



INTERPINE
INNOVATION



Improving Value Recovery & Production Planning using Harvester Data using STICKS

376 0 244 0 282 0 244 61555 6 8
0 61556 2 7 2 2183 281 267 9 36
237 225 9 405 0 1752 0 1938 0 1
78 0 2414 0 2178 61557 2 6 2 218
61557 4 5 2 2194 95 88 9 493 0
232 9 373 0 1715 0 1901 0 1715 0
0 1156 0 1035 61558 4 5 2 2194
2 2181 230 218 9 491 0 2017 0 22
2 0 1098 0 1228 0 1098 61559 4 5
61560 1 6 2 2181 210 199 0 612
89 82 9 493 0 523 0 596 0 523 0
0 1276 0 1145 61561 2 5 2 2194
1 4 5 2 2194 80 74 9 492 0 399 0
1 0 4500 0 4955 0 4500 61562 2 6
72 61562 4 8 2 2184 167 158 9 36
273 9 363 0 2601 0 2865 0 2601 0
0 1741 0 1572 61564 3 8 2 2184
5 1 8 2 2184 258 245 9 362 0 193



Jeremy Gibson

David Herries

A forest worker wearing a high-visibility yellow and green shirt with "INTERPINE SAFETY 1ST" on the back, a yellow helmet with a headlamp, and blue jeans is working with logs. The worker is positioned in the foreground, facing away from the camera, and appears to be using a chainsaw. The background shows a forest with many tall, thin trees and a dirt road. The scene is dimly lit, suggesting it might be early morning or late afternoon.

defining forest value

“value”

is the maximum log value projected to exist in the standing forest

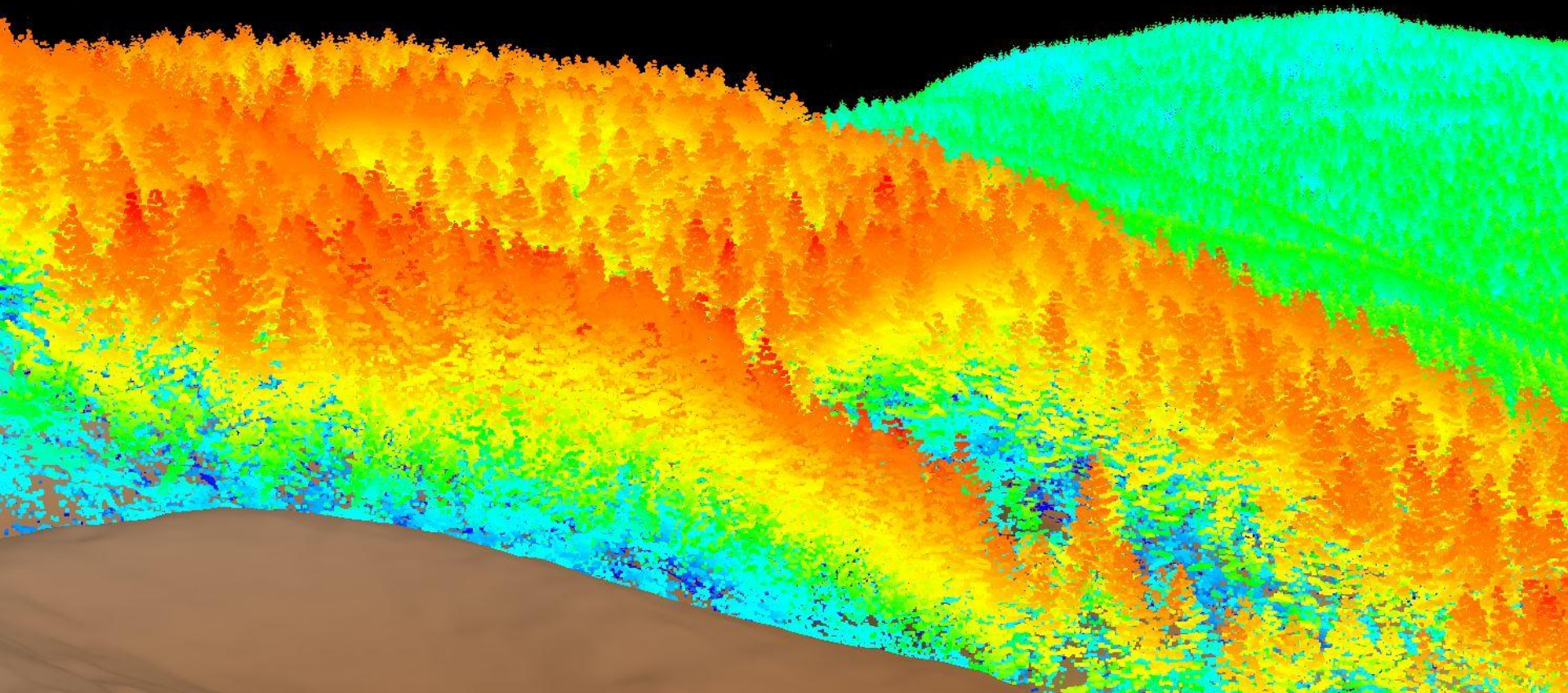
“value recovery”

