



Variable Density Yield Projection

Volume 3 – VDYP7Console Interface Guide

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1 Introduction

The VDYP7Console was developed to project the BC vegetation resources inventories to generate yield tables for timber supply analysis and other uses, using inputs from both adjusted and unadjusted inventories.

This application reads two separate text files, containing comma separated values (CSV). Using this approach, attributes for a single polygon are allocated to two tables, linked by record identifier fields. In these tables, multiple records may exist for a polygon. Further details are provided below.

1.1 Purpose of This Document

This document is Volume 3 of a series of documents supporting the VDYP7 system.

- **Volume 1 – VDYP7 Overview** provides general information about VDYP7 applications, and describes how to use this documentation set.
- **Volume 2 – WinVDYP7 User Guide** describes how to use *WinVDYP7*, an easy to use interactive interface, designed to predict yields one stand at a time.
- **Volume 3 – VDYP7Console Interface Guide** is this document. It describes in detail how to use *VDYP7Console*, an interface to generate yield tables from text files in CSV format.

The objective of this volume is to describe structure and function of a single command line used to run the VDYP7Console. To this end, several core VDYP7 programs are referenced here which are further described in *Volume 1 – VDYP7 Overview*. In addition, SINDEXT is referenced. This program is employed to derive site information required for the projection and is supported by the Forest Inventory and Analysis Branch, Ministry of Forests. These programs are included within the script used to install the VDYP7Console.

1.2 How To Use This Document

The information in this guide is organized as follows:

- **Section 1 – Introduction** provides some general background as to why the VDYP7Console application was developed and the purpose of this user guide.
- **Section 2 – Getting Started** references appropriate sections within the VDYP7 Overview Guide for installing the VDYP7Console onto your computer.
- **Section 3 – Structure and Function** describes the structure and function of the VDYP7Console command line.
- **Section 4 – Processing Notes and Recommendations** describes some tips to ensure the successful use of the VDYP7Console.
- **Section 5 – Sample Yield Table** illustrates a yield table generated by VDYP7Console for one polygon.

2 Getting Started

2.1 Installing VDYP7Console

The installation follows a sequence of two steps:

Step 1: Download the installation package from the VDYP7 website

Step 2: Check your computer to ensure the installation package contains all the components required to run the model. The download sets up a directory to which VDYP7 is saved.

For system requirements, downloading and installation instructions, a description of the configuration and other support files refer to *Volume 1 – VDYP7 Overview, Section 4*.

2.2 Running the VDYP7Console Interface

The VDYP7Console is run via a single command line. The appropriate syntax is described in *Section 3* of this guide. To launch the application, save your command line to a file with a .cmd or .bat extension (e.g., LaunchConsole.cmd) and then double click the file name.

Alternately, you can open DOS box, type the file name and then press the Enter key.

2.3 Error Messages Overview

When you run the model, processing messages are generated, and saved in a message file that is defined in the command line. See Appendix B for some common messages generated by the VDYP7Console, along with interpretation as to cause. *Appendix A* of the *Volume 2 – WinVDYP7 User Guide* provides a list of additional messages generated by all VDYP7 interfaces.

2.4 Input File

The application requires two files, in CSV format:

- *Polygon Definition input file*
- *Layer Definition input file*

In order to successfully launch the application, both files must be present in the input directory referenced by the VDYP7Console command line. The two CSV files are linked through a unique record identification (FEATURE_ID). The Polygon Definition file contains only one record for each polygon, i.e., one record for each FEATURE_ID. However, the Layer Definition file contains zero or more layer records for each polygon. In both files, the order of the polygon records must be in increasing FEATURE_ID. For multiply layer records within a single polygon, no particular ordering is required.

2.4.1 Polygon Definition File - Input Fields

FIELD	DESCRIPTION	FORMAT
FEATURE_ID	Provincially unique identifier for an instance of a spatial feature.	number(38)
MAP_ID	Identifies the forest cover map corresponding to the fip file. It is the British Columbia Geographic System's (BCGS) key reference number of the forest cover map. The mapsheet most commonly used is the 6" x 12" BCGS mapsheet.	varchar2(7)
POLYGON_NUMBER	A non-unique reference number assigned to each vegetated or non-vegetated polygon after it is delineated. Provides a link between the graphic and descriptive files. The business assigned unique identifier for a polygon. Typically this has been uniquely assigned within a BCGS mapsheet.	number(9)
ORG_UNIT	Identifies any office within the Ministry. First character identifies Exec, HQ Branch, Region, or District. Second and third characters identify the Office Name; Fourth and fifth characters identify the Section (HQ Branch) or Program (Region or District); Last character identifies the Subsection.	varchar2(6)
TSA_NAME	Name of which Timber Supply Area (TSA) the polygon located in, if it located in one of the 37 TSAs.	
TFL_NAME	Name of which Tree Farm Licence (TFL) the polygon located in, if it located in one of the 34 TFLs.	
INVENTORY_STANDARD_CODE	The Inventory Standard the data was collected. Values are: "V" for Vegetation Resources Inventory (VRI); "F" for forest inventory planning (FIP), and; "I" for incomplete (when a full set of VRI attributes are not collected).	varchar2(10)
TSA_NUMBER	The TSA number of which TSA the polygon located in, if the polygon located in one of the 37 TSAs.	

FIELD	DESCRIPTION	FORMAT
SHRUB_HEIGHT	The average height of the shrubs contained in the polygon as interpreted from medium scale photography. Note that this attribute only applies to the shrub component.	number(4,1)
SHRUB_CROWN_CLOSURE	The percentage of ground area covered by the vertically projected crowns of the shrub cover visible to the photo interpreter. Expressed as a percentage of the entire polygon.	number(3)
SHRUB_COVER_PATTERN	The spatial distribution of the shrubs within the polygon. Used to describe the shrub layer spatial distribution. Examples include clumps of shrubs on rocky patches or individual shrubs or solid, continuous cover.	varchar2(10)
HERB_COVER_TYPE_CODE	The portion of herb cover that is not obscured by the vertical projection of the crowns of either trees or shrubs. Herbs are defined as non-woody (vascular) plants, including graminoids (sedges, rushes, grasses), forbs (ferns, club mosses, and horsetails) and some low, woody species and intermediate life forms.	varchar2(10)
HERB_COVER_PCT	The percentage of ground area covered by herbaceous cover visible to the photo interpreter. Is analogous to tree and shrub crown closures and is expressed as a percentage of the entire polygon.	number(3)
HERB_COVER_PATTERN_CODE	The spatial distribution of the herbaceous species within the polygon. Used to describe the herb layer spatial distribution. Examples include clumps of herbaceous species on rock outcrops, scattered patches or individual herbs or solid, continuous herbaceous cover.	varchar2(10)
BRYOID_COVER_PCT	The percent cover of bryoids: includes bryophytes (mosses, liverworts, hornworts) and non-crustose lichens.	number(3)
BEC_ZONE_CODE	The polygon's biogeoclimatic zone.	varchar2(4)
CFS_ECOZONE	The polygon's CFS ecozone for biomass calculation	number(3)

FIELD	DESCRIPTION	FORMAT
PRE_DISTURBANCE_STOCKABILITY	An estimate of the percentage of polygon area that will eventually be stocked by trees. For example, a stockability value of 80% indicates that 20% of the area will never support tree growth.	number(3)
YIELD_FACTOR	A factor which impacts the predicted basal area at 7.5cm utilization level within the stand description. It is normally set to 1.	number(3)
NON_PRODUCTIVE_DESCRIPTOR_CD	The class or type of non-productive areas or land that is incapable of supporting commercial forests. This is a FIP classification based attribute only and is retained for the purposes of business transition from FIP to vegetation inventory. There is no expectation that this attribute would be updated or created under Vegetation Inventory Classification practise.	varchar2(5)
BCLCS_LEVEL1_CODE	The vegetated or non-vegetated state.	varchar2(10)
BCLCS_LEVEL2_CODE	The land cover type: treed or non-treed for vegetated polygons; land or water for non-vegetated polygons.	varchar2(10)
BCLCS_LEVEL3_CODE	The location of the polygon relative to elevation and drainage. Described as either Alpine, Wetland, or Upland. In rare cases, the polygon may be Alpine Wetland.	varchar2(10)
BCLCS_LEVEL4_CODE	The vegetation types and non-vegetated cover types (as described by the presence of distinct types upon the land base within the polygon).	varchar2(10)
BCLCS_LEVEL5_CODE	The vegetation density class related to vegetated land or specific non-vegetated state cover such as beaches, mudflats.	varchar2(10)
PHOTO_ESTIMATION_BASE_YEAR	The date on which the polygon estimates were photo interpreted	date
REFERENCE_YEAR	The date on which the polygon estimates were photo interpreted	date
PCT_DEAD	The percent of the stand that has had an epidemic loss.	number(3)
NON_VEG_COVER_TYPE_1	The predominate observable non-vegetated land cover within the polygon.	varchar2(10)

