

## **Appendix D (USFWS website)**

### 1. Tree data:

Convert the database table (\*.dbf) of cavity trees containing x, y tree coordinates to a shapefile. The \*.dbf file must have the fields for the following data Field names are limited to 10 characters in shape files.

- a) Tree\_Number (text field)
- b) Cluster\_Number (double field)
- c) Easting (double field)
- d) Northing (double field)

### 2. Stand Data

The attributes or field types in the stand feature class are as follows:

STAND\_ID (Text, length = 8)

TYPE (Text, length = 9)

Note: The application will look for the following abbreviations in the TYPE field to identify stands that are longleaf and those that are not predominantly pine. Any abbreviation other than those listed is assigned by the application to “other pine” species.

But in the application the following abbreviations are used for all other stand types:

OP or OPEN for open areas such as drop zones, fields, or roads

WATER for streams, ponds, or lakes

UHAR for upland hardwood stands

LHAR for lowland hardwood stands

OT for any other, non-pine stands

LL for longleaf pine stands

DESCRIP (Text, length = 25, description of stand type)

PINE\_AGE (Double, age of pine stand)

PTPA\_4\_10 (Double, pine trees per acre that are <10" DBH)

PTPA\_10\_14 (Double, pine trees per acre that are 10-14" DBH)

PTPA\_14 (Double, pine trees per acre that are  $\geq$  14" DBH)

PBA\_4\_10 (Double, basal area of pine trees <10" DBH)

PBA\_10\_14 (Double, basal area of pine trees 10-14" DBH)

PBA\_14 (Double, basal area of pine trees  $\geq$  14" DBH)

HTPA\_4\_10 (Double, hardwood trees per acre that are <10" DBH)\*\*

HTPA\_10\_14 (Double, hardwood trees per acre that are 10-14" DBH)

HTPA\_14 (Double, hardwood trees per acre that are  $\geq$  14" DBH)

HBA\_4\_10 (Double, basal area of hardwood trees that are < 10" DBH)\*\*

HBA\_10\_14 (Double, basal are of hardwood trees that are 10-14" DBH)

HBA\_14 (Double, basal area of hardwood trees that are  $\geq$ 14" DBH )

HWDMID (Double, coded values for midstory height and density, see Procedures document))

SITE\_INDEX (Double, site index)\*\*

NO\_BURNS (Short Integer, number of years since last burn)

TYPE\_BURN (Short Integer, coded values for season of last burn, see Procedures document)

HERBACEOUS\_GRDCVER (Double, percent herbaceous groundcover)

**\*\*NOTE:** The fields marked with **\*\*** are required for proper structure of the stands attribute table but the data in them is not used in the analysis.

### Recovery Standard

Stand values for each characteristic in the Recovery Standard are compared to the values that define the scoring ranges for each characteristic in the matrix. A stand is assigned a score, 1 through 5, for each characteristic based on the stand's value, and that score is then stored in the geodatabase. Each of these scores is multiplied by the respective characteristic's weighting factor, a number between 0 and 1. These weighted scores are then summed for each stand to produce a final stand score that ranges between 1 and 5.

The process is then repeated for each stand in the geodatabase.

### Standard for Managed Stability

Stand values for each characteristic in the Standard for Managed Stability are compared to the values that define pass/fail in the matrix. A stand is assigned a 1 for those characteristics where it meets the standard and a 0 for those characteristics where it does not. The exception to this rule applies to two characteristics, BA all 10"+ Pines and Total BA. The values for these characteristics are allowed to exceed the upper end of their range (70 and 80, respectively) for these characteristic if the excess in BA is due to large (>14") trees. That is, the application will look to see if the BA for 4-10" trees is less than 20 (Total BA only) and if the BA for 10-14" trees is less than 40. For Total BA, the application will also look to see if hardwoods greater than 10" contribute no more than 10 BA. If so, the stand will pass Managed Stability for these two characteristics even though the BA exceeds the stated limit.

