

DEPARTMENT OF THE ARMY
Omaha District, Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

MROOP-R

20 May 1976

Memorandum
No. 1130-2-3

PROJECT OPERATIONS
Natural Resource Management, Establishment
of Resource Management Units

1. Purpose. The purpose of this memorandum is to provide guidance and instructions for establishing resource management units and for recording inventory of field conditions and programming of operation and maintenance requirements.
2. Applicability. This memorandum is applicable to all Lake Projects in the Omaha District.
3. References.
 - a. ER 1120-2-400.
 - b. ER 1130-2-400.
 - c. DR 35-1-1.
4. Policy. In order to facilitate resource management, all Lake Project lands and their adjacent water areas shall be subdivided into individual resource management units per land use allocations as set forth in Project Master Plans or updated Master Plans. Resource management units shall be made a part of Appendixes B and D, Grassland and Fish and Wildlife Management Plans to the Master Plan or updated Master Plan.
5. Resource Management Units. Criteria which shall be considered in determining the physical boundary of a resource management unit includes but is not limited to the following:
 - a. Current and projected future use.
 - b. Soils.
 - c. Vegetation.

DM 1130-2-3
20 May 1976

- d. Topography and other physical features.
- e. Land access.
- f. Leasing priority, if any.
- g. Adjacent private land use.
- h. Wildlife community (resident and/or migratory).
- i. Significant biota.

6. MRO Form 1633. All pertinent information pertaining to a resource management unit shall be recorded on MRO Form 1633. Copies of MRO Form 1633 are available from District's Operations Division. The form shall be completed in pencil and shall be continually updated to reflect changes in inventory and operation, maintenance and management requirements. Only one form will be prepared for each management unit and will be retained at the Project Office. Upon request, completed forms will be made available to the District Operations Division for review purposes.

7. Form Description. The form is printed on a McBee Keysort Card and consists of an inventory side which records actual conditions and a planning side which programs current and future management prescriptions. The edge of the card (form) is punched so that information can readily be retrieved by needle sorting.

a. Inventory Side (Front Side). The inventory side consists of four sections as follows:

(1) Designation and Description Section. The resource management unit designation and legal description (except for the range) are recorded at the top of the card. Also provided is a block to record priority lessee data. The range data is located at the top of the left-hand corner of the reverse side. Also located at the top of the reverse side (right-hand corner) is block to record the type of outgrant data.

(2) Map Section. The resource management unit's physical boundary and features are shown on the grid area either by a map tracing, aerial photo, transparent overlays, or other suitable drawings. The resource management unit may cover any area desired; i.e., 10 acres, quarter section, section, etc. In some cases, the unit may include parts of one or more sections and/or one or more townships or ranges. In this case, the legal description will be handwritten in the space provided with the higher Section number and lower Township and Range numbers punched at the top of the card.

(3) Inventory Type and Quantity Section. In the columns "Map Numbers" and "Quant." (Quantity) the management unit's inventory type and amount or number are recorded. Each inventory feature is assigned a number on the map as it is inspected in the field. This same number is used on both sides of the card as the feature identification number.

(4) Field Notes Section. Field notes furnishing specific information on acreage, unit count, condition, etc., are recorded in this section. Each field note should be accompanied by a map number.

b. Planning Side (Reverse Side). The planning side also consists of four sections which are:

(1) Scheduling Section. This section is located at the top of the card and is used to schedule work priority. This is a bonus section that may or may not be used by the resource manager. The range data is located on the left-hand corner.

(2) 605 Account - Operations and Maintenance Section. The first column in this section identifies the program category by using the cost code system. The second column indicates the unit the quantity is to be expressed in. In the lined field the map number and description of work to be performed is entered. Practices to be performed by lessees as a part of Land Use Regulations or Annual Management Plans are also entered in the same manner as if the activity were to be performed by the Corps. In the last column the total of the unit quantity is entered. The total on all cards provides the total routine O & M requirements.

(3) 624 Account - Extraordinary Maintenance Section. This section is similar to that described in paragraph 7b(2) above except it involves work to be performed under the 624 Cost Account. The total of the unit quantity of all cards provides the total extraordinary O & M requirements.

(4) Recommended Special Practices & Notes Section. This section is used to record special practices, wildlife type, etc. Further, past accomplishments of major importance should also be entered so a permanent record is maintained.

8. Form Preparation. The inventory procedures are as follows:

a. Inventory Procedure.