is a measure of the efficiency of the subsequent operations, including harvesting and marketing, to realise that standing log value.

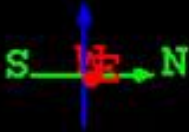
our view of the standing forest is changing



our view of the standing forest is
changing



our view of the standing forest is
changing



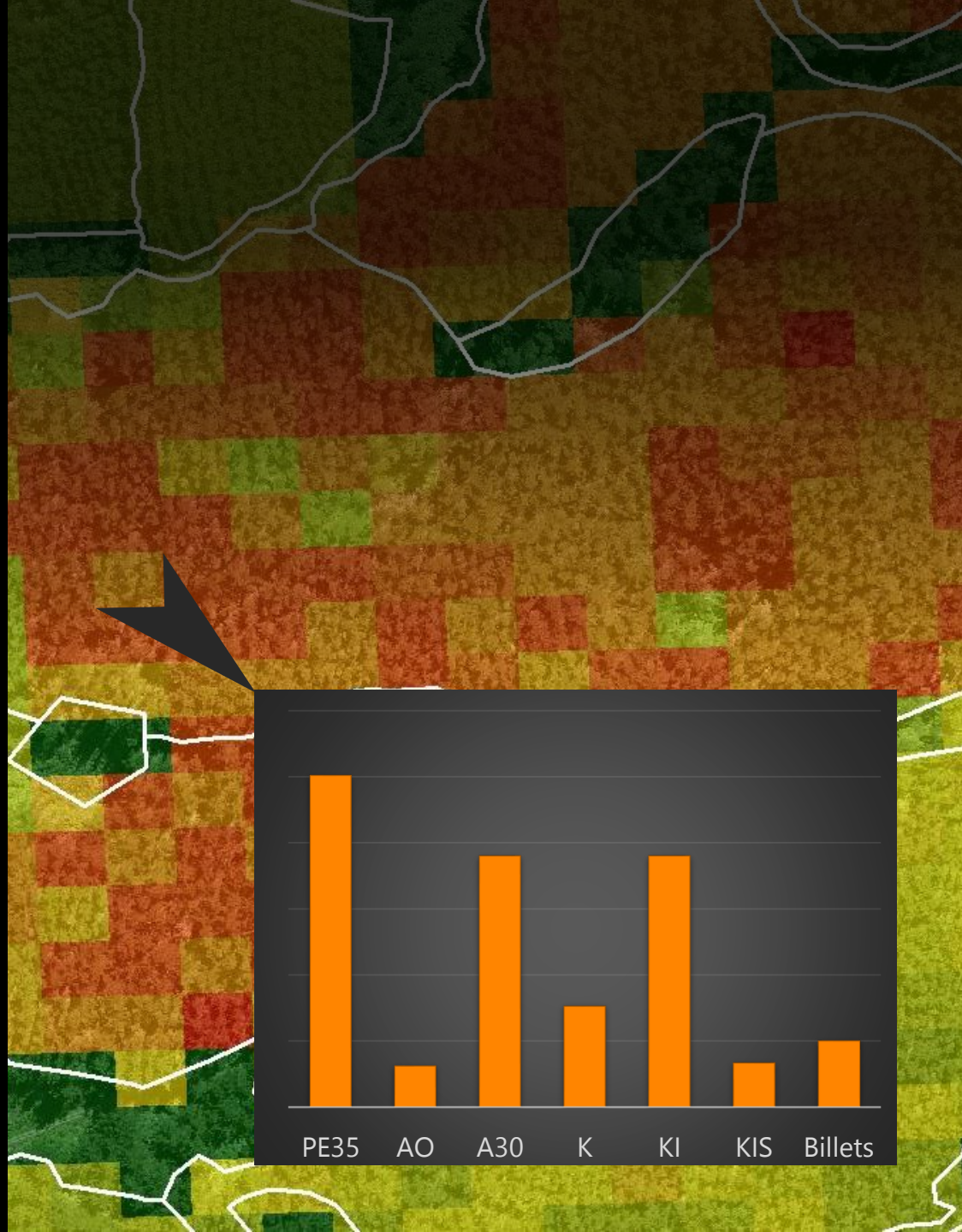
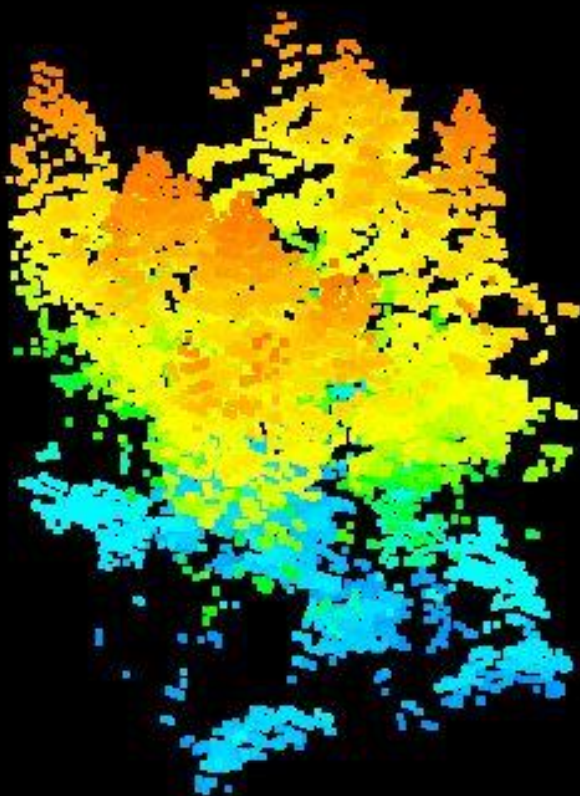
“Value”

