



# Minnesota Department of Natural Resources

## Forestry Extension

Keywords: Forestry, CSA

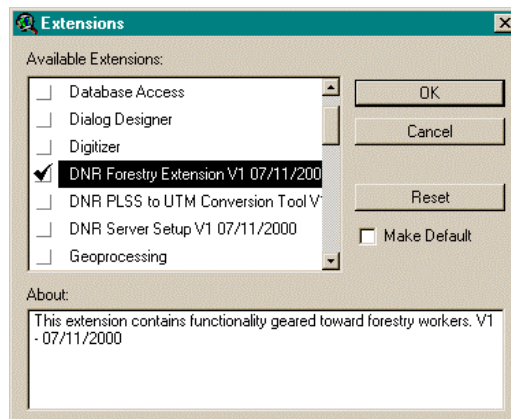
ArcView 3.0a, 3.1, 3.2

### Introduction

This Arcview extension is meant to aid foresters in every day GIS activities using the Cooperative Stand Assessment (CSA) database.

### Turning on the Forestry Extension

To activate this extension first start Arcview. Open a View and go to *File* ® *Extensions* and turn on “DNR Forestry Extension v1.0”.



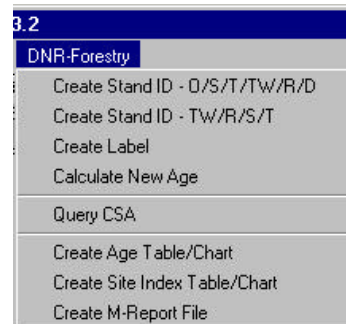
### Required File

A CSA theme that contains the following fields in its attribute table: OWNER, SECTION, TYPE#, TOWNSHIP, RANGE, E/W, YEAR, AGE, ACRES, ADMIN, CTYPE, CSIZE, CDENSE

### Run Extension

With a CSA theme active in a view go to the DNR-Forestry pulldown menu. You will be confronted with 8 options:

- A) Create Stand ID - O/S/T/TW/R/D
- B) Create Stand ID - TW/R/S/T
- C) Create Label
- D) Calculate New Age
- E) Query CSA
- F) Create Age Table/Chart
- G) Create Site Index Table/Chart
- H) Create M-Report





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### A.

#### Create Stand ID - O/S/T/TW/R/D

##### Run

If the field already exists you will be asked if you want to replace the existing field.

**Required Fields:** Owner, Section, Type#, Township, Range, E/W



Creates a new field, STAND\_ID, in the CSA attribute table and populates it with a unique ID. The ID is created by concatenating the fields listed above under “Required Fields”.

1) With the CSA theme active go to *DNR-Forestry*

® *Create Stand ID - O/S/T/TW/R/D*. The new STAND\_ID field will automatically be created and filled (A).

Rems	Prescrip	Stand ID	New Age
NONE		116033229	12
NONE		201033229	12
NONE		1202033229	24
NONE		11102033229	0
NONE	0	11103033229	69
NONE	0	11217033229	69
NONE	0	11203033229	79
NONE	0	11204033229	68
NONE	0	11205033229	26
NONE	0	11206033229	0
NONE	0	11207033229	0
NONE	0	11218033229	78
NONE	0	11208033229	0
NONE	0	11219033229	0
NONE	0	11101033229	111
NONE	0	11104033229	126
NONE	0	11106033229	0

### B.

#### Create Stand ID - TW/R/S/T

##### Run

**Required Fields:** Township, Range, Section, Type#



Creates a new field, STAND\_ID, in the CSA attribute table and populates it with a unique ID. The ID is created by concatenating the fields listed above under “Required Fields”.

1) With the CSA theme active go to *DNR-Forestry* ® *Create Stand ID - TW/R/S/T*. The new STAND\_ID field will automatically be created and filled (A).



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### C.

#### Create Label

**Required Fields:** Ctype, Csize, CDense



Creates a new field, LABEL, in the CSA attribute table and populates it with a label consisting of the Cover Type, Cover Size, and Cover Density.

#### Run

1) With the CSA theme active go to *DNR-Forestry* ® *Create Label*. The new LABEL field will automatically be created and filled.

### D.

#### Calc New Age

New Age is only calculated for Owner = 1 and Ctype from 1 - 81



Creates a new field, NEW\_AGE, in the CSA attribute table and populates it with THE CURRENT AGE OF THE STAND. The current age is derived from today's date, the 'Age' column, and the 'Year' column.  $NEW\_AGE = (CURRENT\ YEAR - 'Year') + 'Age'$

#### Run

1) With the CSA theme active go to *DNR-Forestry* ® *Calc New Age*. The new NEW\_AGE field will automatically be created and filled.



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### E. Query CSA

**Required Fields:** Township, Range, Section, E/W, Type#, Admin, Owner, CType



Opens a Query dialog box that users can use to find specific records in the CSA.

### Run

1) With the CSA theme active go to *DNR-Forestry*® *Query CSA*. The Query CSA dialog box opens and the user may enter search items. Similar to a normal Query builder in Arcview, there are 3 query options; Add to Set, New Set, and Select from Set. For more information on these options consult the Arcview help files.

‘Add to Set’ is the default setting. If you press the Return key after entering your query the new selection will be added to the existing selection.



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### F.

#### Create Age Table/Chart

#### Run

If 'New\_Age' field does not already exist run Calc New Age first

**Required Fields:** New\_Age, Acres



Summarizes area by age in a new table then displays this table in chart form.