FIELD	DESCRIPTION	FORMAT
NON_VEG_COVER_PCT_1	The area of the predominate non-vegetated portion covers expressed as a percentage of the entire polygon's area.	number(3)
NON_VEG_COVER_PATTERN_1	The spatial distribution of the most prevalent non-vegetated cover type based on percent area covered within the polygon.	varchar2(10)
NON_VEG_COVER_TYPE_2	The second most prevalent observable non-vegetated land cover within the polygon.	varchar2(10)
NON_VEG_COVER_PCT_2	The area of the second most prevalent non-vegetated portion covers expressed as a percentage of the entire polygon's area.	number(3)
NON_VEG_COVER_PATTERN_2	The spatial distribution of the second most prevalent non-vegetated cover type based on percent area covered within the polygon.	varchar2(10)
NON_VEG_COVER_TYPE_3	The third most prevalent observable non-vegetated land cover within the polygon.	varchar2(10)
NON_VEG_COVER_PCT_3	The area of the third most prevalent non-vegetated portion covers expressed as a percentage of the entire polygon's area.	number(3)
NON_VEG_COVER_PATTERN_3	The spatial distribution of the third most prevalent non-vegetated cover type based on percent area covered within the polygon.	varchar2(10)
LAND_COVER_CLASS_CD_1	The predominate land cover type by percent area occupied within the polygon that contribute to the overall polygon description, but may be too small to be spatially identified. The sub-division of a polygon by a quantified land cover component, allowing non-spatial resolution for modeling of wildlife habitat capability.	varchar2(10)
LAND_COVER_PCT_1	The amount of the polygon occupied by the predominate land cover component. The sub-division of a polygon by a quantified land cover component allows a higher degree spatial resolution for modelling wildlife habitat capability. Generally, sizes under 10% would not be estimated.	number(3)

FIELD	DESCRIPTION	FORMAT
LAND_COVER_CLASS_CD_2	The second most dominate land cover type by percent area occupied within the polygon that contribute to the overall polygon description, but may be too small to be spatially identified. The sub-division of a polygon by a quantified land cover component, allowing non-spatial resolution for modelling of wildlife habitat capability.	varchar2(10)
LAND_COVER_PCT_2	The amount of the polygon occupied by the second most dominate land cover component. The sub-division of a polygon by a quantified land cover component allows a higher degree spatial resolution for modelling wildlife habitat capability. Generally, sizes under 10% would not be estimated.	number(3)
LAND_COVER_CLASS_CD_3	The third most dominate land cover type by percent area occupied within the polygon that contribute to the overall polygon description, but may be too small to be spatially identified. The sub-division of a polygon by a quantified land cover component, allowing non-spatial resolution for modelling of wildlife habitat capability.	varchar2(10)
LAND_COVER_PCT_3	The amount of the polygon occupied by the third most dominate land cover component. The sub-division of a polygon by a quantified land cover component allows a higher degree spatial resolution for modelling wildlife habitat capability. Generally, sizes under 10% would not be estimated.	number(3)

2.4.2 Layer Definition File - Input Fields

FIELD	DESCRIPTION	FORMAT
FEATURE_ID	Provincially unique identifier for an instance of a spatial feature.	number(38)
TREE_COVER_LAYER_ESTIMATED_ID	Unique identifier for the tree cover layer	number(38)
MAP_ID	Identifies the forest cover map corresponding to the FIP file. It is the British Columbia Geographic System's (BCGS) key reference number of the forest cover map. The mapsheet most commonly used is the 6" x 12" BCGS mapsheet.	varchar2(7)
POLYGON_NUMBER	A non-unique reference number assigned to each vegetated or non-vegetated polygon after it is delineated. Provides a link between the graphic and descriptive files. The business assigned unique identifier for a polygon. Typically, this has been uniquely assigned within a BCGS mapsheet.	number(9)
LAYER_LEVEL_CODE	The unique business identification of a layer, or horizontal stratum, in a stand. Each layer is normally characterized as a distinct canopy containing a common forest cover structure with timber of similar ages (at least 40 years between layers) and heights (at least 10 meters between layers). Layers are assigned from the tallest layer downward.	varchar2(10)
VDYP7_LAYER_CD	Layer identification code. There are five types of layers in VDYP7: P - primary layer; V - veteran layer; D - dead layer; R - residual layer; and Y - young trees layer.	varchar2(10)
LAYER_STOCKABILITY	An estimate of the percentage of the polygon area in the layer that will eventually be stocked by trees.	number(3)

FIELD	DESCRIPTION	FORMAT
FOREST_COVER_RANK_CODE	A numeric designation of the relative importance of the layer component in the stand as determined by the business. The level of importance decreases as the numeric designation increases. For vegetation cover originated data, this value is assigned via business rule based on the supplied order of the layer records as recorded by the interpreter. For FIP originated data, this value is known as the rank 'cd', and is explicitly supplied by the interpreter. The rank 'cd', or ranking, is based on regional guidelines at the time of interpretation. This value is retained for FIP transition purposes, as tree volumes are only calculated by VDYP7. The rank 'cd' will be superseded in time when vegetation inventory projection tools are developed.	varchar2(10)
NON_FOREST_DESCRIPTOR_CODE	A unique numeric code that references the classes or type of non-productive areas. This is a FIP classification based attribute only, and is retained for the purposes of business transition from FIP to Vegetation Inventory. There is no expectation that this attribute would be updated or created under Vegetation Inventory Classification practise.	varchar2(10)
EST_SITE_INDEX_SPECIES_CD	The species to which the estimated site index applies.	varchar2(10)
ESTIMATED_SITE_INDEX	An interpreter estimated site index for tree layers with a leading species age less than 31 years. Site index is the mean height of the dominant and codominant trees will attain at a base index age (50 years) used for the purposes of estimating forest site growth capability. The site index is based on a normalized set of coefficients calibrated to reflect the range of heights for a given tree species.	number(5,1)
CROWN_CLOSURE	The percentage of ground area covered by the vertically projected crowns of the tree cover for each tree layer within the polygon.	number(3)

FIELD	DESCRIPTION	FORMAT
BASAL_AREA_75	The total cross sectional area (at breast height), of all living trees at 7.5+ cm utilization level visible to the photo interpreter, in square meters per hectare. It is measured from the dominant, codominant and high intermediate crown positions, for each tree layer in the polygon. Basal Area is expressed as square metres per hectare. It is used for the determination of species composition and timber volume.	number(10,6)
STEMS_PER_HA_75	The average number of living trees visible to the photo interpreter in the dominant, codominant and high intermediate crown positions in each tree layer in the polygon. it is expressed as stems per hectare.	number(10,6)
SPECIES_CD_1	The type of tree species predominate or leading in the tree layer. A "leading" species is identified as being the highest percent basal area or, if a very young stand, the relative number of stems per hectare. Species are described in terms of genus, species and variety.	varchar2(10)
SPECIES_PCT_1	Percentage of the layer that the leading species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
SPECIES_CD_2	The type of tree species second most dominate in the tree layer. A "second" species is identified in descending order of species percent from the "leading" species. Species are described in terms of genus, species and variety.	varchar2(10)

FIELD	DESCRIPTION	FORMAT
SPECIES_PCT_2	Percentage of the layer that the second most dominate species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
SPECIES_CD_3	The type of tree species third most dominate in the tree layer. A "third" species is identified in descending order of species percent from the "leading" species. Species are described in terms of genus, species and variety.	varchar2(10)
SPECIES_PCT_3	Percentage of the layer that the third most dominate species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
SPECIES_CD_4	The type of tree species fourth most dominate in the tree layer. The "fourth" species is identified in descending order of species percent from the "leading" species. Species are described in terms of genus, species and variety.	varchar2(10)
SPECIES_PCT_4	Percentage of the layer that the fourth most dominate species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
SPECIES_CD_5	The type of tree species fifth most dominate in the tree layer. The "fifth" species is identified in descending order of species percent from the "leading" species. Species are described in terms of genus, species and variety.	varchar2(10)

FIELD	DESCRIPTION	FORMAT
SPECIES_PCT_5	Percentage of the layer that the fifth most dominate species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
SPECIES_CD_6	The type of tree species sixth most dominate in the tree layer. The "sixth" species is identified in descending order of species percent from the "leading" species. Species are described in terms of genus, species and variety.	varchar2(10)
SPECIES_PCT_6	Percentage of the layer that the sixth most dominate species occupies. For older stands, tree species percentage is based on percent basal area or, if a very young stand, the relative number of stems per hectare. Tree species percentage is estimated to the nearest percent for all living trees above a specified diameter.	number(5,2)
EST_AGE_SPP1	The age of the leading species at the date the polygon estimates were photo interpreted.	number(4)
EST_HEIGHT_SPP1	The height of the leading species at the date the polygon estimates were photo interpreted.	number(5,1)
EST_AGE_SPP2	The age of the secondary species at the date the polygon estimates were photo interpreted.	number(4)
EST_HEIGHT_SPP2	The height of the secondary species at the date the polygon estimates were photo interpreted.	number(5,1)
ADJ_IND	Primary unique numeric identifier for a VRI adjusted input.	number(10)