is the maximum log value projected to exist in the standing forest



“Value”

is the maximum log value projected to exist in the standing forest





with increasing mechanisation, we change the way we monitor and realise value

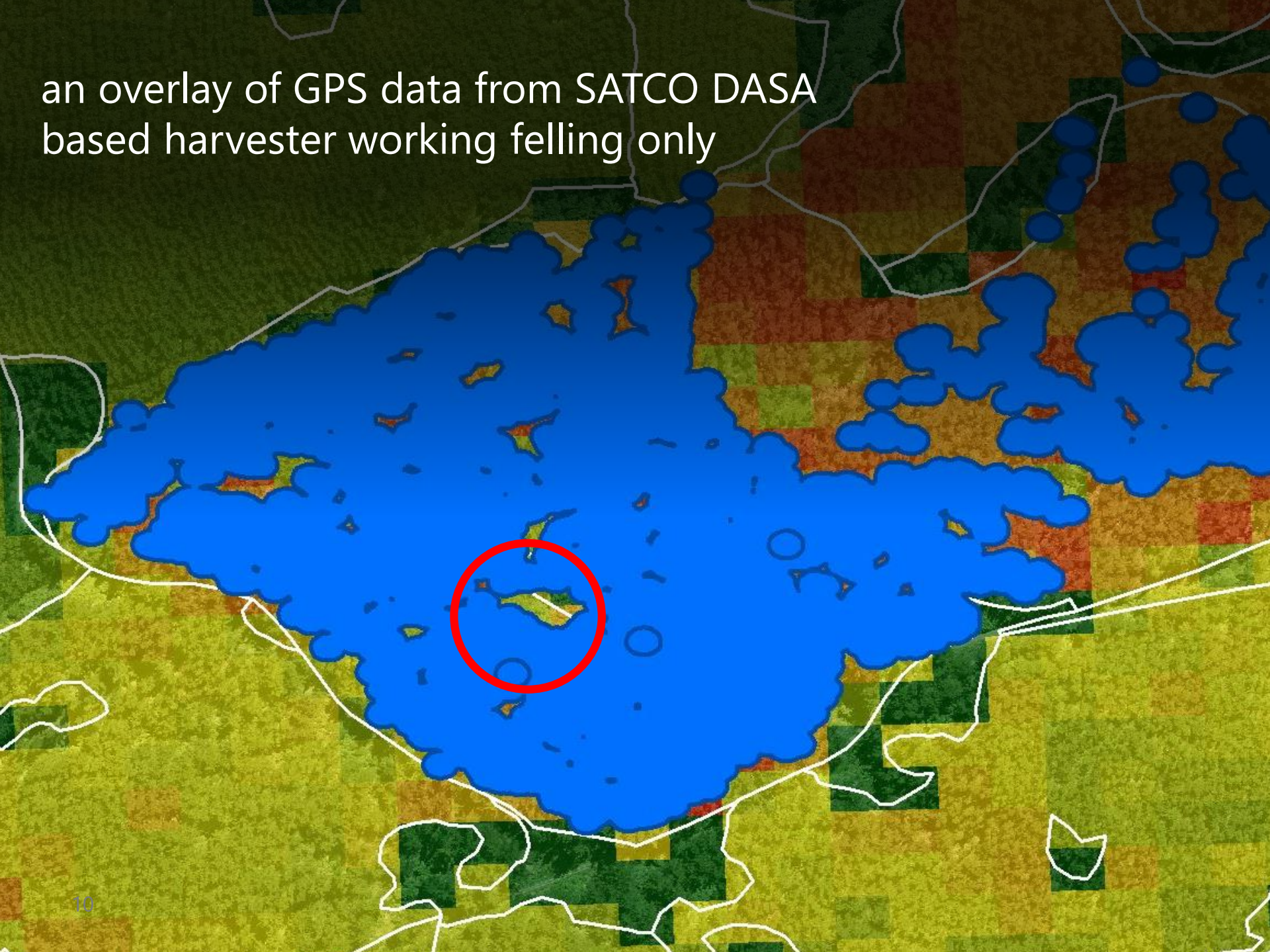


GPS Mounted in Roof of Cab



with increasing mechanisation, we change the way we monitor and realise value

an overlay of GPS data from SATCO DASA
based harvester working felling only





Standard for Forest
machine Data and
communication



File types of interest for value recovery

.APT = cutting instruction

**.PRI = stem based
production files**

**.KTR = control measurement
and calibration files**

.STM = individual stem profiles

~~.PRD = production summary files~~

Standard for Forest
machine Data and
communication

Interpine Harvester Information

Sticks by ForestPHD

Welcome



Planning



Stem Files



Production



Control



Mapping



Users

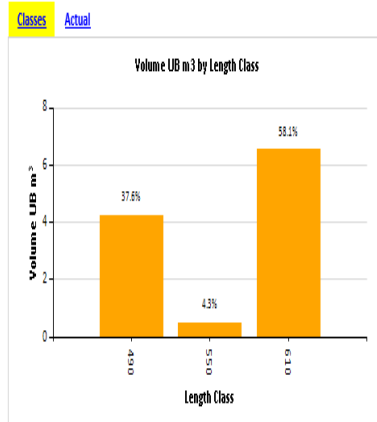


Mail Watcher



case study: utilising harvester data

“monitoring length mix demands to a customer supply contract”