(1) The management unit designation and legal description are recorded by punching the edge of the card adjacent to the hole and its corresponding digit or letter or, in some cases, the absence of punching will indicate the desired information. For example, Grassland Management Unit 398 located in Section 31, Township 132 North, Range 92 East, would be recorded as follows:

DM 1130-2-3
20 May 76

(a) Under the Management Unit block, the letter "G" would be punched to represent grassland, in the first set of digits from the right the "7" and "1" would be punched to represent 8; in the second set the "7" and "2" would be punched to represent 90 and in the last set the "2" and "1" would be punched to represent 300.

(b) Under the Section block in the first set of digits from the right the "1" would be punched to indicate 1 and in the second set of digits the "2" and "1" would be punched to represent 30.

(c) Similar punching would be made to record the township and range except the letter "s" under the Township Block would not be punched thereby indicating "north".

(d) Under the Leasing Priority block the letters "O" and "T" represent former owner and former tenant, respectively. Accordingly, if the unit is affected by a leasing priority the respective type of lessee would be punched. If there is no priority, neither letter would be punched. Further, the type of outgrant, if any, would be recorded on the top right-hand corner of the reverse side. The letter "A" would be punched if the unit is leased for agricultural purposes (all types) or the letter "O" would be punched if the unit was outgranted for wildlife purposes, recreation, etc.

(e) Letters under the Management Unit block represent land use allocations; i.e., "G" for Grassland Management; "L" for Low Density Recreation, "N" for Natural Areas; "O" for Operational Areas; "R" for High Intensive Recreation, and "W" for Wildlife Management.

(2) The physical boundary and major features of the resource management unit are either traced in the grid area or on aerial photo, transparent overlay, or other suitable drawing pasted on the card. Field work should consist of sufficient reconnaissance in order that each inventory type is adequately mapped. The various inventory types are segregated by lines and symbols drawn on the map in pencil. Inventory type and symbols are shown by Appendix A. A map number is assigned to each new inventory type in the order that it is inspected, thus the starting point will be in Map Number 1 area. The description of the inventory type and map numbers are entered in the Field Notes Section. The map numbers are also entered in the Map Numbers column corresponding to inventory type.

(3) After the map is completed in the field, acreages and unit counts of inventory types are computed. For acreages, either a dot grid or planimeter should be used. Although there may be several separate and distinct areas of the same inventory type each with its own map number, only the total acreage or unit count of the inventory type will be entered into the "Quant." (Quantity) column. It is desirable, however, to separate

acres and unit counts for each map number; accordingly, these should be entered with the field notes. As acres and unit counts are figured for each area, its map number should be circled on the map and in the map number column to avoid duplication. Some types will be enumerated in both acres and units, such as acres of road and miles of road. To avoid error, units should be inclosed by parenthesis. When all entries have been made, the total acreage in the "Quant." column should equal the total acreage of the management unit area map. After all entries have been made in the "Quant." column, the edge of the card should be punched adjacent to the hole which corresponds to the entry.

b. Planning Procedure. The planning procedure is as follows:

(1) Scheduling Section. This section is completed after completion of the 605 Account and 624 Account Sections. The blocks .1, .2, etc. correspond to subfeatures under the 605 and 624 Cost Accounts which are also listed in the left-hand column of the form. The digit 1 within each block represents activities under the 605 Account; whereas the digit 2 represents activities under the 624 Account. The numerals 3 and 4 denote current and future years' programming, respectively. For example, routine maintenance of fish and wildlife habitat in the current year would be recorded by punching the digits 1 and 3 in Block .1; whereas, digits 2 and 3 would be punched if extraordinary maintenance was scheduled. Similarly, construction of a fish rearing pond in some future year would be recorded by punching digits 2 and 4 in Block .2; if the work were scheduled for the current year's program, the numerals 2 and 3 would be punched.

(2) 605 Account - Operations and Maintenance Section. The operation and maintenance functions involve the management, protection and routine maintenance, including minor repair, of lands and facilities associated with the project's natural resources. This section is completed by entering the work to be performed by map number and description. The lines on the card are identified by a one digit numeral which corresponds to each subfeature listed under the 605 Cost Account; i.e., .1 means Fish and Wildlife Habitat Management; .2 Fish and Wildlife Facilities; .3 Natural Resource Studies; .4 Management of Lands and Roads; .5 Land Management Activities; and .6 Other Operations Activities. To assist in determining the proper classification of work which may be performed, a brief description of each subfeature is provided below. After each entry is made the edge of the card (left-hand side) adjacent to the hole corresponding to the subfeature title is punched.

