

DEPARTMENT OF THE ARMY  
Wilmington District, Corps of Engineers  
Post Office Box 1890  
Wilmington, North Carolina 28402-1890

July 1, 1997

USE OF GLOBAL POSITIONING SYSTEM (GPS) FOR WETLAND SURVEYS

Attached is the Wilmington District's policy detailing procedures for use of Global Positioning System (GPS) wetland surveys within the state of North Carolina. Questions or comments should be directed to the Regulatory Branch, ATTN: Mr. Ernest Jahnke at the above address, or at telephone (910) 251-4467 by August 4, 1997.

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SUBJECT: Preparation of Wetland Delineation Surveys Using Global Positioning System (GPS) Equipment

TO WHOM IT MAY CONCERN:

This policy statement addresses the use of GPS equipment for surveying Section 404 of the Clean Water Act wetland delineations for the Wilmington District Corps of Engineers within North Carolina. Identification and delineation of wetlands must follow the criteria described in the "1987 Corps of Engineers Wetland Delineation Manual."

Following are suggested procedures for preparing GPS surveys for verification and certification by a representative of the Asheville, Raleigh, Washington, or Wilmington Regulatory Branch field offices:

- a.) GPS surveying is most useful for extensive wetland delineations on large tracts of land.
- b.) The GPS unit must produce a 2D RMS sub-meter accuracy at each survey point. This accuracy will only be achievable by utilization of differential GPS techniques (either real-time or post-processed).
- c.) In the event vegetation prevents the efficient use of GPS methods for wetland delineation, establish a separate baseline to the area to be delineated. This baseline will be tied to the NC Lambert grid and each point of intersection (PI) will be clearly marked on the ground. The wetland line will be referenced to this baseline by station and perpendicular offset measured to the nearest 0.1 ft. When this occurs, the plat should indicate locations that have been surveyed in this manner. Since this will result in including small areas of uplands within areas identified as wetlands, the following survey certification statement should be placed on GPS survey plats:

"This certifies that this copy of this plat identifies as waters and wetlands all areas of waters and wetlands regulated pursuant to Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is a change in the law, or our published regulations, this determination may be relied on for a period not to exceed five years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetland Delineation Manual."

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U.S. Army Corps of Engineers Representative

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Title

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Date

d.) The wetland survey plat must be submitted for certification on legal size or smaller paper or on a CD-ROM disc. It is also recommended that a large scale, blue line copy of the survey be presented to the Corps representative for field verification purposes. The plat must contain the following information:

- 1.) An identification of the location and extent of wetland limits within the property boundaries. Acreage not examined for wetlands should be clearly indicated. Coordinates cited should be NC Lambert, NAD 1983.
- 2.) An identification of "404 Wetlands" by using text, symbols, or shading.
- 3.) Consecutively numbered wetland points, or line segments.
- 4.) An identification of the GPS reference point (a fixed point at a known location) used in the DGPS real- time or post processed survey to which the survey is tied, also in NC Lambert coordinates, NAD 1983.
- 5.) A table listing NC grid coordinates. List the distances between consecutively numbered surveyed wetland points or the linear distances of line segments.
- 6.) As a measure of accuracy, one or more property corners and/or monuments may be located by the GPS survey and compared to the existing metes and bounds property survey.
- 7.) The seal and signature of a Registered Land Surveyor.
- 8.) A brief description of the GPS equipment used to certify the survey's level of accuracy.

9.) A North arrow.

10.) A vicinity map.

11.) A correctly worded certification statement.

e.) The surveyed wetland-upland line will be field verified by a representative of the Corps accompanied by the surveyor who prepared the information. When feasible, distances between selected GPS survey points will be measured for accuracy. All errors must be corrected before the plat certification will be signed.

If you have questions please call the Corps field office managing the regulatory program in your geographic area.

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