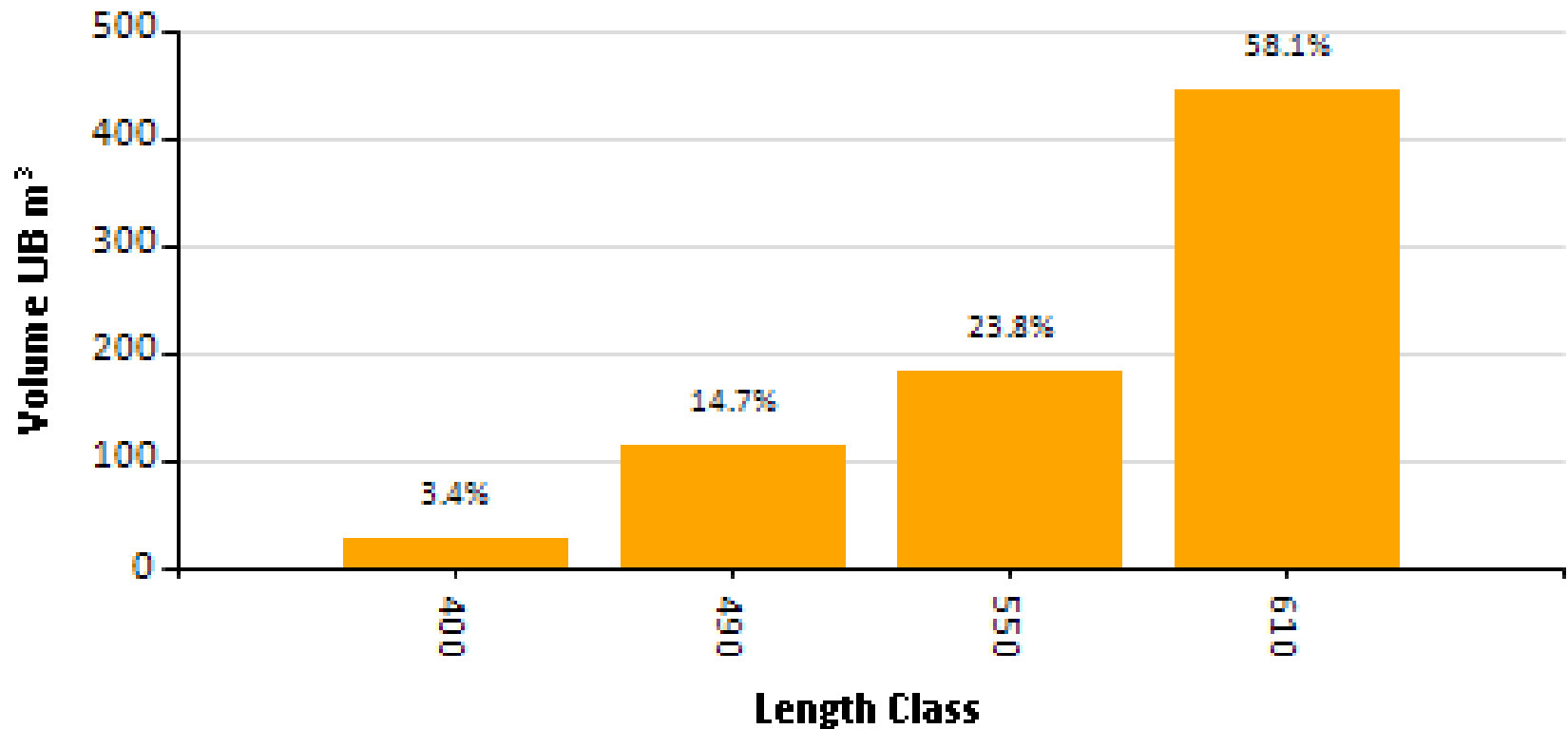
case study: customer length mix

Weekly Production Summary

Classes

Actual

Volume UB m³ by Length Class



case study: customer length mix

Weekly Production Summary

Hide Filters

Harvest Week

Week Starting Monday

15/06/2015

Update Node Order

Filters

-    Cat Creek 15
-   Colemans Rd 2
-  Dart
-  Tipperary Rd
-  Wellington Gully 2015

Search

Edit User - davidip

Edit

Details Roles Filters Notifications

Filters Assortment

Role

- RUC
- S1 Long Sawlog
- S15
- S20
- S20 M
- S25
- S30
- S20 D
- S40
- SALVAGE
- Sawlog
- SAWLOG
- SKX
- small saw log
- SMALL SAWLOG

