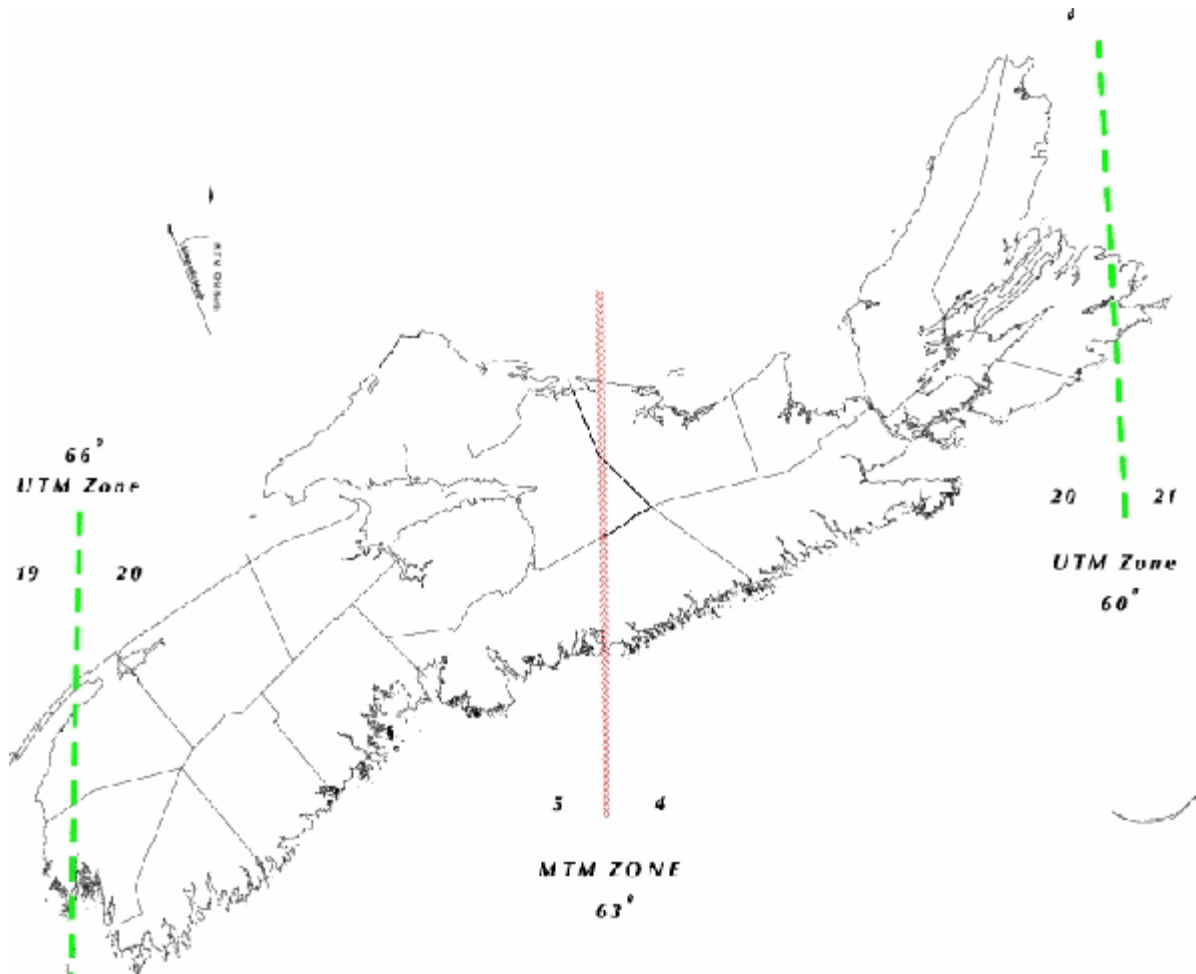


Procedure for Update of Silvicultural Submissions (GPS): May 2003

To facilitate the transfer of GPS files, all treatment data submissions should follow the suggestions outlined below.

Map Projections (Co-ordinate systems)

GPS files can be collected in either UTM NAD 83 or MTM ATS77 coordinate system. The figure below illustrates **zone boundary** locations for both the UTM and MTM projections.



Differential Correction And Cleaning

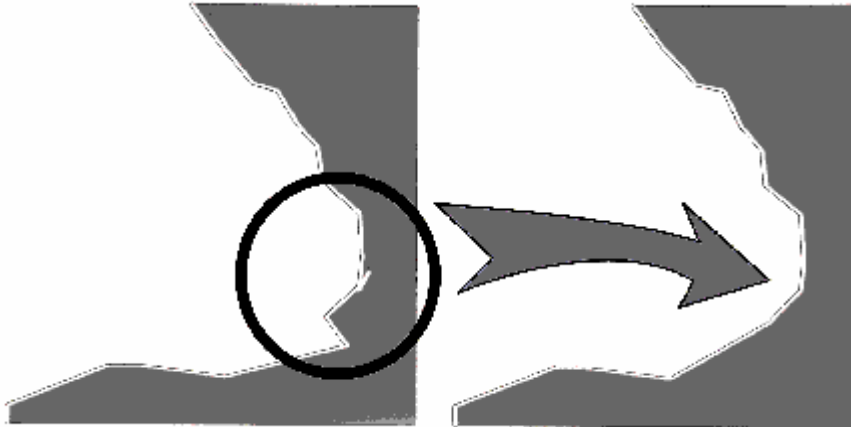
If your unit is capable of doing so, all treatments should be collected as areas (or polygons) and not lines or points. Some low end GPS units do not have the capability to collect areas and must be collected as points.

