

APPENDIX A

NATURAL RESOURCES MANAGEMENT PLAN*

OUTLINE FOR PART III—FOREST MANAGEMENT

A-1. Description of Items Inherent to Part III of the Plan

A-1.a. Forest land treatment since acquisition, including history of fires, logging, military use, and acres reforested (plant and seed).

A-1.2. Identify any wood-using industries offering markets for forest products.

A-1.3. Prepare the following information in tabular form:

A-1.3.1. Total estimated merchantable volume of sawtimber, pulpwood, and other forest products. Specify basis of estimate, e.g. one-time inventory stating percent cruise, point sampling of continuous forest inventory; also state whether accomplished in-house or by contract.

A-1.3.2. Calculated annual allowable harvest by products for next 5 years.** (Plan outline is not applicable to Air Force installations.)

A-1. (3) Years in cutting cycle.

A-1.3.4. Estimated operating cost (protection included) by fiscal year for next 5 years.** (Plan outline is not applicable to Air Force installations)

A-1.3.5. Estimated value of products to be harvested by fiscal year for next 5 years.** (Plan outline is not applicable to Air Force installations.)

A-1.3.6. Forest fire record. Tabulate information on a separate page in the following manner:

FISCAL YEAR	MANAGED FOREST AREA				IMPACT AREA FIRE REQUIRING ACTION
	NUMBER OF FIRES	ACRES BURNED	ACRES PER FIRE	NUMBER REPORTABLE	

A-2. Description of Forest Land

A-2.1. Name and describe either the distinct forest types (para A-2.2) or the land classes (para A-2.3)

common to the managed forest land.

A-2.2. Show the acres in the following manner:

FOREST TYPE (NAME)	FOREST ACRES WITHIN TYPE			FOREST UNDER MGMT.
	ACTIVE IMPACT ¹	OUTSIDE ACTIVE IMPACT WITHIN SAFETY FAN ²	NONDANGER AREA ³	

¹ Active impact area is that area which is subject to concentrated firing or explosive demolitions. Usually timber within this area contains excessive metal contamination; this land is not classified as managed forest area.

² Outside active impact within safety fan includes managed forest land which can be managed with little or no possibility of excessive metal contamination. Accessibility in these areas is limited to periods when ranges and demolition areas are not utilized.

³ Nondanger area includes acreage which is not within active ranges, explosive demolition area or range safety fans.

A-2.3. Show the acres by Land Class (See para A-2.4) in the following manner:

A-2.3.1. Commercial Forest Land (CFL) _____

Regulated _____

Modified _____

Restricted _____

A-2.3.2. Non-Commercial Forest Land (NCF) _____

Non-Productive _____

All other acreage _____

Total Installation Acreage _____

* Plan outline is not applicable to Air Force installations.
 **10 years for Navy installations.

(A table could be set up to record land class changes)

A-2.4. Suggested definition of Land Classes:

A-2.4.1. Commercial Forest Land—Land currently or prospectively available for timber production and capable of producing at least 20 cu. ft./acre/year of commercial forest products.

A-2.4.2. Regulated—CFL presently available for management on a planned rotational basis with minimum restrictions.

A-2.4.3. Modified—CFL that cannot be managed on a planned rotational basis but is producing commercial products that are harvestable through salvage or silvicultural operations applied for other than timber production purposes. Examples are recreation and scenic areas, buffer zones, areas managed primarily for military purposes, and wooded parts of cantonment.

A-2.4.4. Restricted—CFL that is reserved for other uses and is not available for any production such as impact areas, cleared ranges, etc. These are areas that may become available for timber purposes in the foreseeable future. Also potentially productive land that is inaccessible during plan period.

A-2.4.5. Non-Commercial Forest Land (NCF)—Land not capable of producing at least 20 cu.ft./acre/year or land permanently removed from productive status such as natural areas or permanently inaccessible areas.

A-2.4.6. Non-Productive—Land not capable of producing 20 cu.ft./acre/year including natural and man-made wetlands that will not be converted to timber production in the foreseeable future.

A-2.4.7. All Other Acreage—Improved, semi-improved, and unimproved acres (See "Inventory of Land Use" Part I Installation Natural Resources Management Plan).

A-2.5. Utilize soil survey maps, where available, to determine (interpret) forest suitability groups.

A-3. Management

A-3.1. General. Explain briefly the types of timber crops to be grown and the anticipated intensity of management with resources available.

A-3.2. Species to be Grown. Designate by common and scientific names the species including special/favored species (e.g. black walnut), which are to be grown and managed for production. Give the reason for the selection of each. Estimate for each species sawtimber and pulpwood volume currently available and include in appendix.