Save User

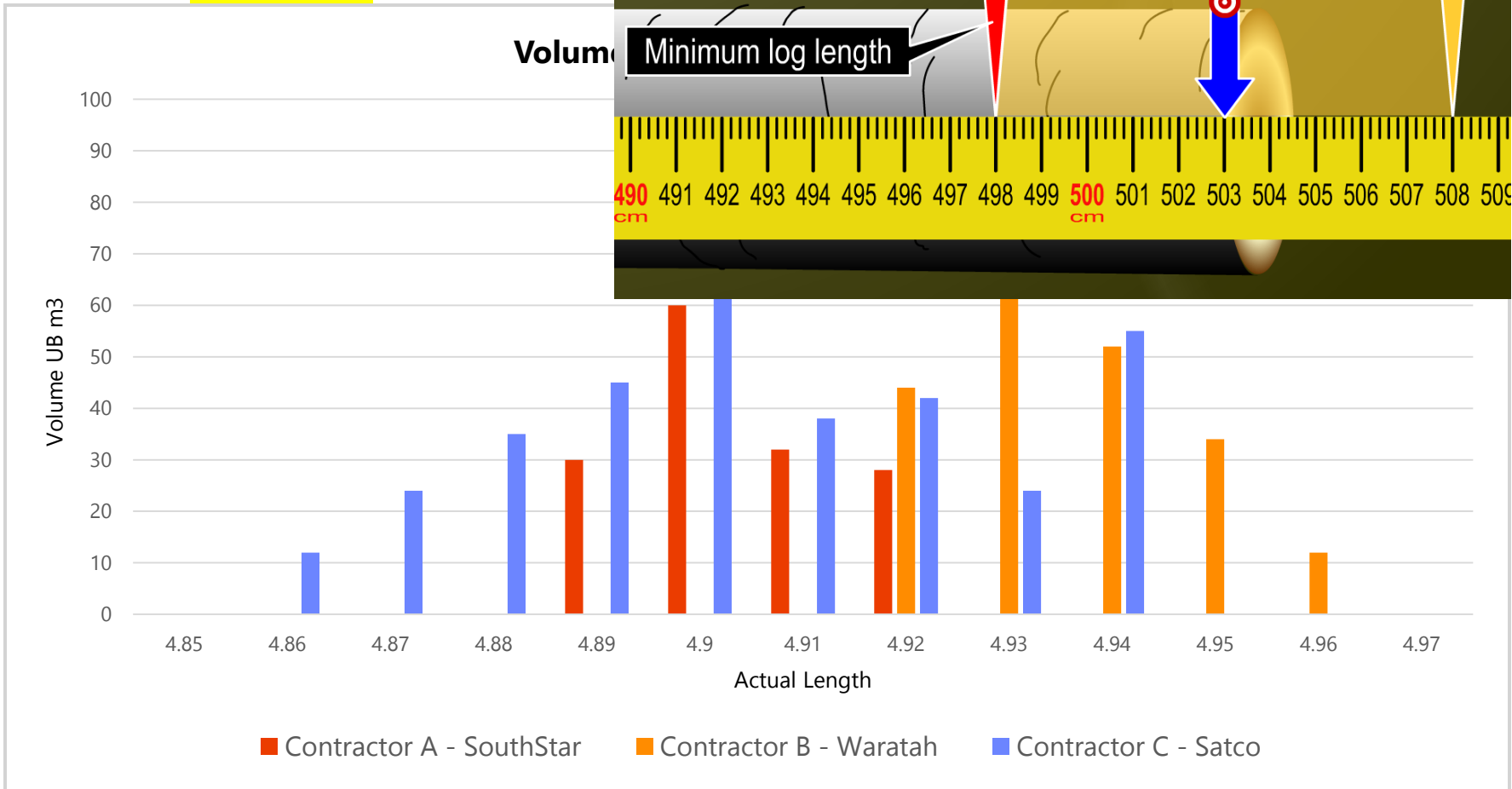