Followings are the other 17 feature classes populated by the application in the process of score calculation (Source:USFWS Website):

1. “ClusterCenterPoints – This feature class contains cluster center and calculated as the mean location of all cavity trees in a partitions.
2. ForagePartition\_HalfMile – This feature class contains ½ mile foraging partitions and calculated by buffering each cluster center by ½ mile and constraining that buffer, with adjacent neighboring partitions.
3. ForagePartition\_QuarterMile – It contains ¼ mile foraging partitions calculated by buffering each cluster center by ¼ mile.
4. Habitat\_Removal – It contains the footprint of proposed projects that will require complete clearing of the outlined area.
5. Mgmt\_Stands – It contains Stands feature class data that has been altered by the program based on user input regarding proposed management changes such as thinning or midstory control.
6. MgmtFP\_HalfMile –It contains the ForagePartition\_HalfMile feature class, calculated as above, for partitions that will be affected by proposed management changes.
7. MgmtFP\_QuarterMile – It contains the ForagePartition\_QuarterMile feature class, calculated as above, for partitions that will be affected by proposed management changes.
8. MgmtStands\_Clipped – It contains the data in the Mgmt\_Stands feature class, clipped to the MgmtFP\_HalfMile partitions.

9. Proj\_Mgmt\_Stands – It contains the Stands feature class data for those partitions that will be impacted by the project(s) outlined in the Habitat\_Removal feature class and the management changes outlined in the Mgmt\_Stands feature class.
10. Proj\_MgmtFP\_HalfMile – It contains the ForagePartition\_HalfMile for those partitions that will be impacted by the project(s) outlined in the Habitat\_Removal feature class and the management changes outlined in the Mgmt\_Stands feature class.
11. Proj\_MgmtFP\_QuarterMile – contains the ForagePartition\_QuarterMile for those partitions that will be impacted by the project(s) outlined in the Habitat\_Removal feature class and the management changes outlined in the Mgmt\_Stands feature class.
12. Proj\_MgmtStands\_Clippped – contains the data in the Proj\_Mgmt\_Stands feature class, clipped to the ½ mile foraging partitions for those partitions affected by the project(s) in the Habitat\_Removal feature class and the management changes outlined in the Mgmt\_Stands feature class.
13. ProjFP\_HalfMile – contains the ForagePartition\_HalfMile feature class, calculated as above, for partitions that will be affected by the project(s) outlined in the Habitat\_Removal feature class.
14. ProjFP\_QuarterMile – contains the Forage Partition\_QuarterMile feature class, calculated as above, for partitions that will be affected by the project(s) outlined in the Habitat\_Removal feature class.

15. ProjStands – contains timber stand data collected during foraging habitat analysis or timber inventory for those stands that will be affected by the project(s) outlined in the Habitat\_Removal feature class.
16. ProjStands\_Clipped – contains the data in the ProjStands feature class, clipped to the ½ mile foraging partitions for those partitions affected by the project(s) outlined in the Habitat\_Removal feature class.
17. Stands\_Clipped – contains timber stand data collected during foraging habitat analysis or timber inventory that have been clipped to the ½ mile partitions”

The four tables that are present in the geodatabase contain the matrix standards. The application used these tables to assign the score for each characteristic of a stand.

1. LKUP\_ForageAssess\_Default – It contains the upper and lower limits for each scoring category for the characteristics used in evaluations of foraging habitat against the Recovery Standard, the weighted assigned to each characteristic, and management recommendations to improve scores for each characteristic
2. LKUP\_ManStability – It contains the values determining pass/fail for each characteristic used in evaluations of foraging habitat against the Standard for Managed Stability, management recommendations to improve scores in each category, and indicator variables for which characteristics are used in the evaluation as well as which characteristics are required in the evaluation

The geodatabase also contains two tables for internal use of the application. These tables can not be modified:

3. GBD\_DefaultLKP\_MS

4. GBD\_DefaultLKP\_RE”