I. MUNICIPAL AND COUNTY ELECTED AND APPOINTED OFFICIALS

Honorable Robert S. Poydasheff
City of Columbus, Mayor
100 Tenth Street
6th Floor, Government Center Tower
Post Office Box 1340
Columbus, GA 31993

Chairman, Chattahoochee County
Board of Commissioners
Mrs. Dallas P. Jankowski
Post Office Box 299
Cussetta, GA 31805-0299

Mr. Mike Gaymon
Greater Columbus Chamber of Commerce
P.O. Box 1200
Columbus, GA 31902

Mr. Myron Wells, Chairman, Marion County
Board of Commissioners
240 Cool Springs Road
Buena Vista, GA 31803

Mr. Julius Hunter
District 3
139 Whippoorwill Lane
Columbus, GA 31906

Mrs. Evelyn Turner-Pugh
District 4
325 Jefferson Drive
Columbus, GA 31907

Mr. Victor W. Cross
Phenix City-Russell County Chamber of Commerce
1107 Broad Street
Phenix City, AL 36867

Mayor H.S. "Sonny" Coulter
601 12th Street
Phenix City, AL 36867

II. TRIBAL, STATE, COUNTY, AND LOCAL GOVERNMENT OFFICIALS

Sen. George Hooks
Senate District 14
P.O. Box 928
Americus, GA 31709

Sen. Ed Harbison
Senate District 15
P.O. Box 1292
Columbus, GA 31902

Sen. Seth Harp
Senate District 16
P.O. Box 363
Midland, GA 31820

Rep. Debbie Buckner
House District 109
Route 1 Box 76
Junction City, GA 31812

Rep. Vance Smith
House District 110
5331 Hopewell Church Rd.
Pine Mountain, GA 31822

Rep. Calvin Smyre
House District 111
1103 Glenwood Road
Columbus, GA 31906

Rep. Richard Smith
6127 Seaton Drive
Columbus, GA 31909

Rep. Carolyn Hugley
House District 113
4019 Steam Mill Road
Columbus, GA 31906

Senator Saxby Chambliss
416 Russell Senate Office Bldg.
Washington, DC 20510

Senator Johnny Isakson
6000 Lake Forrest Drive, Suite 100
Atlanta, GA 30328

Jack Kingston
Georgia-1st, Republican
2242 Rayburn HOB
Washington, DC 20515-1001

Jim Marshall
Georgia-3rd, Democrat
502 Cannon, HOB
Washington, DC 20515-1003

John Lewis
Georgia-5th, Democrat
343 Cannon HOB
Washington, DC 20515-1005

John Linder
Georgia-7th, Republican
1727 Longworth HOB
Washington, DC 20515-4272

Charlie Norwood
Georgia-9th, Republican
2452 Rayburn HOB
Washington, DC 20515-1009

Phil Gingrey
Georgia-11th, Republican
1118 Longworth HOB
Washington, DC 20515-1011

David Scott
Georgia-13th, Democrat
417 Cannon HOB
Washington, DC 20515-1013

Sanford Bishop, Jr.
Georgia-2nd, Democrat
2429 Rayburn HOB
Washington, DC 20515-1002

Denise L. Majette
Georgia-4th, Democrat
1517 Longworth HOB
Washington, DC 20515-1004

Tom Price
Georgia-6th, Republican
PO Box 425
Roswell, GA 30777

Mr. Lynn Westmorland
Georgia-8th, Republican
2753 East Highway 34, Suite 3
Newnan, GA 30265

Nathan Deal
Georgia-10th, Republican
2437 Rayburn HOB
Washington, DC 20515-1010

Max Burns
Georgia-12th, Republican
512 Cannon HOB
Washington, DC 20515-1012

III. LOCAL AND REGIONAL ADMINISTRATORS, FEDERAL AGENCIES, OR COMMISSIONS WITH REGULATORY INTEREST

U.S. Fish & Wildlife Service
North Georgia Office
247 South Milledge Avenue
Athens, GA 30605