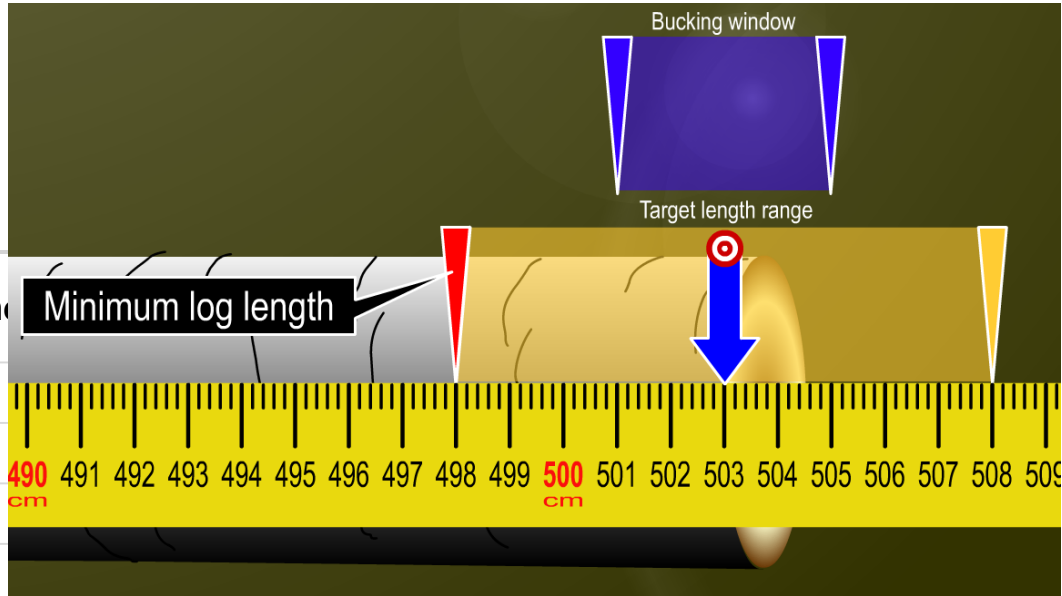
Cancel