FIELD	DESCRIPTION	FORMAT
LOREY_HEIGHT_75	This is the height in meters of the tree of average basal area. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(9,5)
BASAL_AREA_125	The total cross sectional area (at breast height), of all living trees at 12.5+ cm utilization level, in square meters per hectare. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(10,6)
WS_VOL_PER_HA_75	The total whole stem volume per hectare of all species on a minimum diameter utilization of 7.5cm, expressed as cubic meters per hectare. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(9,5)
WS_VOL_PER_HA_125	The total whole stem volume per hectare of all species on a minimum diameter utilization of 12.5cm, expressed as cubic meters per hectare. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	
CU_VOL_PER_HA_125	This volume is the whole stem volume net stumps and tops in cubic meters per hectare at 12.5+ cm utilization level. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(9,5)
D_VOL_PER_HA_125	This volume is the whole stem volume net stumps and tops, and decay, in cubic metres per hectare at 12.5+ cm utilization level. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(9,5)

FIELD	DESCRIPTION	FORMAT
DW_VOL_PER_HA_125	This volume is the whole stem volume net for utilization, decay and waste in cubic metres at 12.5+ cm utilization level. This is a statistically adjusted attribute that is input to VRIADJST, a VDYP7 program that modifies the stand description that is required to project the polygon.	number(9,5)

3 Structure and Function

3.1 VDYP7Console Processing

This section describes some aspects of VDYP7Console processing and the contents of the yield files generated by this application.

The VDYP7Console processes one FEATURE_ID at a time in its entirety, from reading the input files to the writing of the outputs. If a complete yield table is returned to the output file, following will have occurred:

1. A stand description required for the projection will have been successfully returned by FIPSTART or VRISTART.
2. VDYP7 and VDYP7Back core programs will have generated the future and past yields respectively, in accordance with *includeprojmode* parameter and the age and/or yield ranges supplied on the command line.

The processing is described in further detail.

An attempt is first made to create input records for one of two VDYP7 core programs: FIPSTART or VRISTART from the inventory values supplied in the input files. Minimum information, including species composition, age and height, must exist or an error message will be written to the log file and the polygon will not be processed further. Then VDYP7Console will move forward to the next polygon. For some attributes such as Stockability, Yield Factor, Site Information, if null values have been supplied, these values are also 'completed' at this time.

Stockability

If a stockability value is not supplied, it will be derived during VDYP7Console processing, as follows. The photo-interpreted crown closure is used to gauge what stocking level already exists, at the start of the projection. For VRI inventories, the additional area that may potentially fill-in over the course of a long-term projection is determined from the Shrub/Herb/Bryoid/Non-Veg cover percents. And how much of this additional area actually fills-in is further estimated from supplied age and disturbance information. For example, this additional area is assumed to fill-in more for polygons with younger stands than older stands; and for polygons with a recent disturbance.

For FIP inventories, the above cover percents have not been assessed and the additional area that may potentially fill-in must therefore be assumed. Age and disturbance information are employed, as above, to estimate how much of this area actually fills in.

The VDYP7 growth models are calibrated using permanent sample plot (PSP) measurements. Prior to projection, stockability is employed to convert the inventory per/ha values (e.g. basal area), which reflect average values across the entire polygon, to a PSP-like stocking condition. After projection, stockability is again employed to convert the grown per/ha values back to their forest inventory equivalents.

It follows that stockability does not influence yields prior to projection, for example, those predicted by FIPSTART or any photo interpreted values. Over the course of VDYP7's development other names have also been employed for stockability, i.e. PCTFLAND and PCT_Stockable. These have the same meaning.

Yield factor

The default is 1, for cases where inventory standard is 'F' and NonProductiveDescriptor is not null (e.g. 'AF' for alpine forest), yield factor will be computed by VDYP7.

Site information

Site information required for the projection (e.g. site index, breast height age and site curve number) is also determined at this time via calls to SINDEK.

Projection layer

Projection layer assignments are determined at the time of creating the input records to FIPSTART/VRISTART. A primary projection layer is always required by the VDYP7 core programs and is determined as the rank '1' layer on the photo inventory. An uppermost photo layer may additionally be identified as a veteran projection layer, if it is judged to have veteran-like characteristics and has not already been assigned a primary layer designation. If no photo layer has a Rank = '1' assignment for a polygon, then INCOSADA-based logic is used to judge its identity, and a primary layer assigned accordingly. Conversely, if multiple Rank='1' layers exist for a polygon it will not be processed.

Once assigned, these two projection layers (i.e. primary, veteran) are processed separately by all the VDYP7 core programs. Projected yields are reported back to the yield tables according to the original photo layers. Any photo layers that do not qualify as projection layers will not appear in the yield table produced by the VDYP7Console.

This implementation of projecting layers is referred to as 'layering-lite'. In the future, the option will exist to summarize *all* photo layers into either of the two projection layers recognized by the VDYP7 core programs. Implementing this option will be more difficult. Attributes will need to be combined across photo layers when creating the FIPSTART/VRISTART input files, and the projected values, as generated by the VDYP7 core programs, need to be de-aggregated back to the original photo layers.

Yields projection and yield tables

Complete yield tables cannot always be generated in accordance with the command line arguments for several reasons. As noted above, sufficient input attributes must be provided for FIPSTART or VRISTART to generate a stand description. Even when this is the case, a stand description may not always be possible; for example, if a nonForestDescriptor value (e.g. NSR) is encountered for legacy FIP polygons. Furthermore, the generation of the per/ha yields across the entire age/year range requested in the command line may not always be possible; for example, if the starting age is younger than the age that yields can first be generated. Layers judged to have veteran characteristics will also only be forward-grown after reference age, because the VDYP7Back core program used prior to this point does not support veteran layer processing.

Yield equations may also be employed to determine the starting yields for the projection, even when supplied values exist on the input text files. If, for example, a stand description is not possible at the reference age because the height is too short (i.e. less than 6-8 m) then basal area and stems will be predicted by VRISTART, at the earliest future age possible. In this case, the starting values in the yield table may bear little relationship to the supplied values on the inventory, particularly when the supplied values are inconsistent with the yield relationships predicted by VRISTART. In cases when the site quality is judged too low to generate a future stand description, then the per/ha yields will not be generated. Blank space will appear in the yield tables for the per hectare yields (e.g. all volumes)

whenever the core programs do not return values. This will occur, for example, at low heights (i.e. less than about 6-8 meters) and for projections 400 years beyond the reference year.

Site height values within the yield tables are generated by calls to SINDEX. If the photo age is greater or equal to 30 years, then site index (SI) is derived, using the supplied age and height as inputs. Projected height in the yield table will then be derived accordingly, using the projected age and SI as inputs to SINDEX. In this case, the supplied and projected heights should always be harmonized since both will be in accordance with SINDEX relationships. When the supplied age is less than 30 years, the supplied SI is employed to determine the site heights. In this case the SINDEX-based link between the supplied height and site height in the yield table may no longer exist, and relationships may appear disconnected. This will be most evident when the supplied age/ht/SI triplet differs significantly from the relationship predicted by SINDEX.

Finally, species percentages displayed in VDYP7Console yield tables will not always match those on the inventory. This will most commonly be the case when inventory standard = 'F' polygons are processed because the supplied species composition is based on gross whole stem volume; whereas in the values displayed in the yield tables are based on basal area.

3.2 Command Line

To promote legibility, the command line structure and examples in this section are displayed with the parameters starting on a new line. In application you must place these parameters on a single line. The command line parameters are case sensitive and can appear in any order.

Several examples showing how these command line parameters function are provided in Appendix C. VDYP7Console users are encouraged to review these examples, particularly if they plan to include both age and year ranges in a single command line. The interaction of these particular parameters can be intricate.

Table 1. *VDYP7Console Command Line Parameters, Options and Descriptions*

PARAMETER	DESCRIPTION
-p	This parameter references a file that contains any number of arguments for the command line parameters. Each line of the parameter file holds a single command line parameter. This is a handy alternative to supplying parametersto the VDYP7Console. An example is given in Appendix A.