U.S. EPA
Attn: Dr. Gerald Miller
Atlanta Federal Building
61 Forsyth Street
Atlanta, GA 30303-3104

U.S. Department of Agriculture
Soil Conservation Service
Post Office Box 18
Buena Vista, GA 31803

Commander, Savannah District COE
Attn: CESAS-PD-EC (Mr. Coleman)
Post Office Box 889
Savannah, GA 31402-0889

U.S. Department of Health and Human Services
Region IV
Room 3T41
61 Forsyth Street
Atlanta, GA 30303-8909

Georgia State Clearinghouse
Ms. Deborah Stephens, Administrator
Office of Planning and Budget
270 Washington Street, SW.
Atlanta, GA 30334-8500

Mr. Joe Tanner
Department of Natural Resources
205 Butler Street SE, Suite 1252
Atlanta, GA 30334-4910

Mr. Keith Parsons
Georgia DNR, Environmental Policy Division
205 Butler Street
Atlanta, GA 30334-4910

Georgia DNR, Erosion and Sedimentation Control
205 Butler Street, SE.
Suite 1038, Floyd Towers East
Atlanta, GA 30334

Columbus Consolidated Government
Planning Division
Government Tower – West Wing
Columbus, GA 31902

Columbus/Muscogee County Soil Conservation Service
Government Center – East Wing
Columbus, GA 31993-2399

Mr. Carmen Cavezza, City Manager
Government Center – West Wing
Columbus, GA 31901

IV. CITIZEN ADVISORY GROUPS AND LOCAL INTEREST GROUPS OR PERSONS

Chattahoochee Nature Center
9135 Willeo Road
Roswell, GA 30075

The Nature Conservancy
Post Office Box 2452, Ft. Benning Branch
Columbus, GA 31905-2452

Sierra Club, Georgia Chapter
1447 Peachtree Street N.E.
Suite 305
Atlanta, GA 30309

Audobon Society of Columbus
P.O. Box 442
Hamilton, GA 31811

National Wildlife Society
1401 Peachtree Street N.E.
Suite 240
Atlanta, GA 30309

Georgia Wildlife Federation
11600 Hazelbrand Road
Covington, GA 30014

National Wildlife Society
1401 peachtree St., N.E.
Suite 240
Atlanta, GA 30309

Georgia Forestry Association, Inc.
505 Pinnacle Court
Norcross, GA 30071-3634

Wildlife Society, Georgia Chapter
2150 Dawsonville Highway
Gainesville, GA 30501

The Georgia Conservancy, Inc.
1776 Peachtree Street NW, Suite 400, South Tower
Atlanta, GA 30309

V. LOCAL NEWS AND MEDIA

WRBL TV 3 (CBS)
Attn: Legals
1350 13th Avenue
Columbus, GA

WKCN (99.3 FM)
Attn: Legals
1253 13th Avenue
Columbus, GA 31901

WTVM TV 9 (ABC)
Attn: Legals
1909 Wynnton Road
Columbus, GA 31994

WGSY (100 FM)
Attn: Legals
1501 13th Avenue
Columbus, GA 31901

WXTX TV 54 (FOX)
Attn: Legals
6524 Buena Vista Road

WOKS (1340 AM) and WXFE (105 FM)
Attn: Legals
P.O. Box 1998

Columbus, GA 31994

Columbus Times
2230 Buena Vista Road
Columbus, GA 31906

Columbus, GA 31902

Mellow Times News
2904 Macon Road
Columbus, GA 31907

VI. FORT BENNING OFFICIALS

BG Benjamin C. Freakley
Commanding General
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

Deputy CG/Assistant Commandant
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-IM
Fort Benning, GA 31905-5122

Commander, U.S. Army Infantry Center
Attn: ATZB-PO
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-JA
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-AG
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PA
Fort Benning, GA 31905-0798

Commander, U.S. Army Infantry Center
Attn: ATZB-PS
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PSF
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-OT
Fort Benning, GA 31905