case study: customer length mix

Weekly Production Summary

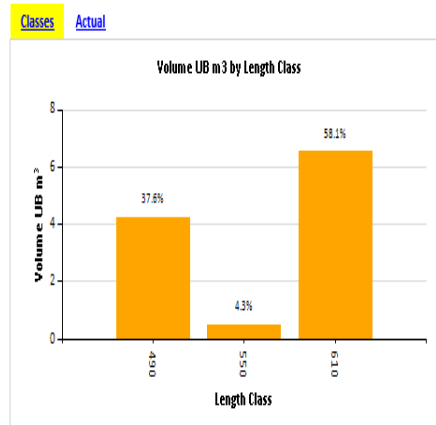
Classes

Actual



case study: utilising harvester data

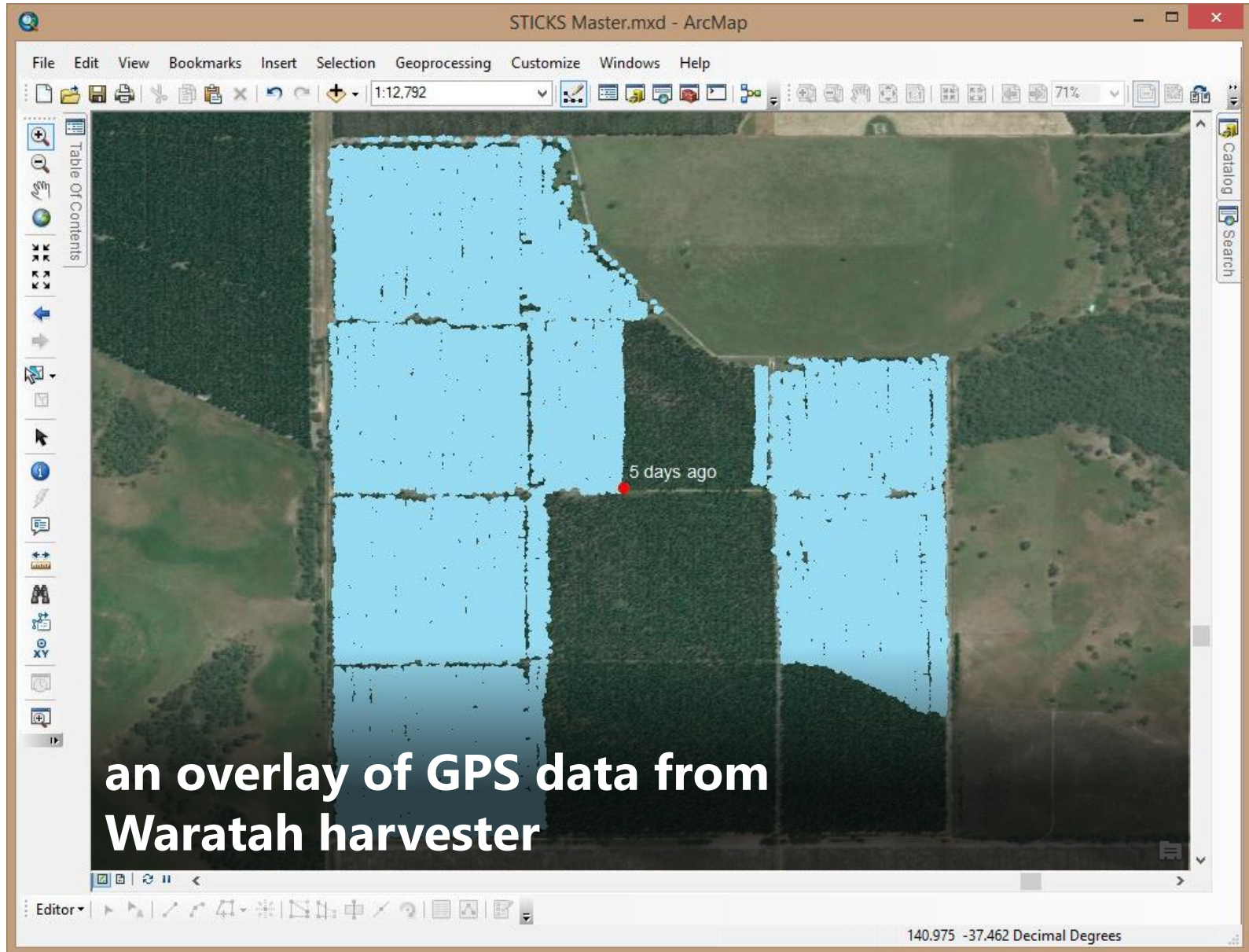
“monitoring length mix demands to a customer supply contract”