A-3.3. Rotation. (Approximate age of species when ready to harvest as final product.) Designate the rotation to be used for each timber species.

A-3.4. Cutting Cycle.(Interval planned between harvest.) State the number of years selected and give reasons.

A-3.5. Compartments, Cutting Units and Stands. Establish the administrative and regulatory subdivisions as follows:

A-3.5.1. One compartment for each year of the cutting cycle when practical, considering species, rotation, acreage, yield, and topography. If the military mission or management decision preclude harvesting of the compartment scheduled, then a similar acreage in other compartments may be substituted. If the acreage and yield are small, use fewer compartments or blocks and adopt a periodic cutting cycle.

A-3.5.2. Within each compartment, establish cutting units of 40 to 80 acres each with easily identifiable boundaries; mark first on a contour map and then on the ground. Within each compartment and cutting unit identify forest stands having different ages, species growth rate or potential and other differing forest characteristics. Prescribe for each stand the treatment during the next 5 or 10 year period.

A-3.5.3. Include a tabular breakdown by compartment showing approximate acreage in each category as follows:

COMPARTMENT NUMBER	MANAGED FOREST AREA (ACRES)	FOREST IMPACT AREA (ACRES)	TOTAL (ACRES)	DATE 1ST AND SUBSEQUENT HARVESTS
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A-3.6. Silvicultural System. Define the practices to be used in growing and reproducing timber crop species.

A-3.6.1. General Practice Use. Specify even-aged and/or uneven-aged management systems to be used for various species managed. Discuss systems of intermediate and harvest cuttings to be employed. State planned treatment of understocked stands as well as those fully stocked.

A-3.6.2. Harvest Schedule.

A-3.6.2.1. Specify whether annual or periodic harvests are to be made and state reasons. Indicate, by products, the approximate volume to be cut during the next 5 years* and the basis for the estimate. Where more than one product is to be harvested, schedule the order of cutting according to type of product. Example: poles, lumber, ties, posts, and pulpwood.

*10 years for Navy installations.

A-3.6.2.2. Discuss the optimum volume to be made available in each timber sale considering local market conditions, management objectives and military use of the land.

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A-3.6.3. *Timber Sale Planning.*

Include factors to be considered such as operable and inoperable harvest areas according to volumes in need of removal, metal contamination which may be encountered, accessibility due to range firing, training schedules, or other installation activities.

A-3.6.4. *Timber Marking.*

A-3.6.4.1. *Training.* Describe personnel training to insure that markers are well qualified to recognize complex forest conditions and to select trees for marking so as to modify these conditions toward long-range objectives. Include training in recognition of age classes, site productivity for various species, tree quality, stand density, mechanical damage, disease and insect recognition and estimation of DBH and height.

A-3.6.4.2. *Field Procedure.* Include size of crew, duties, use of paint and colors to use, where to place marks, how to proceed to insure area coverage, product designation including size limits by product, volume estimation and recording, and volume computation from field data.

A-3.6.5. *Timber Cruising and Seed Tree Marking.* Describe method of cruising to determine total timber volumes by product on areas to be cleared and field procedure to be followed in marking seed trees when desirable.

A-3.6.6. *Timber Harvesting.*

A-3.6.6.1. Prior to all timber sales, determine if harvesting of certain areas or trees might adversely affect the installation mission.

A-3.6.6.2. *Reports of Timber Availability.* (Applicable to Army installations only.) Describe procedure for preparing subject reports in accordance with DA PAM 420-7 and forwarding to the MACOM for approval. A sample report should be included in the appendix. It should include timber sale volumes by product marked in each unit, description and maps of the sale area, specifications to be included in the contract and other detailed information.

A-3.6.6.3. *Inspection of Sales in Progress.* Sales in progress will be inspected periodically by forestry personnel. Describe inspection procedure, coordination with the District Engineer representative

or Contracting Officer, and reporting of contract violations to the District Engineer representative or Contracting Officer. Monthly and final completion reports will be furnished the installation forester by the District Engineer for all timber sales in progress. These reports will include volume and value of products removed. Quarterly and annual machine run reports will also be furnished listing volume and value by contract of all products harvested during the reporting period.

A-3.6.6.4. Contract clearance reports will be submitted to the District Engineer or Contracting Officer, after final inspection of the sale area by installation forestry personnel. Outline procedure for these inspections and include such items as utilization of all marked trees and sawtimber tops, cutting of unmarked trees, removal of limbs and debris from roads and firebreaks, and minimum stump heights.

A-3.6.6.5. Timber harvested for installation use as training course material, parking lot borders, posts, range materials, etc., will be in accordance with AR 420-74/AFR 126-1/NAVFAC INST. 11015.9A/MCO P11000.8. Describe method of marking and controlling harvest of these products on installation.