PWD, Southeast Region, IMA
Attn: SFIM-SE-PW-E (Mr. Jim Cobb)
1593 Hardee Avenue SW
Fort McPherson, GA 30330-1057

Commander, 75th Ranger Regiment
Building 2834
Fort Benning, GA 31905

Commander, 3rd Brigade, 3rd Infantry Division
Building 9050 (Kelley Hill)
Fort Benning, GA 31905

Commander, 29th Infantry Regiment
Building 5500 (Harmony Church)
Fort Benning, GA 31905

Commander, 11th Infantry Regiment
Building 2749
Fort Benning, GA 31905

Commander, 36th Engineer Group
Building 2827
Fort Benning, GA 31905

Commander, Ranger Training Brigade
Building 5024 (Harmony Church)
Fort Benning, GA 31905

Commander, Infantry Training Brigade
Building 3410 (Sand Hill)
Fort Benning, GA 31905

ENVIRONMENTAL ASSESSMENT FOR IMPLEMENTATION OF THE INTEGRATED PEST MANAGEMENT PLAN, FORT BENNING, GEORGIA AND ALABAMA

APPENDIX D

Environmental Assessment for the Implementation of the Integrated Pest Management Plan, Fort Benning, Georgia and Alabama

Public and Stakeholder Involvement Plan (PIP)

29 October 2004

Revised 6 December 2004

1. PURPOSE.

1.1 Need for Project. Per AR 200-5, a "pest" is defined as any plant, animal, or other organism (except for human or animal disease-causing organisms) in a location where it is not wanted. A "pesticide" is defined as any substance or mixture of substances, including biological control agents, that may prevent, destroy, repel, or mitigate pests and are specifically labeled for use by the EPA. Also, any substance or mixture of substances used as a plant regulator, defoliant, desiccant, disinfectant, or biocide. In accordance with AR 200-5, all Army installations, activities, and sites supported with Federally appropriated funds or subject to Federal approval must prepare an IPMP to address this issue. Fort Benning lands are centrally managed, share a common chain of command, and have a single point of contact (POC) responsible for coordination of pest management, and will be managed according to a single IPMP. Pests included in the IPMP are weeds and other unwanted vegetation, termites, mosquitoes, crawling insects (ants, crickets, cockroaches, etc.) and spiders, mice, gophers, and other vertebrate pests. Without control, these pests could interfere with the military mission, damage real property, increase maintenance costs and expose installation personnel to diseases.

Precautions are taken during pesticide application to protect the public, on and off the Installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application is approved by the Environmental Management Division. Whenever pesticides are applied outdoors, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and utilizing the appropriate equipment.

The proposed action is, therefore, to implement an IPMP that uses the integrated pest management (IPM) approach to control pests on lands owned or controlled by Fort Benning. IPM emphasizes identification, surveillance, education, and non-chemical control techniques. Pesticides are used only as a last resort. The IPM defines roles and responsibilities for pest management at Fort Benning. It addresses applicable legal requirements and incorporates available "pest management policies" that are consistent with the needs, goals, and objectives of the Fort Benning military mission. The IPMP is a component of the Real Property Master Plan and will be coordinated with Fort Benning's Master Plan and other component plans (e.g., Integrated Natural Resources Management Plan, Integrated Cultural resources Management Plan).

1.2 Need for Public and Stakeholder Involvement Plan. This Plan presents a comprehensive means of satisfying legal requirements while enhancing community knowledge and participation in the planning for the proposed IPMP implementation. Throughout this Plan, "public" is used to broadly describe individuals that are in communities near the proposed project site or that may be interested or affected by the proposed action. "Stakeholder" is used to identify those entities that have an additional relationship to Fort Benning environmental resources or regulatory or governmental duties. Stakeholders include the Federally recognized American Indian Tribes associated with the Fort Benning area (Tribes); Federal, state and local governmental agencies with regulatory authority over Fort Benning (e.g. United States Fish and Wildlife Service, and Georgia State Historic Preservation Office); and others.

