STANDARD OPERATING PROCEDURE (SOP) FOR DIGITIZATION OF FOREST BOUNDARIES FOR WORKING PLANS

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STANDARD OPERATING PROCEDURE (SOP)

The GPS system belongs to the Department of Defense (DOD) and is officially known as the NAVSTAR System (Navigation Satellite Timing and Ranging). Its primary mission is to provide the U.S. Government and the Department of Defense the ability to accurately determine one's position at any point on the earth's surface, at any time of the day or night, and in any weather condition. GPS has a variety of applications on land, sea and air and it allows its users to locate positions anywhere on earth. This device was originally designed to serve military purposes but over the years its application has been expanded to serve various civilian purposes as well.

This Standard Operating Procedure (SOP) has been written specially for the people working in the forestry sector. It will be most beneficial to the users who need to collect data directly from field and store it for future use in GIS environment e.g. digitization of any Reserve Forest boundary with the help of GPS directly on field. This SOP directs the users to operate the GPS in the most easiest and efficient way.

The SOP guides the user about the working of GPS on field in step wise manner and also illustrates the same with the help of diagrams making it more interactive and interesting. Along with the working of GPS it also explains in what environment and settings one should use the GPS before going to field such as what datum to use, weather conditions.

This SOP not only provides information on how to use the GPS on field but also guides the user how to transfer and view the GPS data on any computer system. It also explains ways to save the data from the GPS into the computer systems in different formats which are compatible with the GIS environment thus making the data simpler to work on.

GPS readings might be erroneous at times due to certain conditions. This SOP elaborates the various possible errors that might occur while handling the device at different points. This will help its users to take precautionary steps wherever possible so that the data that is being collected does not generate wrong information.

1. GLOBAL POSITIONING SYSTEM (GPS)

The global positioning system (GPS) is a satellite based navigation system made up of a network of 24 satellites placed into orbits by the US Department of Defense.

GPS is a handheld device used to take information of

- ✓ Latitude
- ✓ Longitude
- ✓ Altitude
- ✓ Velocity

GPS device also helps in locating and navigating to a particular point. The device plays an important role in calculating the area of any patch of land.

2. OVERVIEW OF GPS (GARMIN 72)

The **IN** and **OUT** keys (Fig 1) are used on the map page and the plot page. When pressed, the **IN** keys decreases the map scale or decreases the horizontal plot scale, allowing us to view a smaller area with greater detail. When pressed, the **OUT** key increases the map or horizontal plot scale allowing us to view a larger area with less detail.

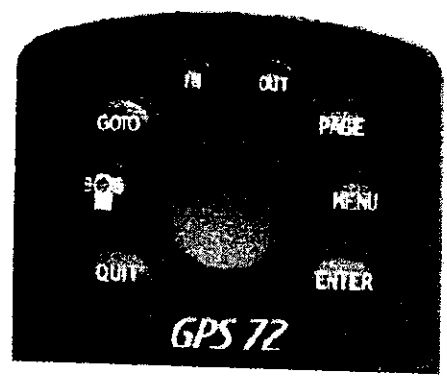

Fig 1. Interface keys

The **GOTO/MOB** key (Fig 1) is used to begin or stop navigation to a waypoint. If the **GOTO/MOB** key is pressed and held down, the GPS stores the current location (a man overboard point) and gives you the opportunity to begin immediate navigation to that point.

The **PAGE** key (Fig 1) will cycle you through the five main display pages in sequence.

The **POWER** key (Fig 1) is used to turn the unit on and off. To turn the unit off press the POWER key and hold it. The **POWER** key is also used to display the adjustment window for the backlight and contrast. To activate the backlight/contrast adjustment window, press and release the **POWER** key.

The **MENU** key (Fig 1) is used to display page option menus. If pressed twice, the main menu will be displayed.

The **QUIT** key (Fig 1) will cycle you through the five main display pages in reverse sequence. The **QUIT** key will end an operation in progress and display the previous page.

The **ENTER/MARK** key (Fig 1) is used to activate a data field or confirm a selection. If the **ENTER/MARK** key is pressed and held, the GPS 72 will store the current location and display the Mark Waypoint page.

The **ROCKER** key (Fig 1), located in the center of the keypad, is used to control the Up/Down and Left/Right movement of the cursor on the display pages and during data entry.