(a) .1 - 605.1 Fish and Wildlife Habitat Management. Includes management of fish and wildlife habitat regardless of land use allocation; i.e., habitat management on lands allocated for wildlife management as well as land allocated for other purposes. Activities under this subfeature

DM 1130-2-3
20 May 76

include maintenance of: food plots both cultivated and natural, natural and established wildlife cover, fences required to protect habitat and cover, ponds and wetlands, travel lanes, and aquatic habitat except artificial; pest control; release cutting and minor renovation of shelterbelts planned and maintained for wildlife and similar activities.

(b) .2 - 605.2 Fish and Wildlife Facilities. Includes the maintenance of facilities specifically constructed or installed for the benefit of fish and wildlife. Activities under this subfeature include the maintenance of: fish rearing ponds and subimpoundments plus their stocking, seining, filling and draining; artificial roosts, artificial spawning beds, brush piles, nesting boxes, nesting platforms and nest cones and similar activities.

(c) .3 - 605.3 Natural Resource Studies. Includes studies of fish and wildlife, grasslands and other natural resources. Activities under this subfeature include the preparation and updating of management units and related field work; studies for the evaluation of artificial aquatic habitat and aquatic and terrestrial vegetation for fish spawning; and studies for the evaluation of artificial roosts, nests, platforms, etc., evaluation of introduced species and similar studies.

(d) .4 - 605.4 Lands and Roads. Includes the maintenance of lands, roads and trails except within operational or high intensive recreational lands. Activities under this subfeature include maintenance of: fences, terraces, grassed waterways, soil erosion control structures, roads and trails, and signs; pest control other than in wildlife habitat areas; collection of soil samples; fertilization and liming; minor reseeding and like activities.

(e) .5 - 605.5 Management Activities. Includes surveillance and management activities for the protection of the project's natural resources except in lands allocated for operational or high intensive recreational purposes. Activities under this subfeature include the surveillance and inspection of: lands under outgrant for agriculture and wildlife purposes, hay and gravel sale contracts, permits issued under Title 36 and activities within easement rights-of-way; surveillance of Corps-managed areas; development of land use regulations and like activities.

(f) .6 - 605.6 Other Operations Activities. Includes operation and maintenance activities related to special areas. Activities include the maintenance of roads, trails, parking lots, fences, grounds policing and trash removal in natural areas and special access points located in wildlife management and grassland management areas; maintenance of wildlife viewing platforms and similar special acts.

(3) 624 Account - Extraordinary Maintenance Section. Extraordinary maintenance functions involve the construction, major repair, or upgrading of facilities to protect and maintain project natural resources. As with the 605 Account - Operation and Maintenance Section, the work to be performed is entered by map number and description. The lines on the card are also identified by a one digit numeral which corresponds to subfeatures under the 624 Cost Account. For new work the proposed inventory symbol designation should be entered on the map in red or on a map overlay to avoid possible error or confusion with existing inventory type. To assist in determining the proper classification of work which may be performed, a brief description of each subfeature is provided below. After each entry is made, card is punched as explained in paragraph 8b(2)(a).

(a) .1 - 624.1 Fish and Wildlife Habitat Management. Includes the protection and improvement of fish and wildlife regardless of the land use allocation. Activities in this subfeature consist of the construction of fences to protect habitat; planting of food plots and cover; establishment of aquatic and terrestrial vegetation for fish spawning; major renovation of wildlife shelterbelts; erosion control activities to protect habitat areas and similar activities.

(b) .2 - 624.2 Fish and Wildlife Facilities. Includes construction, major repair and/or upgrading of special facilities for wildlife. Activities include the construction of fish rearing ponds and subimpoundments; construction and placement of artificial roosts, nest boxes, cones, and platforms; placement of artificial fish spawning habitat and similar activities.

(c) .3 - 624.3 Natural Resource Studies. This includes the development of any special facilities required to conduct studies of fish and wildlife, grasslands or other natural resources.

(d) .4 - 624.4 Lands and Roads. Includes the protection and improvement of all lands except operational and high intensive recreational lands and land developed specifically for wildlife habitat. Activities included are construction of: fences, terraces, grassed waterways, soil erosion control structures; upgrading of roads and trails; signing, major reseeding and like activities.

(e) .5 - 624.5 Management Activities. Includes special maintenance work to correct problems of trespass or encroachments; removal of unauthorized structures, abandoned boat docks, or the floating facilities, and water craft and similar activities.

DM 1130-2-3
20 May 76

(f) .6 - 624.6 Other Maintenance Activities. Includes the upgrading and improvement of roads, trails and parking lots of natural areas and special access points located in wildlife and grassland management units; development of wildlife viewing platforms and other special projects relative to the use of project natural resources.