1.2.1 Public involvement required by National Environmental Policy Act (NEPA). The primary law that drives public involvement is the National Environmental Policy Act (NEPA). NEPA requires Federal agencies, such as the Army at Fort Benning, to prepare an environmental analysis of the proposed action and alternatives. Potential environmental impacts, both direct and indirect, are identified for the proposal and each alternative, and possible mitigation for any negative impacts is presented. Also, cumulative impacts (i.e. incremental impacts when considering other projects or actions in a region of affect) are identified as well as any resultant mitigation.

An EA is the appropriate level of NEPA documentation for the IPMP. The Council for Environmental Quality (CEQ) has NEPA oversight for the Federal government and has published regulations and guidance for preparation of an EA. The Army supplements NEPA and the CEQ directions with an Army Regulation 200-2, Environmental Effects of Army Actions (AR 200-2), current version effective 29 March 2002. AR 200-2 provides guidelines for the contents of an EA and the processes required for full environmental analysis with participation by public, stakeholders, and regulators. This Plan will not restate the provisions of AR 200-2, so attention to the specific requirements provided therein is required to fully comply with AR 200-2 and the Army's guidance on public and stakeholder participation and scoping. NEPA requires opportunities for public participation, often called public scoping, during preparation of an EA. Public interaction is based on two-way communication that reflect the needs of the community, and may utilize such methods as notices, brochures, news releases, web page information, summaries, draft documents, public meetings, comments and/or other methods. This Plan will address the optimal means of meeting the NEPA public involvement requirements.

1.2.2. Other Laws and Regulations. There are several other laws and regulations that require public notices and participation during the planning phases of a Federal project and some *may be* relevant to the proposed IPMP implementation. Although NEPA may address some of the topics and issues in the EA, Fort Benning must still satisfy the requirements of these other laws and regulations.

1.2.3 Goals of Plan. Fort Benning is committed to meeting the legal requirements and also takes measures for more meaningful communication and involvement of the public and stakeholders in the planning of the proposed Fort Benning IPMP. Limitations in resources, personnel, and time impose constraints that necessitate an efficient and realistic Plan. This Plan must assist the planners and be realistic for implementation. Goals for this Plan include:

- Promote an understanding of public and stakeholder involvement requirements and opportunities for better resourcing and scheduling;
- Specify steps needed to meet legal responsibilities for comment opportunities of public members and stakeholders;
- List realistic time frames and responsible persons or offices for each step;
- Coordinate activities to maximize the quality of the information, ensure the information relates to planning actions in process, and incorporate any resultant feedback into future participation or planning processes;
- Incorporate opportunities to present information to better partner with the community; and
- Keep PAO informed at all levels.

1. PLAN STRUCTURE.

This Plan is presented chronologically, providing the anticipated steps, time frames and actions. Although this Plan is meant to serve as a foundation for public and stakeholder involvement, it may have to be adjusted to accommodate changes. Items in this Plan should be evaluated for suitability before engaging in the recommended actions. AR 200-2 divides the scoping process into three phases for

simplification: the Preliminary Phase, the Public Interaction Phase, and the Final Phase. Although the majority of public and stakeholder involvement is conducted in the Public Interaction Phase, the other two stages encompass important steps to prepare for and respond to public and stakeholder involvement. This Plan will use the three phases to organize this Plan, although the phases often overlap.

3. PRELIMINARY PHASE.

3.1. Initial Internal Scoping. This is an internal Fort Benning action that is normally very informal and may result in limited amounts of documentation. Often proponents of the action start this internal scoping as a natural part of planning for the proposal, rather than as a conscious effort to conduct internal scoping. Internal scoping is a process of identifying project requirements, initial environmental concerns, and possibly explore options to address those concerns. Internal scoping is important because it commences the environmental analysis; however, internal scoping obviously is only a precursor to public and stakeholder involvement. It is important for the proponent and all those working with the proponent to keep in mind that the decisions regarding the project are not final and are just proposals. Until the process of environmental analysis and documenting a decision is complete, the proponent should be open to modifying the project, especially to reduce environmental impacts or to incorporate comments or mitigation.