PARAMETER	DESCRIPTION
-ini	<p>This parameter identifies the VDYP.INI file and causes an immediate scan of the file and may potentially overwrite some previously specified command line parameters. When identifying the VDYP.INI file, the following entries are extracted out of the INI file (all others are ignored).</p> <p>[PREFERENCES] Debug mode=True/False DebugDirectory=\${InstallDir}\Debug\ [VDYPCore Configuration] ConfigurationFilePath=\${InstallDir}\VDYP_CFG LogFileName=\${InstallDir}\VDYP_CFG\vdyp7.log SaveIntermediateData=False [Batch Species Report Utilization Levels]</p> <p>For a complete description of the contents of the VDYP.INI file, see <i>Section 7.1 of Volume 1 –VDYP7 Overview</i></p>
-ifmt	<p>This parameter specifies the input files' format:</p> <ul style="list-style-type: none"> • HCSV: A CSV input data format consisting of two files, one containing polygon level data and the other containing layer specific descriptions. • CSV: A collection of 8 input CSV files holding different components of a stand description. No longer in use now • DCSV: A flat data structure holding all polygon, layer, and stand information on a single CSV input record.
-ofmt	<p>This parameter indicates the type of data VDYP7Console will produce, two options:</p> <ul style="list-style-type: none"> • YieldTable: a formatted text file containing yield tables. • csvyieldtable: yield tables in CSV format.
-ip	<p>This parameter specifies the location of the input polygon definition file</p>
-il	<p>This parameter specifies the location of the input layer definition file</p>
-o	<p>This parameter specifies the pathname of the yield table file, as generated by VDYP7Console.</p>
-e	<p>This parameter specifies the pathname of the processing message file that will be created when VDYP7Console is run.</p>
-l	<p>This parameter specifies the pathname of the log file that will be created when VDYP7Console is run.</p>
-forward	<p>Yes/No. Enables/disables the forward growth component of VDYP7. The default is 'Yes'.</p>

PARAMETER	DESCRIPTION
-back	Yes/No. Enables/disables the backward interpolation component of VDYP7. The default is 'No'.
-includeprojmode	Yes/No. The 'Yes' option produces a column at the end of each row by classifying the projection year as one of the following, in order of priority: <ul style="list-style-type: none"> • Ref: the reference year; • Crnt: the current year; • Spcl: the special year; • Frwd: forward projection; • Back: backward interpolation. The default is 'Yes'.
-allowbatphsub	T or Y / N or F. The 'T' or 'Y' options (true or yes) permits the copy of input basal area and trees per hectare to projected, if available on input and not computed. The 'N' or 'F' arguments (no or false) prevents this copy occurrence. The default, if not supplied, is 'T' or 'Y'
-yieldtableincpolyid	Yes/No. The 'Yes' option includes the FEATURE_ID in each yield table header; 'No' does not. The default is 'No'.
-v7log	This parameter specifies the pathname of the log file for the VDYP7 core program messages.
-v7save	Yes/No. This parameter allows for the saving of intermediate files. The normal mode is 'No' as this allows for faster processing and avoids the creation of potentially large file sizes. If set to 'Yes', the files will be saved in the VDYP_CFG folder. The default is 'No'.
-c	VDYP7 configuration file folder. This parameter specifies the location of the VDYP_CFG folder. This will reside within the folder that the VDYP7Console has been installed.
-d	This parameter specifies the pathname of the debug file.
-dbg	Yes/No. This parameter turns on/off the generation of debug output to the folder given after the -d parameter. This should only be turned on when examining processing for a single polygon; otherwise file sizes will become immense. The default is 'No'.
-util	This parameter allows for DBH setting for each of the 16 possible SPO codes. One of four DBH limits can be supplied for each SPO: 4.0, 7.5, 12.5, 17.5, 22.5. If 'excl' is supplied, the contribution of the SPO will be excluded altogether. If this parameter is not specified for an SPO then the default setting in the VDYP.ini file will be applied.
-agestart	Start age for yield tables.
-ageend	End age for yield tables.

PARAMETER	DESCRIPTION
-yearstart	Start year for the yield tables.
-yearend	End year for the yield tables.
-inc	Age/Year increment for yield tables.
-forcerefyear	Yes/No. Forces inclusion of the Reference Year in the yield table. The default is 'No'.
-forcecrrtyear	Yes/No. Forces inclusion of the Current Year in the yield table. The default is 'No'.
-forceyear	Force display of any supplied year.
-includeagerows	Yes/No. Include age rows in the yield tables. The default is 'Yes'.
-includeyearrows	Yes/No. Include year rows in the yield tables. The default is 'Yes'.
-filterformaintainer	This parameter allows for record selection within the VDYP7Console input files. Yield tables will only be generated for polygons matching the supplied Maintainer value in the polygon definition file, for example DMO. The default is no record filtering for Maintainer.
-filterformapsheet	This parameter allows for record selection within the VDYP7Console input files. Yield tables will only be generated for polygons matching the supplied Map_ID value in the polygon definition file, for example 093K091. The default is no record filtering for Map_ID.
-filterforpolygon	This parameter allows for record selection within the VDYP7Console input files. Yield tables will only be generated for polygons matching the supplied Polygon_ID in the polygon definition file, for example 505. The default is no record filtering for Polygon_ID.
-progressfrequency	<p>This parameter controls what is displayed as polygons are processed by the VDYP7Console. The valid arguments are.</p> <ul style="list-style-type: none"> • NEVER: no processing information is displayed • POLYGON: both MAP_ID and POLYGON_ID are displayed for each polygon processed • MAPSHEET: MAP_ID is displayed, whenever it changes • <number>: the number of polygons processed is displayed each time the supplied interval is reached, for example, every 2500th polygon. <p>The default is POLYGON which has the most impact on processing speed. The other arguments tend to have less impact on performance.</p>
-projectedByLayer	Yes/No. Produce a summary layer level projected per hectare values. The default is 'Yes'
-projectedBySpecies	Yes/No. Produce species specific projected per hectare volumes. The default is 'No'

PARAMETER	DESCRIPTION
-projectedVolumes	Yes/No. When producing projected per hectare values in a yield table, include or exclude volume calculation. The default is 'Yes'.
-projectedCFSBiomass	Yes/No. When producing projected per hectare values in a yield table, include or exclude biomass calculation. The default is 'No'.



A full listing of all available command line parameters is available using: "\$(\$InstallDir)/vdyp7console -?" in Command Prompt.

3.3 Command Line Example

To promote legibility, the command line sample is displayed with each parameter starting on a newline.

```
$(InstallDir)\vdyp7console

-ini $(InstallDir)\VDYP.ini
-c $(InstallDir)\VDYP_CFG\
-ifmt hcsv
-ofmt YieldTable
-ip $(InputFileDir)\Input_POLY.csv
-il $(InputFileDir)\Input_LAYER.csv
-o $(OutputFileDir)\Output_YldTbl.csv
-e $(OutputFileDir)\Output_Error.txt
-l $(OutputFileDir)\Output_Log.txt

-forward Yes
-back Yes
-includeprojmode Yes
-util AC=7.5
-util AT=7.5
-util B=7.5
-util C=7.5
-util D=7.5
-util E=7.5
-util F=7.5
-util H=7.5
-util L=7.5
-util MB=7.5
-util PA=7.5
-util PL=7.5
-util PW=7.5
-util PY=7.5
-util S=7.5
-util Y=7.5
-yearstart 2010
-yearend 2100
-agestart 0
-ageend 250
-inc 10
-forceRefYear Yes
-forceCrntYear Yes
-forceYear 2050
-projectedBySpecies Yes
-projectedVolumes Yes
```


4 Processing Notes and Recommendations

It is important to review the processing messages after running the VDYP7Console as contained within the file denoted by the -e parameter. See Appendix B for a summary of common processing messages.

We recommend that you make use of a parameter file via the supplying of a -p parameter file name on the VDYP7Console command line. This facilitates making changes, especially if there are a number of processing scenarios of interest. Editing this text file, with one parameter per line, is far easier than scanning a long, single-line command line for the appropriate parameter. An example of such a parameter file and its use within a command line is provided in Appendix A.

If you add a last line in your file containing the command line, with the text string 'pause', the DOSbox will remain open after you launch application. This will enable you to review processing information which can prove helpful in diagnosing any problems you may have encountered.

5 Yield Tables

There are two format options for the output yield tables:

- **Yield Table:** a formatted text file containing yield tables.
- **CSV Yield Table:** yield tables in CSV format.

5.1 Yield Table Example

When specifying

-ofmt YieldTable,

VDYP7Console will generate yield tables as a fixed format text files.