1) Select all stands in the CSA theme that you wish to summarize. With the CSA theme active go to *DNR-Forestry*

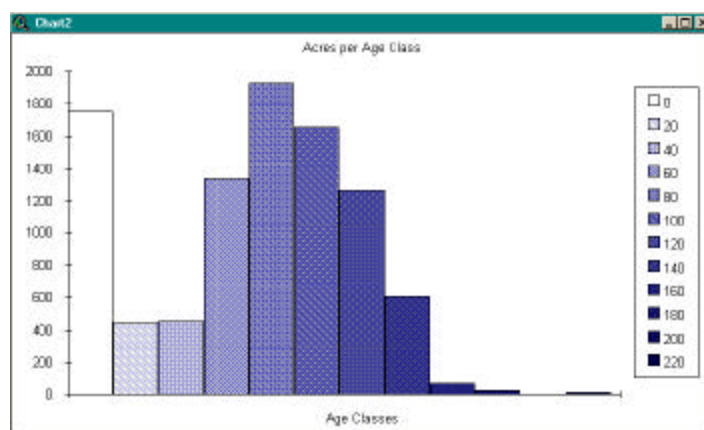
Ⓡ *Create Age Table/Chart*.

2) Select an increment you wish to summarize the years by. For example: an increment of 10 would group the years into classes of 1-10, 11-20, 21-30, 31-40.....

3) Select a location for the newly created table and click 'OK'

The result is a chart displayed as well as a new 'Age Class' table under the list of tables in the project window.

Age Class 5 Year Increment		
NewAge	Acres	Label
1 - 5	0	5
6 - 10	0	10
11 - 15	27	15
16 - 20	0	20
21 - 25	0	25
26 - 30	0	30
31 - 35	0	35
36 - 40	0	40
41 - 45	0	45
46 - 50	13	50
51 - 55	0	55
56 - 60	8	60





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# G.

### Create Site Index Table/Chart

#### Run

If 'New\_Age' field does not already exist run Calc New Age first

**Required Fields:** New\_Age, Acres



Summarizes area by Site Index Number in a new table then displays this table in chart form.

1) Select all stands in the CSA theme that you wish to summarize. With the CSA theme active go to *DNR-Forestry*

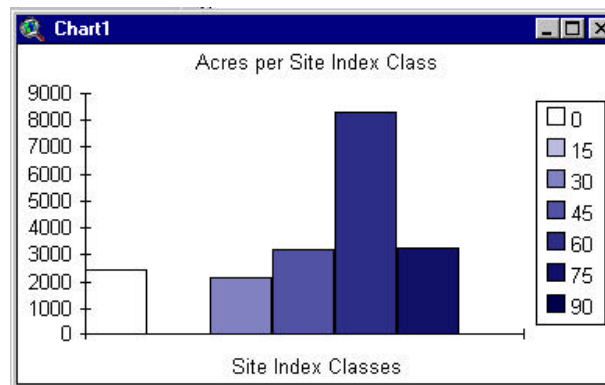
Ⓡ *Create Site Index Table/Chart.*

2) Select an increment you wish to summarize the SI by. For example: an increment of 10 would group the SI into classes of 1-10, 11-20, 21-30, 31-40.....

3) Select a location for the newly created table and click 'OK'

The result is a chart displayed as well as a new 'Site Index Class' table under the list of tables in the project window.

SI	Acres	Label
0	2462	0
1 - 15	84	15
16 - 30	2150	30
31 - 45	3192	45
46 - 60	8320	60
61 - 75	3226	75
76 - 90	29	90







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# H.

Create M-Report File

**Required Fields:** Over 90 required fields

DNR-Forestry
Create Stand ID
Create Label
Calculate New Age
Query CSA
Create Table/Chart
Create M-Report File

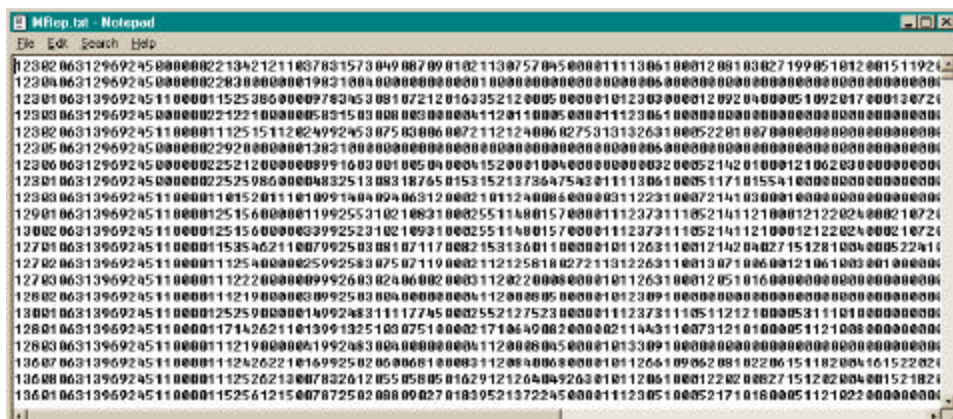
For each record, compiles over 90 fields worth of data into a character string. These character strings are then written to a text file. This text file can then be used as input to a Forestry M-Report program (Cobol-based).

**Run**

1) Select all stands in the CSA theme that you wish to use. If no records are selected, all will be used. With the CSA theme active go to *DNR-Forestry* ® *Create M-Report File*.

2) ArcView will grind away compiling the necessary strings. You will then be asked to give the resulting text file a name. Give it an appropriate name and click 'OK'. The resulting text file will look similar to the one below, a garbled monster of characters and numbers. It's not a real pretty looking file but it gets the job done.

If one of the 90+ fields cannot be found an error will occur.





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This extension is a set of utilities centered around common activities by DNR Forestry personnel. If you have any comments or ideas for additional functionality please contact your regional GIS Coordinator or Chris or Tim at the Central Office. Updates or upgrades can be found at the following website:

<http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRForestry/DNRForestry.html>