3.1.1. Identify Proponent. Initially, the proponent(s) of the proposal is identified. Usually the proponent is the person or activity that has initiated the action, has initiated a funding request, and makes the important decisions or recommendations regarding the project. For the implementation of the IPMP, the proponent has been identified as the Directorate of Public Works (DPW), Fort Benning, and Ms. Erin Menefee, Pesticides Program Manager, is the current POC for this action. As the project planning progresses, other activities may be added to the list of proponents, but currently they should be considered stakeholders, affected or interested parties, or beneficiaries of the project. The Environmental Management Division (EMD) of Fort Benning is preparing the environmental planning and documentation for the proponent.

3.1.2. Coordinate with Environmental Planners. For actions that could have, i.e. the potential to have, a negative impact or a substantial positive impact on the environment, the proponent is required to coordinate with EMD. Early coordination is required for large or complex projects. Failure to coordinate early can lead to several problems, including failure to maintain a proper NEPA record, delay in project execution, extra expense from redesigns and incorporation of mitigation, plus other problems. Normally the proponent initiates coordination by submitting a completed Fort Benning Form 144-R to EMD to determine what level of NEPA analysis is required; however the NEPA documentation for some proposals obviously requires more complex NEPA analysis and the internal scoping can begin with a kick-off meeting or other ways.

3.1.3. Document internal scoping efforts. NEPA compliance involves keeping records of alternatives explored, issues brought up, personnel involved, and other aspects of the internal scoping process. Preparing meeting minutes or notes or other evidence of internal scoping is helpful not only for maintaining an administrative file, but also to later recall information for environmental document preparation. Options that may have been considered informally in the internal scoping process may be a basis for an alternative to study formally in the EA. This internal scoping does not substitute for public scoping, but it is a necessary precursor.

3.1.4. Coordinate with Public Affairs Officers (PAO). The EMD and DPW will keep the Public Affairs Officer (PAO) at Fort Benning informed regarding environmental planning and scoping for the proposed IPMP. In addition, it is the responsibility of the Fort Benning PAO to keep the Installation

Management Agency (IMA), via the South East Regional Office (SERO), informed of this action and its progress.

3.1.5. Tentative List of Affected and Interested Parties (Mailing List). EMD maintains a NEPA mailing list consisting of individuals or entities that have shown interest in Fort Benning's environmental studies or projects in the past. The mailing list also includes Federal, state and local government offices, Tribes, and anyone else requesting to be on the mailing list. This list should be thoroughly reviewed and adjusted for each NEPA action. Moving toward an electronic mailing database would be more efficient for many on the mailing list, and EMD should acquire email addresses for those who indicate a preference to receive email rather than traditional mail. At this time however, email cannot totally replace the mailings that are required for notices associated with the EA processing. For the proposed IPMP, Fort Benning has taken the basic Mailing List and adjusted it accordingly. A few names were also removed from the standard list to reflect an initial determination that those individuals or entities would not be interested or affected by the proposed IPMP. Part of the scoping process will be to continue requesting additional entries for the Mailing List through all stages and means of scoping. This List will be updated routinely to add individuals, organizations, entities and government agencies that may be affected by or interested in the proposed action.

4. PREPARATION OF THE EA AND FINDING OF NO SIGNIFICANT IMPACT (FNSI).

4.1. Involvement in Development of the EA. The EA is the environmental analysis document that is available for public review and comment in the NEPA process for this proposed action. While several partial drafts of the NEPA document may be routed for review at the Installation level, the first NEPA document to leave the installation for IMA/SERO and public review is the EA and draft FNSI. It should be the Installation's best attempt to inform the public and incorporate any scoping from the Preliminary Phase into the environmental analysis.