Figure 1: VDYP7Console YieldTable Example

```

VDYP7 Console Run Started:      2022-Feb-16 09:02:39
VDYP7 Console Version:        7.17d
VDYP7 Extended Core DLL Version: 7.25a
VDYPCORE DLL Version:        7.15h
Supporting Calc Library Version: 7.2d 2020-Jul-31
VRIDJST Calc DLL Version:     7.5d
VDYFBACK Calc DLL Version:    7.5d
FIPSTART Calc DLL Version:    7.5d
VDYP7 Calc DLL Version:       7.5d
VRISTART Calc DLL Version:    7.5d
Calc DLL I/O Support Version:  7.5d
VDYP7 Low Level I/O DLL Version: 7.23f
VDYP SI Wrapper Version:      7.13c

SINDEX Version:               1.51

Batch Parameters:
Project Age Range:
  Start Age: 50
  End Age: 250
  Start Year: N/A
  End Year: N/A
  Increment: 10

Reported Utilization Levels by SP0 Code:
AC --> 7.5 cm+
AT --> 7.5 cm+
B --> 7.5 cm+
C --> 7.5 cm+
D --> 7.5 cm+
E --> 7.5 cm+
F --> 7.5 cm+
H --> 7.5 cm+
L --> 7.5 cm+
MB --> 7.5 cm+
PA --> 7.5 cm+
PL --> 7.5 cm+
PW --> 7.5 cm+
PY --> 7.5 cm+
S --> 7.5 cm+
Y --> 7.5 cm+

vvvvvvvvvv Table Number: 1      District:      Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary (Rcrd ID: 5999044)
Year Age      Stand Composition      % Stk  SI  D Hgt  L Hgt  Dia  TPh  BA  Vws  Vcu  Vd  Vdw  Vdwb  Mode
-----
1926 50 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 16.99 14.02 19.8 828.18 25.7760 133.7 111.8 108.8 107.3 104.7 Back
1946 60 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 20.80 17.65 24.9 662.87 32.1547 208.6 187.6 181.6 179.0 174.7 Back
1946 70 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 24.01 20.81 29.4 536.21 36.4586 277.1 256.0 246.5 242.9 237.0 Back
1956 80 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 26.69 23.51 32.5 447.07 39.4072 326.3 314.9 301.8 297.0 289.8 Back
1966 90 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 28.94 25.81 37.1 382.93 41.4486 386.1 364.5 347.5 341.7 333.4 Back
1976 100 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 30.84 27.76 40.3 325.38 42.8696 427.2 405.7 384.8 377.8 368.6 Back
1986 110 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 32.44 29.27 42.2 299.11 42.8581 458.4 437.0 412.5 404.4 394.5 Back
1996 120 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 33.80 30.50 45.8 270.72 44.5396 482.9 461.8 433.7 424.5 414.1 Back
2006 130 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 34.97 31.32 48.1 248.01 44.9999 497.8 477.1 445.7 435.4 424.6 Ref
2016 140 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 35.98 32.28 48.1 247.51 44.9068 514.5 493.7 459.7 448.8 437.7 Frwd
2026 150 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 36.85 33.05 48.1 245.34 44.8151 524.1 503.4 467.2 455.7 444.3 Frwd
2036 160 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 37.62 33.62 48.1 241.89 43.8901 527.1 506.7 468.7 456.7 445.3 Frwd
2046 170 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 38.29 34.04 47.9 239.08 42.1724 526.2 506.1 466.7 454.4 442.5 Frwd
2056 180 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 38.88 34.35 47.9 236.48 42.5454 524.2 504.4 463.6 451.0 439.5 Frwd
2066 190 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 39.41 34.58 47.8 233.72 42.0246 521.8 502.3 460.3 447.2 435.8 Frwd
2076 200 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 39.88 34.75 47.8 231.42 41.6118 519.7 500.3 457.1 443.7 432.3 Frwd
2086 210 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 40.30 34.77 47.8 229.48 41.2610 515.6 496.4 452.3 438.4 427.1 Frwd
2096 220 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 40.68 34.78 47.8 228.08 41.0108 512.7 493.6 448.5 434.2 423.0 Frwd
2106 230 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 41.03 34.80 47.8 226.79 40.7796 510.0 491.0 445.0 430.2 419.1 Frwd
2116 240 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 41.34 34.81 47.8 225.58 40.5605 507.9 488.6 441.6 426.4 415.3 Frwd
2126 250 SX 85.0 ACT 15.0 0.0 0.0 0.0 0.0 0.0 58.0 21.82 41.62 34.82 47.8 224.42 40.3524 505.1 486.3 438.4 422.8 411.7 Frwd
^^^^^^^^^^ Table Number: 1
VDYP7 Console Run Completed: 2022-Feb-16 09:02:39

```

5.2 Label Descriptions

The table below contains the description of the labels in the yield table.

Table 2: Yield Table Label Description

LABEL	DESCRIPTION
Year	Projected year
Age	Projected age
Stand composition	Species composition
D Hgt	Site height (m)
L Hgt	Lorey height (m)
Dia	Quadratic mean diameter (cm)
TPH	Stems per hectare (stems/ha)
BA	Basal area (m ² /ha)
Vws	Whole Stem Volume (m ³ /ha)
Vcu	Close Utilization volume (m ³ /ha)
Vd	Close Utilization volume net decay (m ³ /ha)
Vdw	Close Utilization volume net decay + waste (m ³ /ha)
Vdwb	Close Utilization volume net decay + waste + breakage (m ³ /ha)

5.3 CSV Formatted Yield Table Example

When specifying

```
-ofmt csvyieldtable,
```

VDYP7Console will generate yield tables as fixed format text files.

Figure 2: VDYP7Console *csvyieldtable* Example (only the left part of the table is shown)

SPECIES_6_PCNT	PRJ_PCNT_STOCK	PRJ_SITE_INDEX	PRJ_DOM_HT	PRJ_SCND_HT	PRJ_LOREY_HT	PRJ_DIAMETER	PRJ_TPH	PRJ_BA	PRJ_VOL_WS	PRJ_VOL_CU	PRJ_VOL_D	PRJ_VOL_DW	PRJ_VOL_DWB	PRJ_MODE
	58	21.82	16.99		14.03	19.79	838.18	25.78	133.7	111.8	108.8	107.3	104.7	Back
	58	21.82	20.80		17.65	24.85	662.87	32.15	208.6	187.6	181.6	179.0	174.7	Back
	58	21.82	24.01		20.81	29.42	536.21	36.46	277.1	256.0	246.5	242.9	237.0	Back
	58	21.82	26.69		23.51	33.5	447.07	39.41	336.3	314.9	301.8	297.0	289.8	Back
	58	21.82	28.94		25.81	37.12	382.93	41.45	386.1	364.5	347.5	341.7	333.4	Back
	58	21.82	30.84		27.76	40.34	335.38	42.87	427.2	405.7	384.8	377.8	368.6	Back
	58	21.82	32.44		29.27	43.21	299.11	43.86	458.4	437.0	412.5	404.4	394.5	Back
	58	21.82	33.80		30.50	45.77	270.72	44.54	482.9	461.8	433.7	424.5	414.1	Back
	58	21.82	34.97		31.32	48.06	248.01	45.00	497.8	477.1	445.7	435.4	424.6	Ref
	58	21.82	35.98		32.28	48.06	247.51	44.91	514.5	493.7	459.7	448.8	437.7	Frwd
	58	21.82	36.85		33.05	48.06	245.34	44.52	524.1	503.4	467.2	455.7	444.3	Frwd
	58	21.82	37.62		33.62	48.07	241.89	43.89	527.1	506.7	468.7	456.7	445.3	Frwd
	58	21.82	38.29		34.04	47.95	239.08	43.17	526.2	506.1	466.7	454.4	442.9	Frwd
	58	21.82	38.88		34.35	47.86	236.48	42.55	524.2	504.4	463.6	451.0	439.5	Frwd
	58	21.82	39.41		34.58	47.85	233.72	42.02	521.8	502.3	460.3	447.2	435.8	Frwd
	58	21.82	39.88		34.75	47.85	231.42	41.61	519.7	500.3	457.1	443.7	432.3	Frwd
	58	21.82	40.30		34.77	47.85	229.48	41.26	515.6	496.4	452.3	438.4	427.1	Frwd
	58	21.82	40.68		34.78	47.85	228.08	41.01	512.7	493.6	448.5	434.2	423.0	Frwd
	58	21.82	41.03		34.80	47.85	226.79	40.78	510.0	491.0	445.0	430.2	419.1	Frwd
	58	21.82	41.34		34.81	47.85	225.58	40.56	507.5	488.6	441.6	426.4	415.3	Frwd
	58	21.82	41.62		34.82	47.85	224.42	40.35	505.1	486.3	438.4	422.8	411.7	Frwd

Appendices

Appendix A – Parameter File Example

Unlike the command line, the parameter file consists of multiple lines; each holding a single command line parameter, for example:

```
-ini $(InstallDir)\VDYP.ini
-c $(InstallDir)\VDYP_CFG\
-ifmt hcsv
-ofmt YieldTable
-ip $(InputFileDir)\Input_POLY.csv
-il $(InputFileDir)\Input_LAYER.csv
-o $(OutputFileDir)\Output_YldTbl.csv
-e $(OutputFileDir)\Output_Error.txt
-l $(OutputFileDir)\Output_Log.txt
-agestart 50
-ageend 250
-inc 25
```

If this parameter file is named parm.txt, is saved in the same directory as your command line, and contains all of the parameters of interest the command line would simply become

```
$(InstallDir)\vdyp7console -p $(ParamDir)\parm.txt
```

Changes are much easier using a parameter file, compared to a command line, because each parameter now occupies its own line. Furthermore, parameter lines within a parameter file line can be commented-out via the insertion of a # symbol at the start of the line. For example, placement of this symbol as follows would nullify the record selection for this particular Polygon_ID within the VDYP7Console input files.

```
##-filterforpolygon 505
```

Appendix B – VDYP7Console Interface Messages

Some common messages generated by this application, along with interpretation as to cause, are described in this appendix. See *Appendix A* of the **Volume 1 - VDYP Overview** for more messages.