A-3.6.7. *Other Silvicultural Treatment.* Describe the use of prescribed burning, conversion of land occupied by unmerchantable forest species to a desirable species by mechanical clearing and planting, and removal of individual undesirable tree species by herbiciding, girdling, and a combination of these methods when their use is applicable. Designate the species to be removed. Define procedures for the formulation and application of chemicals, and rules of safety. Include schedules for applying the designated treatment, the time of year, time of day, and kind of day. Locate and schedule each type of treatment on a map. Include instructions deemed essential to proper correlation of silviculture and wildlife management. Correlate prescribed burning for silvicultural treatment with burning for fuel reduction (protection).

A-3.6.8. *Planting.* Describe fully the planting planned annually for the next 5 or 10 years, identifying location, species and spacing to be used, acres to be planted, age of planting stock required, and include direct seeding as appropriate. Specify the time of year to plant and how to plant (hand or machine) and type of tool preferred. Explain reasons for planting (as opposed to natural revegetation) and for the species selected to plant. List sources of planting stock. Include tabulation in the following format:

REFORESTATION PROGRAMMED

FY	ACRES SITE PREPARATION REQUIRED	ACRES TO BE PLANTED	ACRES TO BE SEEDED	SPECIES	TOTAL ACRES REFORESTED
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A-3.6.9. Annual Work Plan. To insure proper sequence of forest management work and to obtain funding, an annual work plan will be prepared and submitted to the appropriate military command for approval. See Annex I for suggested format.

A-3.7. Management Record System. List permanent records to be maintained on maps, aerial photos or in report form on file at the forestry office, to include the following:

A-3.7.1. Timber availability reports for current and previous FY.

A-3.7.2. Timber sale contracts in progress.

A-3.7.3. Contract completion and release reports completed during current and previous FY.

A-3.7.4. Income summary by FY.

A-3.7.5. Cost summary by FY.

A-3.7.6. FY plantation records.

ANNEX I

ANNUAL WORK PLAN—FOREST MANAGEMENT WORK RECORD
(Suggested Format)

DOLLAR PROCEEDS FROM SALES
ESTIMATED THIS FISCAL YEAR

PERIOD COVERED BY REPORT

TYPED NAME, GRADE, TITLE & PHONE OF PERSON
RESPONSIBLE FOR THIS REPORT

FROM: (Installation)

TO:

LINE	JOB DESCRIPTION <i>a</i>	JOB		WORK BY POST FORCES						WORK BY CONTRACT		EQUIPMENT ACQUISITION <i>j</i>	TOTAL COSTS <i>k</i>
		UNIT <i>b</i>	AMOUNT <i>c</i>	MAN DAYS <i>d</i>	LABOR COSTS <i>e</i>	MATERIAL COSTS <i>f</i>	EQUIPMENT RENTAL <i>g</i>	AMOUNT <i>h</i>	COST <i>i</i>				
1	TIMBER STAND IMPROVEMENT	ac											
2	REFORESTATION												
3	Site Preparation	ac											
4	Tree Planting	ac											
5	FIRE PROTECTION												
6	Woodland Areas Protected	ac											
7	Firebreak Maintenance	mi											
8	Firebreak Construction	mi											
9	Pres. Burning	ac											
10	Firetowers Manned	ea											
11	Fire Suppression	ea											
12	Fire Training Classes	ea											
13	ACCESS ROADS												
14	Roads Maintained	mi											
15	Roads Constructed	mi											
16	TIMBER HARVEST												
17	Marking	ac											
18	Marking	bd ft											
19	Marking	cds											
20	Sales Inspection	ea											
21	Forest Inventory	ac											
22	Timber Survey	ac											
23	Declaration of Availability	ea											
24	MISCELLANEOUS												
25	Insect & Disease Control	ac											
26	Training Conferences	ea											
27	Plans	ea											
28	Equipment Maintenance	pcs											
29	Leave	hrs											
30	Other												
31	TOTAL												

See instructions on reverse side.

**Instructions for Completing Annex I to Appendix A
(Annual Work Plan)**

- Note 1** Include only those activities (jobs) involving areas supported by reimbursable funds.
- Note 2** Report costs to the nearest dollar and amounts to the nearest whole number.
- Lines 7 & 8** Do not include firebreaks around perimeter of concentrated range firing impact area (i.e., the beaten zone plus the portion of the impact area in which fires frequently occur from incendiary ammunition); those along perimeter boundaries of the installation or along main traveled roads.
- Line 9** Do not include prescribed burning in impact areas or burning in permanent open areas to prevent vegetative wildfire.
- Line 11** Do not include fire suppression within small arms impact areas or that within storage areas, i.e., ammunition and vehicle storage areas.