4.2. Preparation of the EA.

4.2.1. Drafting the NEPA Document. The EA should follow the general format in AR 200-2 although variations can be made as long as all required information and analysis are included. Environmental analysis in the EA requires reliable information regarding the draft IPMP. Developing the EA simultaneously with other environmental planning requirements is efficient and credible.

4.2.2. Gathering information. Much information can be obtained from existing sources; additional surveys and/or analysis are probably not needed. Coordination with the proponent, Fort Benning stakeholders and external participants should be conducted early to ensure the information is correctly presented in the EA.

4.2.3. Coordinating with other environmental requirements. Several other environmental requirements will involve collecting of data, analyzing potential project impacts, and considering possible mitigation. Information obtained to satisfy other requirements would be incorporated into the EA, when available. Often only a summary of the related information is presented, with either a reference to the full document, placing the full document in an appendix, or incorporating by reference. If either referencing or incorporating another document, the full text of the document should be available for public review when the EA is made publicly available. If possible, the public involvement activities should be integrated to meet the requirements of NEPA and other requirements to present a complete picture of the project and potential environmental impacts to the public.

4.2.4. Coordinating with Others: The EA internal Army review should involve DPW, Master Planning, the Pesticides Program Manager, and the Office of the Staff Judge Advocate (OSJA). See AR 200-2 651.45(d)(2) for more information.

4.2.5. Cooperating Agencies. At this time, there are no cooperating agencies involved in the NEPA for the IPMP implementation.

4.3 Publishing the EA for Public and Stakeholder Review and Comment: The Notice of Availability (NOA) of the EA and draft FNSI will be published in *The Bayonet*, the *Columbus Ledger-Enquirer*, and any other suitable media. The Fort Benning website should also include the NOA, as well as the full text of the EA, draft FNSI, and, when possible, the appendices to the EA.

In addition to the announcement of the NOA in various media, the NOA is also mailed to all persons/agencies on the Distribution/Mailing List for the project. Fort Benning is required to make hard copies of the EA and draft FNSI available for review to anyone on this list (or in the general public) upon request. At a minimum, hard copies of the EA and draft FNSI will be provided to key Installation personnel, regulatory agencies, and for libraries on and off post. The review and comment period for the draft EA and FNSI is 30 days after the first publication of the NOA in the local media.

5. THE FINAL PHASE.

After the close of the timeframe for public comment on the EA and draft FNSI, the Final Phase begins. Comments are considered and any revisions must be incorporated, either by errata sheets for minor revisions or complete revision and production of a revised EA for more comprehensive changes.

5.1. Draft Finding of No Significant Impact (FNSI). No decision will be made until 30 days after the EA and draft FNSI has been made available for public review and comment. The Draft FNSI includes the decision (which alternative is selected); a description of alternatives considered; explanation of all factors used in making the decision; and an account of avoidance and mitigation requirements. See AR 200-2, Section 651.35(c) for more information.

5.2. Mitigation and Monitoring. Mitigation measures and monitoring requirements will be identified in the EA and FNSI. A monitoring plan and enforcement programs for any required mitigation will be included in the EA and FNSI and carried out by the proponent. Fort Benning will provide the status of the mitigation and monitoring results upon request. Point of contact for requesting this information is the Fort Benning Public Affairs Office (PAO).

Prepared By:
Melissa B. Kendrick, C.H.M.M., R.E.M.
NEPA Coordinator
Fort Benning, GA

References:

Digital Multi-Purpose Range Complex Public and Stakeholder Involvement Plan, Linda M. Veenstra, Environmental Attorney-Advisor and DMPRC Environmental Project Manager, 29 January 2003.

Fort Benning, "Draft Environmental Assessment for the Implementation of the Integrated Pest Management Plan, Fort Benning, Georgia and Alabama, October 2004."

Army Regulation 200-2, Environmental Effects of Army Actions, Headquarters, Department of the Army, 2002.

Army Regulation 200-5, Pest Management, Headquarters, Department of the Army, 1999.