Warnings and Information Notes that Relate to Normal Processing

MESSAGE	CAUSE
DCB 082G007 0 0 0020 1 – I SPECIESNOTFOUND - Projected data for the layer was not generated at stand age 10.0 (Calendar Year: 1783)	Height at this age is too short to generate the stand description required for a yield table record.
DCB 082G007 0 0 0020 1 - I INVALIDSITEINFO - Height 1.5 at Projection Year 1783 is too short to generate yields for species 'PA'	Height at this age is too short to generate the stand description required for a yield table record.
082G007 0 0 0090 - W SUCCESS - Unable to Project Stand backwards overage range: 10.0 to 49.0. VDYPBACK Return Code: -100	The VDYP7 core program VDYP7Back skips this polygon because it cannot regress to a younger age. Thus no yield table records will appear at younger than the reference age.
DWL 092O026 0 0 0264 - W SUCCESS - Primary Layer height was too short to generate a stand description. VDYP7CORE return code: 'Ht L1 too low' (-4)	Inventory Standard 'F' polygons with a non-forest productive code = null is routed to FIPSTART. A stand description cannot be generated and no per/ha yields will be returned to the PIT adjustment table.
DQU 093C080 0 0 0311 - W SUCCESS - Stand description not possible after 80 years of projection. VDYP7CORE return code: 'VRI_YNG +80 yrs nonmerch size' (-14)	A stand description is judged to never be possible, i.e. the core programs projected the stand for 80 years without success. Again, no per/ha attributes will be returned to the PIT adjustment table.
092H025 0 0 0377 1 - I SUCCESS - Estimated SI applied from older species 'BA' to younger species 'HW'	No estimated site index is available and site index for another species is used.

Source Data Related Errors

The VDYP7 core programs require, at a minimum, species, site information (age/height/SI) and BEC zone inputs. The following messages related to inadequate input data, can be avoided by filtering polygons without this information.

MESSAGE	CAUSE
DCB 082G007 0 0 0010 – E INVALIDPARAMETER - Measurement Year (0) is out of range. Must be between 1400 and 2500	No age information exists to determine the year-to-age relationship required for yield table generation.
DCB 082G007 0 0 0010 0 – E SPECIESNOTFOUND - Unable to locate a Leading Species	The VDYP7 core programs require at least one species; if not present a yield table will not be produced.
DCB 082G007 0 0 0010 – E INCONSISTENT_DATA - Unable to define the polygon record to VDYP7. VDYP7 Interface Return Code: INVALIDPARAMETER (-2).	Insufficient attributes are available to generate a yield table.
092G028 0 0 0103 1 - E SPECIESALREADYEXISTS – Species 'HW' duplicates a species already in layer'1'	If a layer has duplicate species codes, the polygon will not be processed.
DCK 092G028 0 0 0103 1 – E INCONSISTENT_DATA - Unable to define the species record to VDYP7. VDYP7 Interface Return Code: SPECIESALREADYEXISTS (-9)	If a layer has unrecognized species codes the polygon will not be processed.

Appendix C –Command Line Parameter Function Examples

Five VDYP7Console processing examples are provided in this appendix. The primary intent is to illustrate how some of the commands function. Each example employs the following command line syntax:

```
$(InstallDir)\vdyp7console.exe
-ini $(InstallDir)\VDYP.ini
-c $(InstallDir)\VDYP_CFG\
-ifmt hcsv
-ofmt YieldTable
-ip $(InputFileDir)\Input_POLY.csv
-il $(InputFileDir)\Input_LAYER.csv
-o $(OutputFileDir)\Output_YldTbl.csv
-e $(OutputFileDir)\Output_Error.txt
-l $(OutputFileDir)\Output_Log.txt
-p $(ParamFileDir)\ParameterFile.txt
```

The same, single polygon is processed in each example, subject to what is further contained in the Parameter file. As before, each command line parameter is presented on a separate line to improve readability; in application these parameters must appear on a single line.

The parameter file contents, the yield table generated and some interpretive notes are provided below for each example.

Example 1: Age Parameters Supplied

Parameter File

```
-agestart 50
-ageend 250
-inc 10
```

Yield Table

```
vvvvvvvvvvv Table Number: 1          District:          Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary
Year  Age  % Stk  SI  D Hgt  L Hgt  Dia  TPH  BA  Vws  Vcu  Vd  Vdw  Vdwb  Mode
-----
1926  50  SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  16.99  Back
1936  60  SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  20.80  Back
1946  70  SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  24.01  Back
1956  80  SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  26.69  Back
1966  90  SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  28.94  Back
1976  100 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  30.84  Back
1986  110 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  32.44  Back
1996  120 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  33.80  Back
2006  130 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  34.97  31.32  48.2  246.80  44.9911  497.8  477.1  445.7  435.4  424.6  Ref
2016  140 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  35.98  32.28  48.2  246.28  44.8979  514.4  493.7  459.7  448.8  437.7  Frwd
2026  150 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  36.85  33.05  48.2  244.10  44.5062  524.0  503.4  467.2  455.7  444.3  Frwd
2036  160 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  37.62  33.62  48.2  240.66  43.8813  527.1  506.7  468.7  456.7  445.3  Frwd
2046  170 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  38.29  34.04  48.1  237.84  43.1634  526.2  506.1  466.6  454.4  442.9  Frwd
2056  180 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  38.88  34.35  48.0  235.23  42.5364  524.2  504.4  463.6  451.0  439.5  Frwd
2066  190 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  39.41  34.58  48.0  232.48  42.0157  521.8  502.3  460.3  447.2  435.8  Frwd
2076  200 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  39.88  34.75  48.0  230.19  41.6029  519.6  500.3  457.1  443.7  432.3  Frwd
2086  210 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  40.30  34.77  48.0  228.26  41.2521  515.6  496.4  452.3  438.4  427.1  Frwd
2096  220 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  40.68  34.78  48.0  226.87  41.0020  512.7  493.6  448.5  434.2  423.0  Frwd
2106  230 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  41.03  34.80  48.0  225.59  40.7709  510.0  491.0  445.0  430.2  419.1  Frwd
2116  240 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  41.34  34.81  48.0  224.38  40.5519  507.4  488.6  441.6  426.4  415.3  Frwd
2126  250 SX  85.0 ACT  15.0  0.0  0.0  0.0  0.0  58.0  21.82  41.62  34.82  48.0  223.23  40.3438  505.0  486.3  438.4  422.8  411.7  Frwd
^^^^^^^^^^^^ Table Number: 1
```

Interpretative Notes

- Age or year parameters are usually required to generate a yield table. In this example three age parameters have been supplied in the parameter file that define which rows appear in the yield table. Note that year, age, composition and height values always exist for each row.
- The per/ha yields are returned for rows that equal or exceed the supplied reference year only (2006 for this polygon). This is the default; if yields prior to reference are of interest this will need to be explicitly requested (see next example). Note also that processing Mode in yield table = 'Frwd' for these rows.
- Composition values at reference year and beyond correspond to VDYP7 predictions of basal area at 7.5+cm dbh; otherwise the composition prior to reference year equals the values supplied within the input values.
- Since no `-util` values are supplied on the command line, or within the parameter file, the default values in the VDYP.ini file are employed.