Prior to sending the digital files to Forest Sustainability, Wood Acquisition Plans, all GPS digital files should be **differentially corrected and cleaned** where possible. These are two separate steps and at a minimum the files should be cleaned.

Cleaning refers to the removal of anomalous spikes and slivers such that the feature better approximates its actual shape. The figure below illustrates the cleaning of a GPS file. The left image shows an anomalous spike with an overlapping boundary. The image on the right shows

the post-processing result of cleaning where the spike has been removed as well as removal of a sliver polygon. **All spikes and slivers must be removed.**

Differential correction While not an absolute necessity, as a general rule differential correction



removes any doubt as to positional accuracy. For example, if one is diligent about ensuring clear signal paths and maintaining the minimum number of satellites as well as paying attention to the signal strength, accuracies of less than 5 meters can be obtained in **some** instances without differential correction.

File Formats: - Some proprietary formats are **NOT** acceptable (e.g. SSF files, COR files,)

Acceptable formats include:

- **SHAPEFILES:** a shapefile actually consists of these three files (the dbf format contains the treatment attributes):

filename.shp
filename.shx
filename.dbf

- **GENERATE(.txt) FILES:** many GPS and GIS software programs can easily translate data into an Arc/Info generate format which is simply a text file containing the coordinate pairs for the feature as well as a separate text file containing the attributes. Both the attributes and coordinate file must have a unique item tying the appropriate description to the feature's location..

The following illustrates a polygon generate(.txt file)

id, auto (put the unique identifier as the *id*; *auto* is required)
 X_1, Y_1 (X, Y refers to the Easting, Northing pair for UTM or MTM)
 X_2, Y_2
 X_3, Y_3
... , ...
 X_n, X_n (must be the same as starting XY co-ordinates to ensure closure)
END (*end* is required)
END (*end* is required)

OTHER DIGITAL FORMATS - other formats may be accommodated if an example is sent to Truro for investigation.

Silvicultural Attributes:

For those Registered Buyers delivering data in digital form, Table 1 contains the data structure for the treatment datafile.. The order and names of the attributes (in italics) should be exactly as below.

Table 1. Data Definitions for the Treatment Database File (C = character, I = integer, N = numeric)

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	DESCRIPTION
<i>REGBUYER</i>	6	6	C	-	Registered Buyer Number
<i>COUNTY</i>	2	2	C	-	County Code
<i>TRTYR</i>	4	4	I	-	Treatment Year
<i>TRTAREA</i>	6	6	N	1	Treatment Area
<i>OWNTYP</i>	2	2	C	-	Ownership Code
<i>LANDOWN</i>	40	40	C	-	Property Owners Name
<i>SOURCE</i>	1	1	I	-	Graphic Data source
<i>UPDATEBY</i>	20	20	C	-	Person who prepared update
<i>TRTCDE</i>	4	4	I	-	Treatment Code
<i>SPECIES</i>	16	16	C	-	Species and Percentage
<i>STOCKING</i>	3	3	I	-	Stocking
<i>HEIGHT</i>	2	2	I	-	Height
<i>AGE</i>	3	3	I	-	Age
<i>BA</i>	3	3	I	-	Basal Area
<i>DENSITY</i>	5	5	I	-	Density
<i>RELEASED</i>	4	4	I	-	Stems/ha Released
<i>PRUNED</i>	4	4	I	-	Stems/ha Pruned
<i>SS_SP</i>	16	16	C	-	2 nd Story Species & %
<i>SS_BA</i>	3	3	I	-	2 nd Story Basal Area
<i>SS_HT</i>	2	2	I	-	2 nd Story Height
<i>UPDATENUM</i>	9	9	I	-	Unique ID for Treatment

What attributes are required :

- All treatments must have the Species and Percent Composition. Species percentages must total 10 (i.e. 100%).
- Stocking is required for all treatments except Commercial Thinnings and Stand Improvement.
- Height is necessary for all treatments except planting.
- Stump age is required for both density controls (plantation and natural regeneration release) and commercial thinning treatments.
- Basal Areas is a requirement of selection harvest, natural regeneration establishment where overstories exist and commercial thinning treatments.
- Density (trees/ha) is only needed for natural regeneration establishment.
- Second story attributes (i.e. SS_species, SS_BA, and SS_Height) are only necessary for the natural regeneration establishment.
- Once again, percentages must total 10 (i.e. 100%).
- Released and Pruned refer to stand improvement treatments and should only be filled out for that particular treatment.

For those using a Trimble GeoExplorer, a data dictionary is available from Forest Sustainability, Wood Acquisition Plans.

For Registered Buyers whose units do not have the a data dictionary, there are 2 options

