



SUPPLEMENTAL TECHNICAL INSTRUCTIONS	Supplement Number	Date Issued
	95-2	2/3/95

National Mapping Division

SUBJECT

Boundary Enhancements for Federally Administered Lands

BACKGROUND

Supplemental Technical Instruction (STI) 94-3 provided specifications for the width and placement of the boundary enhancement for Federal lands. The specifications included several variations, according to the relative position of the Federal lands boundaries, in order to depict the hierarchical relationship between Federal lands. This has proven to be difficult to implement because of the complex nature of the relationships between Federally administered lands. The specifications for the width and placement of the enhancement have been simplified in this document. ***This STI supersedes STI 94-3.***

The subject of boundary enhancement was raised in conjunction with the U.S. Geological Survey (USGS) and the U.S. Forest Service (USFS) initiative to produce single edition map products for areas containing National Forest System lands. The USFS wishes to emphasize their lands by adding enhancement to the boundaries of all National Forest System units. There is also interest in, and identified applications for, enhancing the proclamation boundaries of all Federal lands shown on USGS quadrangles because of recent activity to promote access to and recreational use of public lands. The use of USGS maps as land management tools by Federal agencies provides another reason to emphasize and clarify these boundaries by adding enhancement.

The USGS previously used boundary enhancement on 1:24,000-scale primary series maps, and continues to use it on the State map series for Wilderness boundaries. Enhancement was abandoned on primary series maps largely due to the labor intensive procedures required in production. Digital product generation techniques will be used in the future for generating these symbols; this will reduce the production time.

INSTRUCTIONS

Supplemental Topographic Instruction 83-1-C provides details on the selection and treatment of National, State, County, and other special areas to be shown on products of the National Mapping Program. National special areas are depicted with the reservation boundary symbol and are administered, although in many cases not wholly owned, by a Federal agency. *Do not add boundary enhancement to State lands or any other special areas.*

On maps prepared by digital product generation, add boundary enhancement to all Federally administered lands that qualify for depiction on standard series maps at scales of 1:250,000 and larger. On maps prepared by the

USGS or the USFS under the single edition initiative, boundary enhancement will be added to all Federally administered lands in order to maintain consistency, whether conventional or automated production techniques are used.

Print the boundary enhancement for all Federal lands in red, with a 20 percent 150-line biangle screen. Specifications for the width and placement of the enhancement are:

1. Exterior Boundaries of Federally Administered Units

The Federal/non-Federal interface of a unit or of adjoining units, such as a National Park, National Forest, National Wildlife Refuge, or Air Force Base: 0.10 inch, on the Federal side of the boundary line symbol.

2. Interior Boundaries of Federally Administered Units

The limit(s) of adjoining, subordinate, or overlapping (Federal/Federal interface) units. Examples include a National Park adjoining a National Forest, or two adjoining National Wildlife Refuges; a subdivision, such as a Wilderness inside a National Forest; and the boundary of a National Forest overlapped by a National Scenic Area. Use 0.05 inch enhancement, centered on the boundary line symbol.

When the reservation boundary line symbol is dropped for another type of boundary (national, State, or county), the enhancement continues along that boundary.

It is acceptable for the enhancements to coalesce in small Federal units.

Naming and Labeling

In addition to boundary enhancement, proper application of text is critical to the clear representation of Federally administered lands. The following guidelines do not constitute a change to existing instructions, but are included here for convenient reference.

The names of reservations, such as Federally administered lands, are normally placed horizontally near the center of the area being named. The name may be placed vertically where space restrictions or appearance warrant. Where only part of the reservation is shown on the map, place the name off center to indicate that the reservation extends beyond the limits of the map. If the entire map is within the reservation, place the name in the center of the map. When one reservation overlaps another, or contains a subdivision, such as a National Forest that includes a Wilderness, place the name of the exterior reservation across its boundary with the interior unit.

Labels along boundary lines are often required to supplement area labels for improved clarity, or in place of area labels where space is extremely limited. Factors to consider in deciding whether boundary labels are needed include relationship to other boundaries, proximity to the reservation's area label, and the boundary's length, configuration, and alignment with other features. Use boundary labels when a reservation boundary coincides with a political (State, county) boundary; in a reservation with exclusions or outlying parcels; in a complex area where boundaries jog or cross each other; when the position of the area label does not adequately identify its boundary; or when the boundary symbol is dropped for, or obscured by a natural or cultural feature.

Boundary labels normally consist of generic terms, such as type of jurisdiction (NATIONAL, STATE), description (GAME, WILDLIFE) and type of reservation (PARK, FOREST), plus the word "BOUNDARY". The proper name of the area is included in the label only if it is needed to distinguish between two reservations of the same type shown on the map, e.g., RIO GRANDE NATIONAL FOREST BOUNDARY from GUNNISON NATIONAL FOREST BOUNDARY. Shortened labels may be used because of limited space, e.g., REFUGE BOUNDARY when NATIONAL and WILDLIFE are not necessary to distinguish between other such reservations on the map.

When space is so limited that even a shortened label is too long, abbreviations may be used. Acceptable abbreviations are given in Topographic Instructions Chapter 4I2, Abbreviations and Word Compounds (1980). When there is a choice to abbreviate one or more words in a label, such as GRAND CANYON NATIONAL GAME PRESERVE BOUNDARY, use the following order of precedence: first, abbreviate BOUNDARY as BDY; second, abbreviate the jurisdictional term (NATIONAL as NAT); third, abbreviate the descriptive term (GAME as GME); fourth, abbreviate the reservation type (PRESERVE as PRESV); fifth, further abbreviate the jurisdictional and descriptive terms and the reservation type using the first letter of each word (NAT GME PRESV as NGP); and lastly, abbreviate the proper name, if selected, using the first letter(s) (GRAND CANYON as GC). Using these rules, the shortest possible version of GRAND CANYON NATIONAL GAME PRESERVE BOUNDARY is GCNGP BDY.

Align boundary labels parallel to the reservation boundary line and on the same side of the line as the area to which the label refers. Place labels .025 inch from the center of the line. Displace labels .02 inch from any feature that interferes with normal placement by creating an overprint or poor legibility.

Orient boundary labels according to the following rules: With the map aligned with the bottom closest to the reader, labels positioned horizontally or diagonally (any angle) read from left to right. Labels positioned vertically (parallel to the meridian) read from bottom to top.

APPLIES TO

Standard series maps at scales of 1:250,000 and larger.

ISSUED TO

EDC, MAC, MCMC, RMMC, and WMC.

APPROVED BY

Kathryn C. Wortman
Senior Program Advisor, Data Production and Integration

cc: NMD SPA/EA SPA/DPI ADC/PF SPA/RA SPA/SDI Standards POC/OPR's Canada (2)
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