Example 2: Age Parameters Supplied with Request for Yields Prior to Reference Year

Parameter File

```
-agestart 50
-ageend 250
-inc 10
-back Yes
```

Yield Table

vvvvvvvvvv Table Number: 1															District:		Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary														
Year	Age	Stand			Composition			% Stk	SI	D Hgt	L Hgt	Dia	TPH	BA	Vws	Vcu	Vd	Vdw	Vdwb	Mode											
1926	50 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	16.99	14.03	21.9	642.32	24.1653	128.4	111.5	108.6	107.1	104.5	Back										
1936	60 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	20.80	17.65	26.0	593.11	31.6100	206.9	187.5	181.5	178.9	174.6	Back										
1946	70 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	24.01	20.81	30.2	506.99	36.2419	276.4	256.0	246.5	242.8	237.0	Back										
1956	80 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	26.69	23.51	34.0	433.03	39.3063	336.0	314.9	301.8	297.0	289.8	Back										
1966	90 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	28.94	25.81	37.5	375.41	41.3952	385.9	364.5	347.5	341.7	333.4	Back										
1976	100 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	30.84	27.76	40.6	330.98	42.8384	427.1	405.7	384.8	377.8	368.6	Back										
1986	110 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	32.44	29.27	43.4	296.41	43.8388	458.3	437.0	412.5	404.4	394.5	Back										
1996	120 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	33.80	30.50	45.9	268.97	44.5270	482.8	461.8	433.7	424.5	414.1	Back										
2006	130 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	34.97	31.32	48.2	246.80	44.9911	497.8	477.1	445.7	435.4	424.6	Ref										
2016	140 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	35.98	32.28	48.2	246.28	44.8979	514.4	493.7	459.7	448.8	437.7	Frwd										
2026	150 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.85	33.05	48.2	244.10	44.5062	524.0	503.4	467.2	455.7	444.3	Frwd										
2036	160 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.62	33.62	48.2	240.66	43.8813	527.1	506.7	468.7	456.7	445.3	Frwd										
2046	170 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.29	34.04	48.1	237.84	43.1634	526.2	506.1	466.6	454.4	442.9	Frwd										
2056	180 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.88	34.35	48.0	235.23	42.5364	524.2	504.4	463.6	451.0	439.5	Frwd										
2066	190 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.41	34.58	48.0	232.48	42.0157	521.8	502.3	460.3	447.2	435.8	Frwd										
2076	200 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.88	34.75	48.0	230.19	41.6029	519.6	500.3	457.1	443.7	432.3	Frwd										
2086	210 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.30	34.77	48.0	228.26	41.2521	515.6	496.4	452.3	438.4	427.1	Frwd										
2096	220 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.68	34.78	48.0	226.87	41.0020	512.7	493.6	448.5	434.2	423.0	Frwd										
2106	230 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.03	34.80	48.0	225.59	40.7709	510.0	491.0	445.0	430.2	419.1	Frwd										
2116	240 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.34	34.81	48.0	224.38	40.5519	507.4	488.6	441.6	426.4	415.3	Frwd										
2126	250 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.62	34.82	48.0	223.23	40.3438	505.0	486.3	438.4	422.8	411.7	Frwd										

Interpretative Notes

- A new parameter has been added which requests per/ha yields be returned prior to reference year also. Correspondingly, per/ha yields now appear when the processing Mode = 'Back' too.
- Composition values equate to VDYP7 predictions of basal area at 7.5+cm whenever a stand description can be generated; else composition again equals the input values.
- The year/age rows in the yield table remain the same as the previous example.

- As implied by the previous example, if the `-back` parameter is not supplied default would be 'No'.

Example 3: Both Age and Year Parameters Supplied

Parameter File

```
-agestart 50
-ageend 250
-inc 10
-yearstart 2020
-yearend 2200
```

Yield Table

vvvvvvvvvv Table Number: 1															District:		Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary														
Year	Age	Stand Composition			% Stk	SI	D Hgt	L Hgt	Dia	TPH	BA	Vws	Vcu	Vd	Vdw	Vdwb	Mode														
2020	144	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.34	32.61	48.2	245.61	44.7785	519.2	498.5	463.6	452.4	441.2	Frwd									
2026	150	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.85	33.05	48.2	244.10	44.5062	524.0	503.4	467.2	455.7	444.3	Frwd									
2030	154	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.17	33.30	48.2	242.83	44.2767	525.9	505.4	468.3	456.7	445.2	Frwd									
2036	160	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.62	33.62	48.2	240.66	43.8813	527.1	506.7	468.7	456.7	445.3	Frwd									
2040	164	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.89	33.81	48.2	239.37	43.5892	527.0	506.7	468.1	456.0	444.5	Frwd									
2046	170	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.29	34.04	48.1	237.84	43.1634	526.2	506.1	466.6	454.4	442.9	Frwd									
2050	174	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.53	34.17	48.0	236.82	42.9000	525.4	505.5	465.5	453.1	441.6	Frwd									
2056	180	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.88	34.35	48.0	235.23	42.5364	524.2	504.4	463.6	451.0	439.5	Frwd									
2060	184	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.10	34.45	48.0	234.13	42.3152	523.2	503.5	462.3	449.5	438.1	Frwd									
2066	190	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.41	34.58	48.0	232.48	42.0157	521.8	502.3	460.3	447.2	435.8	Frwd									
2070	194	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.60	34.66	48.0	231.49	41.8375	520.9	501.4	459.0	445.8	434.4	Frwd									
2076	200	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.88	34.75	48.0	230.19	41.6029	519.6	500.3	457.1	443.7	432.3	Frwd									
2080	204	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.06	34.76	48.0	229.34	41.4472	517.8	498.5	455.0	441.4	430.1	Frwd									
2086	210	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.30	34.77	48.0	228.26	41.2521	515.6	496.4	452.3	438.4	427.1	Frwd									
2090	214	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.46	34.78	48.0	227.68	41.1470	514.3	495.2	450.7	436.7	425.4	Frwd									
2096	220	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.68	34.78	48.0	226.87	41.0020	512.7	493.6	448.5	434.2	423.0	Frwd									
2100	224	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.83	34.79	48.0	226.34	40.9080	511.6	492.5	447.1	432.6	421.4	Frwd									
2106	230	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.03	34.80	48.0	225.59	40.7709	510.0	491.0	445.0	430.2	419.1	Frwd									
2110	234	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.16	34.80	48.0	225.09	40.6819	508.9	490.0	443.6	428.7	417.5	Frwd									
2116	240	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.34	34.81	48.0	224.38	40.5519	507.4	488.6	441.6	426.4	415.3	Frwd									
2120	244	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.46	34.81	48.0	223.91	40.4674	506.5	487.6	440.3	424.9	413.9	Frwd									
2126	250	SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.62	34.82	48.0	223.23	40.3438	505.0	486.3	438.4	422.8	411.7	Frwd									

Interpretative Notes

- Two new parameters specifying a year range also have been added. Whenever both age and year parameters are supplied, the yield table rows are determined using both intersection and interleaving logic.
- The range of the age/year rows is determined by the intersection of the supplied parameter values (50-250 and 2020-2200 respectively). The single polygon selected in this case has an age of 130 at reference year 2006. The lower year range and upper age range are therefore limiting, and we thus see yield table rows generated between year = 2020 (age = 144) and year = 2126 (age=250) only.

- The rows displayed within this range are the result of interleaving of intervals that have either an age or a year increment equal to the supplied value. Thus, for this selected polygon we see rows that correspond to both an age and a year increment of 10.

Example 4. Both an Age Range and Year Range Supplied and Age Rows Not Included

Parameter File

```
-agestart 50
-ageend 250
-inc 10
-yearstart 2020
-yearend 2200
-includeagerows No
```

Yield Table

```
vvvvvvvvvv Table Number: 1          District:          Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary
Year Age          Stand Composition          % Stk  SI  D Hgt  L Hgt  Dia  TPH          BA          Vws          Vcu          Vd          Vdw          Vdwb          Mode
-----
2020 144 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  36.34  32.61  48.2  245.61  44.7785  519.2  498.5  463.6  452.4  441.2 Frwd
2030 154 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  37.17  33.30  48.2  242.83  44.2767  525.9  505.4  468.3  456.7  445.2 Frwd
2040 164 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  37.89  33.81  48.2  239.37  43.5892  527.0  506.7  468.1  456.0  444.5 Frwd
2050 174 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  38.53  34.17  48.0  236.82  42.9000  525.4  505.5  465.5  453.1  441.6 Frwd
2060 184 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  39.10  34.45  48.0  234.13  42.3152  523.2  503.5  462.3  449.5  438.1 Frwd
2070 194 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  39.60  34.66  48.0  231.49  41.8375  520.9  501.4  459.0  445.8  434.4 Frwd
2080 204 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  40.06  34.76  48.0  229.34  41.4472  517.8  498.5  455.0  441.4  430.1 Frwd
2090 214 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  40.46  34.78  48.0  227.68  41.1470  514.3  495.2  450.7  436.7  425.4 Frwd
2100 224 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  40.83  34.79  48.0  226.34  40.9080  511.6  492.5  447.1  432.6  421.4 Frwd
2110 234 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  41.16  34.80  48.0  225.09  40.6819  508.9  490.0  443.6  428.7  417.5 Frwd
2120 244 SX  85.0 ACT 15.0          0.0    0.0    0.0    0.0    0.0  58.0  21.82  41.46  34.81  48.0  223.91  40.4674  506.5  487.6  440.3  424.9  413.9 Frwd
^^^^^^^^^^^^ Table Number: 1
```

Interpretative Notes:

- A new parameter has been added that excludes rows generated by incrementing age. We therefore now only see rows that correspond to the year increments of 10.
- Alternately, to see rows with an age-based increment of 10 only we would need to supply:


```
-includeyearrows No
```

 in the parameter file.
- The addition of this new parameter also reduces the range of the displayed age/year rows because the last age = 250 record has now been excluded.
- This row exclusion capability can therefore be useful when both age and year parameters are required to achieve a desired range but only row increments ‘by age’ or ‘by year’ are of interest.