FOR THE DISTRICT ENGINEER:



KENNETH J. HAVEMAN
MAJ, Corps of Engineers
Deputy District Engineer for Civil Works

1 Appendix
1. Appendix A

DISTRIBUTION:

A
B
MRD, 4 cys
Oper Div, 7 cys

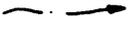
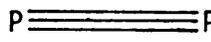
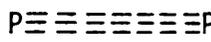
APPENDIX A

Symbols of Inventory Types

Following are symbols and description of inventory types to be used in the preparation of ENG Form 1633.

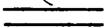
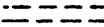
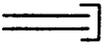
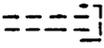
<u>Type</u>		<u>Symbol</u>	<u>Description</u>
<u>Management Unit Boundary</u>	Non-fenced		
	Fenced		
<u>Beach</u>		B	Areas mostly devoid of vegetation adjacent to or along the lakeshore. For the most part, these areas will be within the range of the normal operating pool and the base of the flood control pool.
<u>Streams</u>			Indicate by blue pencil. Arrow denotes direction of flow.
<u>Pond</u>			Indicate by blue pencil.
<u>Stock Dam-Dugouts</u>	Existing		Indicate by blue pencil.
	Proposed		
<u>Dry Draws</u>			Major drainage course. The suffix E denotes active erosion.
<u>Erosion</u>			Areas of active erosion; arrow indicates direction of drainage.

DM 1130-2-3
 APP A
 20 May 76

<u>Type</u>		<u>Symbol</u>	<u>Description</u>
<u>Gullies</u>	Shallow		Arrow indicates direction of drainage.
	Moderately deep		
	Deep		
<u>Cropland</u>		C	Land in cultivation or part of a crop rotation.
<u>Hayland</u>		NH	Lands producing native grass cut for hay.
<u>Grassland</u>		GN	Native grasslands normally used for grazing as opposed to hay production.
<u>Flood Plain Forest</u>		PF	Wooded areas on the flood plain, predominantly deciduous trees in the over-story.
<u>Upland Breaks Forest</u>		UF	Wooded areas located above the flood plain generally located in deep draws. The over-story may consist of deciduous or coniferous trees or a mixture of both. A suffix d, c, or m denotes type.
<u>Shelterbelts</u>	Existing		Block planting of trees in rows. A suffix d, c, or m denotes deciduous, coniferous or mixture.
	Proposed		

<u>Type</u>		<u>Symbol</u>	<u>Description</u>
<u>Scalp Planting</u>	Existing	S  S	Single row of trees generally planted on the contour. A suffix d or c denotes deciduous or coniferous.
	Proposed	S  S	
<u>Brush</u>		BU	Areas of brush on upland sites.
<u>Noxious Weed</u>		NW	Areas with abundance of noxious weeds as classified by the State.
<u>Food Plots</u>	Existing		Lands planted to agricultural crops or native plant species as food for wildlife. The F or PF followed by an "N" would denote native plant species.
	Proposed		
<u>Artificial Habitat</u>	Existing		Includes brush piles, nesting platforms, boxes and cones, spawning mats, etc.
	Proposed		
<u>Terraces</u>	Existing		Arrow indicates direction of drainage.
	Proposed		
<u>Waterways</u>	Existing		Arrow indicates direction of drainage.
	Proposed		
<u>Erosion Control Structure</u>	Existing		
	Proposed		

DM 1130-2-3
 APP A
 20 May 76

<u>Type</u>		<u>Symbol</u>	<u>Description</u>
<u>Fence</u>	Existing	-X-X-X-	
	Proposed	-X-X-X-	
<u>Survey Monument</u>			
<u>Glacial Till</u>		GT	
<u>Sand-Gravel Deposits</u>		SG	Beaches, dunes, etc. found along lakeshore or water courses.
<u>Sand-Gravel Pits</u>			
<u>Roads and Trails</u>			All weather vehicle road.
			Seasonally, passage vehicle road.
			Trail suitable for hiking or 4-wheel drive vehicle, snowmobile, etc.
<u>Parking Lot</u>	Existing		Generally located in special access sites or low density recreation areas.
	Proposed		
<u>Recreation</u>			No symbol. Recreation areas will be lightly shaded in green.
<u>Private Boat Dock</u>			Also includes mooring buoys, swimming platforms, etc.

<u>Type</u>	<u>Symbol</u>	<u>Description</u>
<u>Historic, Archeological Site</u>		
<u>Irrigation Intake</u>		The numeral "10" indicates facility is covered by a Section 10 permit.
<u>Easement</u>	—E—E—E—	