

Morice & Lakes



IFPA

Cruise Plot Analysis

Phase 1



J.S. Thrower & Associates Ltd.
Consulting Foresters

Overview

- Background
- Objectives
- The Cruise Plot Database
- Methods
- Results & Discussion
- Recommendations

Background

- Recent inventory audit in Morice TSA:
 - Mature stand volumes are OK
 - Species composition is only 50-60% accurate
- TAC: need to check accuracy of inventory
- Can cruise data be used?
- Phase 1: preliminary analysis on portion of IFPA
- Phase 2: complete analysis on entire IFPA

Objectives

Assess strengths & weaknesses of cruise data to test accuracy of forest inventory

- Create spatial cruise plot database
- Develop protocols & procedures for analysis
- Document cruise plot database
- Complete preliminary analysis

The Cruise Plot Database

- Cruise plot data
 - Collected between 1999-2002
 - 12,907 cruise plots (10,327 used)
 - Compiled twice: (1) live only and (2) live+DP
- Spatial data
 - Forest cover (1991-projected to 1995)
 - PEM
- Spatial overlay
 - 2,304 polygons sampled
 - Age classes 5-9



CRUISE PLOT DATABASE

Version 3.0

Project

Current Strata Scheme



Prepared by: [JS Thrower & Associates](#)

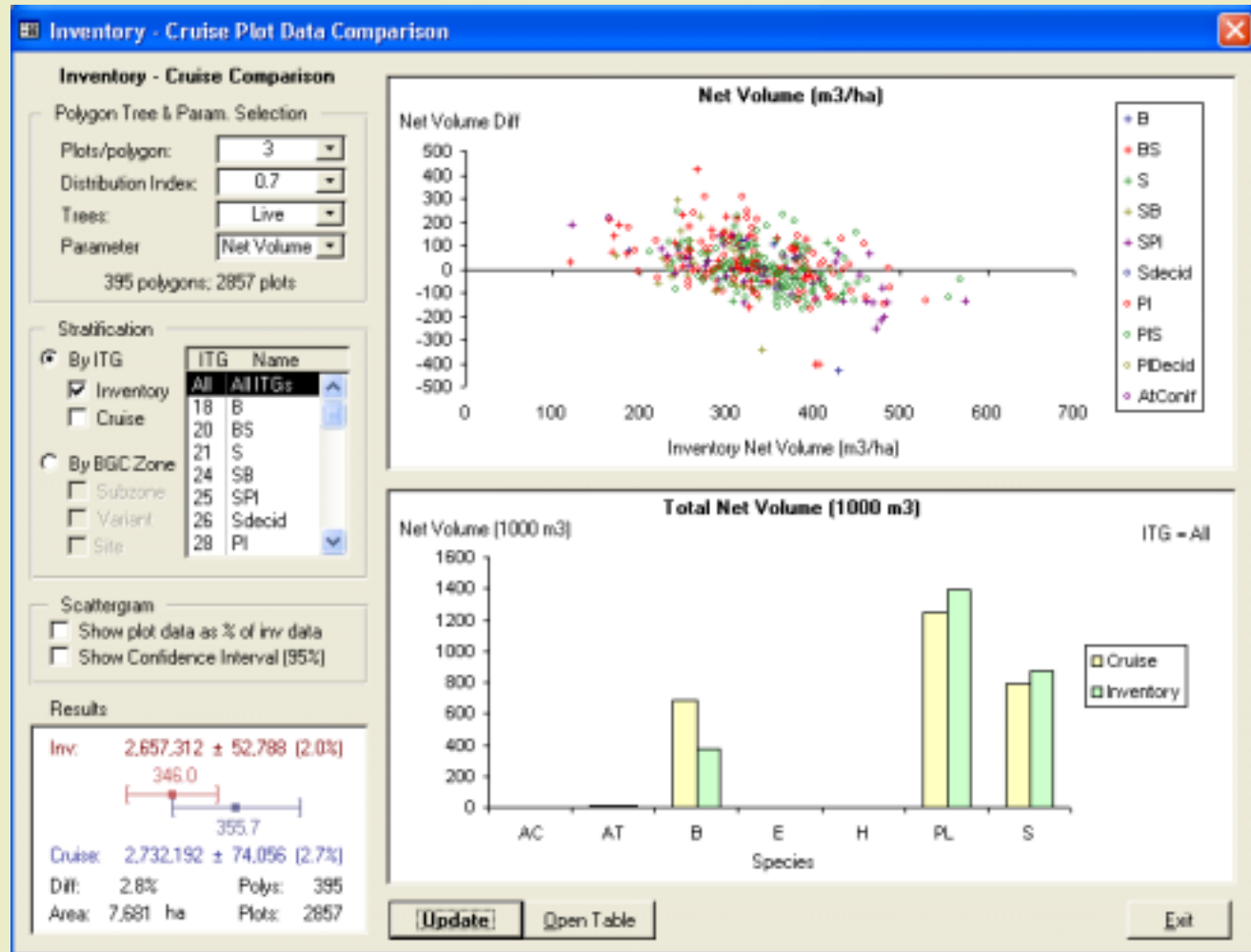


Minimize Database Window

Methods

- Polygon selection
 - Plot distribution index
 - Weak and strict selection criteria
- Attribute selection
 - Net merch volume, height, DBH, age
 - No basal area and trees/ha
- Stratification (ITG or BGC subzone)
- Scattergrams and “statistics”

Methods



Results

Attribute	Weak Selection			Strict Selection		
	Cruise	Inv	Diff	Cruise	Inv	Diff
Net Volume (m ³ /ha)	345	332	4%	356	346	3%
Total Age (yrs)	160	171	-6%	161	167	-4%
Height (m)	25.9	27.4	-5%	26.1	27.8	-6%
DBH (cm)	31.5	30.2	4%	31.0	30.1	3%

Results

Inventory Data	Cruise Plot Data										Col%	
	B	BS	S	SB	SPI	S-Dec	PI	PIS	PI-Dec	At-Con		
B	2.1	0.2					0.1					89
BS	3.3	3.8		0.9	0.2		0.2	2.3				36
S		0.6	0.6	4.4	1.4			0.3				9
SB		3.9	1.2	3.8	0.4			0.6				39
SPI		1.2	0.8	1.4	3.1			5.3				25
S-Decid				0.1				0.1				0
PI		0.2		0.1	0.3		14	10				56
PIS	0.1	2.9	1.1	1	3		7.3	17				52
PI-Decid							0.1					0
At-Conif								0.1				0
Row%	39	30	17	33	37	0	62	48				

- ITG confusion matrix – strict selection
- 44% classification accuracy

Recommendations

- Establish consistent field data collection protocols
- Undertake gap analysis
- Compare cruise to inventory attributes
- Assess VDYP model accuracy for IFPA area

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