- If these include row parameters are not supplied, the default is 'Yes', as implied by the previous example.

Example 5. Both an Age and Year Range Supplied Along with Three Forced Years

Parameter File

```
-agestart 50
-ageend 250
-inc 10
-yearstart 2020
-yearend 2200
-includeagerows No
-forcecrntyear Yes
-forcerefyear Yes
-forceyear 2026
```

Yield Table

vvvvvvvvvv Table Number: 1 District: Map Name: 093L076 Polygon: 13507575 Layer: 1 - Primary

Year	Age	Stand Composition			% Stk	SI	D Hgt	L Hgt	Dia	TPH	BA	Vws	Vcu	Vd	Vdw	Vdwb	Mode				
2006	130 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	34.97	31.32	48.2	246.80	44.9911	497.8	477.1	445.7	435.4	424.6	Ref
2020	144 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.34	32.61	48.2	245.61	44.7785	519.2	498.5	463.6	452.4	441.2	Frwd
2022	146 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.52	32.76	48.2	245.18	44.6994	521.1	500.5	465.0	453.8	442.5	Crnt
2026	150 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	36.85	33.05	48.2	244.10	44.5062	524.0	503.4	467.2	455.7	444.3	Spcl
2030	154 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.17	33.30	48.2	242.83	44.2767	525.9	505.4	468.3	456.7	445.2	Frwd
2040	164 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	37.89	33.81	48.2	239.37	43.5892	527.0	506.7	468.1	456.0	444.5	Frwd
2050	174 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	38.53	34.17	48.0	236.82	42.9000	525.4	505.5	465.5	453.1	441.6	Frwd
2060	184 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.10	34.45	48.0	234.13	42.3152	523.2	503.5	462.3	449.5	438.1	Frwd
2070	194 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	39.60	34.66	48.0	231.49	41.8375	520.9	501.4	459.0	445.8	434.4	Frwd
2080	204 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.06	34.76	48.0	229.34	41.4472	517.8	498.5	455.0	441.4	430.1	Frwd
2090	214 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.46	34.78	48.0	227.68	41.1470	514.3	495.2	450.7	436.7	425.4	Frwd
2100	224 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	40.83	34.79	48.0	226.34	40.9080	511.6	492.5	447.1	432.6	421.4	Frwd
2110	234 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.16	34.80	48.0	225.09	40.6819	508.9	490.0	443.6	428.7	417.5	Frwd
2120	244 SX	85.0	ACT	15.0	0.0	0.0	0.0	0.0	58.0	21.82	41.46	34.81	48.0	223.91	40.4674	506.5	487.6	440.3	424.9	413.9	Frwd

^^^^^^^^^^ Table Number: 1

Interpretative Notes

- Three additional parameters have been included which forces the generation of a yield table rows at particular years, i.e.:
 - forcecrntyear Yes: row at current year (2022)
 - forcerefyear Yes: row at reference year (2006)
 - forceyear <xxxx>: grow at supplied year (2026).

- These rows will appear, irrespective of any other supplied age/year/inc parameter values. The processing Mode values in the yield table that corresponded to these above three years are 'Crnt', 'Ref', and 'Spl' respectively.
- Use of `Forceyear` parameter is one situation where a yield table can be generated, without a supplied age/year range. In this case the resulting yield table will have a single row only that corresponds to the supplied year.

Appendix D – Revision History

VERSION	DATE	DESCRIPTION
1.0	January 2006	Version 1.0 created, reviewed and approved for distribution
1.1	April 2007	<p>Use of default ages from VDYP.ini file disabled; an age and/or year range must usually be supplied to generate a yield table. Input record filtering provisions added via new command line parameters.</p> <p>Yield tables now report zero volumes as zero (not null).</p> <p>Yield tables now report input species codes (was species groupings) by descending species percent (was alphabetical)</p>
2.0	January 2008	<p>VDYP7 User Guide updated (e.g. new command line parameters added) and augmented (e.g. PGDB2Text Translator described).</p> <p>PGDB2Text Translator added to the VDYP7 install program.</p>
3.0	September 2009	<p>Translate the new BEC Codes 'BAFA' 'CMA' and 'IMA' to BEC 'AT'. Ensure that projected height does not drop below Reference Height (both forward and backward projection).</p> <p>Apply default CC values where required to all primary layers not just FIP polygons. Implement the Progress Log (-l) command line parameter not just FIP polygons.</p> <p>Implement the Progress Log (-l) command line parameter for VDYP7Console. Now route short FIP polygons with a height less than 10metres to FIPSTART always; if no stand description possible only then route to VRISTART.</p> <p>Copy Input BA/TPH to projected if it was available on input and not computed. Reformat low level routines to support 9-digit polygon numbers.</p> <p>Add a command line option to include Polygon_Record_ID in the yield table headers.</p> <p>Change the PGDB2Text Translator to always generate primary and foreign keys in ascending order</p> <p>Allow for the optional reporting of POLYGON_RCRD_ID values within the headers of VDYP7Console yield tables</p> <p>Update SINDEXX33.dll, to call SINDEXX v1.43</p> <p>Return input species percent. Before, species percentages were derived from VDYP7 basal area predictions.</p> <p>Fix made to ensure species codes recognized, even when input values are padded with blank spaces</p> <p>Fix made to recognize the <excl> argument; used with the</p>

VERSION	DATE	DESCRIPTION
		<p>-util parameter to exclude a species contribution to yield predictions.</p> <p>Schema.ini file is no longer required when running the VDYP7Console or PGDB2Text translator</p> <p>VDYP7Console input mechanism modularized and extended to support the single flat file format.</p> <p>New copy of input BA/TPH to projected, if not computed, feature made optional</p> <p>Limit Trees per hectare (TPH), if quadratic mean diameter (DQ) is limited</p> <p>Per/ha yields now generated for young stands Installation folder no longer restricted to C: drive</p> <p>Duplicate species codes within a layer now processed, without error</p>
3.1	February 2019	Included Third Party Library copyright notice.
3.2	September 2022	<p>Document format changes.</p> <p>Document content updates as follows:</p> <ul style="list-style-type: none"> • <i>Table of Contents</i>: updated to reflect the changes made. • <i>Section 1.2 – How to use this Document</i>: Removed bullet point <i>Section 6 – PGDB2Test Translator</i> section • <i>Sections 2.4.1 – Polygon Definition File - Input Fields</i>: replaced Input Field Table • <i>Section 2.4.2 – Layer Definition File - Input Fields</i>: replaced Input Field Table • <i>Section 3 – Structure and Function – structure updated</i>: <ul style="list-style-type: none"> • <i>Section 3.1: header changed to “VDYP7Console Processing”</i> • <i>Added new Section 3.2 – Command Line: Table 1 content updated</i> • <i>Section 3.3 - Command Line example: example updated</i> • <i>Section: 5.1 – Yield Table</i>: updated the 2 examples and description • <i>Appendix C - Command Line Parameter Function Examples</i>: Yield Tables Examples updated to more recent versions.

VERSION	DATE	DESCRIPTION
		<ul style="list-style-type: none"> • <i>Appendix D – Revision History</i>: Updated as to reflect changes. <p>Removed the following no longer suitable:</p> <ul style="list-style-type: none"> • <i>Section 6</i> • <i>Appendix B - Input Format of the eight separate files</i> • <i>Appendix D - Example of Output Files Generated by the PGDB2TextTranslator for One Polygon</i> • <i>Appendix E - Mapping of File Attributes to PGDB and INCOSADA Tables</i> • <i>Appendix H - Input Format of the single flat-file</i> • <i>Index page</i> <p>Changed the following:</p> <ul style="list-style-type: none"> • <i>Appendix C is now Appendix B - VDYP7Console Interface Messages</i> • <i>Appendix F is now Appendix C - Command Line Parameter Function Examples</i> • <i>Appendix G is now Appendix D - Revision History</i> • <i>Appendix I is now Appendix E - Third Party Libraries</i>

Appendix E – Third Party Libraries

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