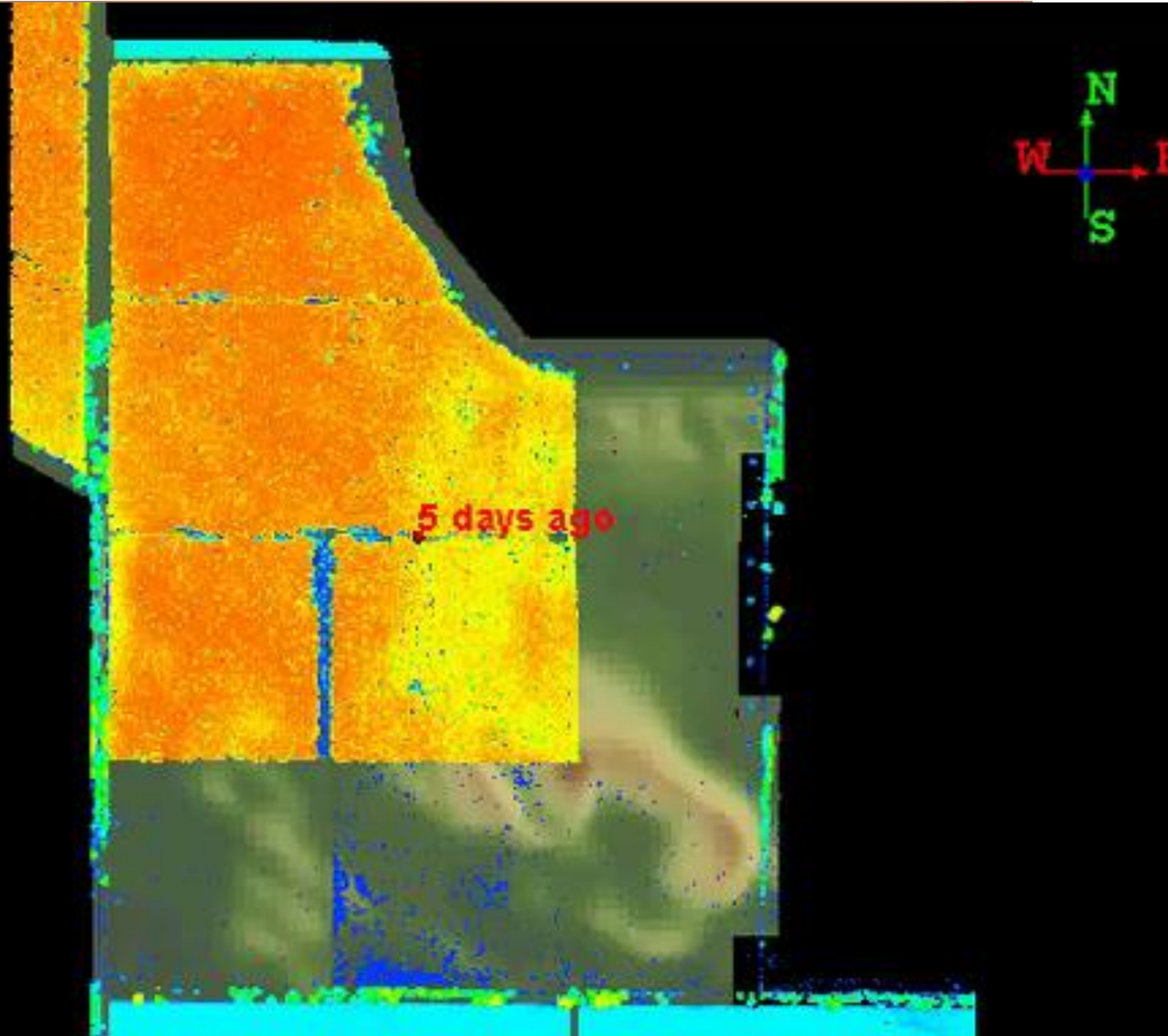
“monitoring area harvested in our thinning and clear-fell operations”



case study: harvest area reconciliation



case study: harvest area reconciliation

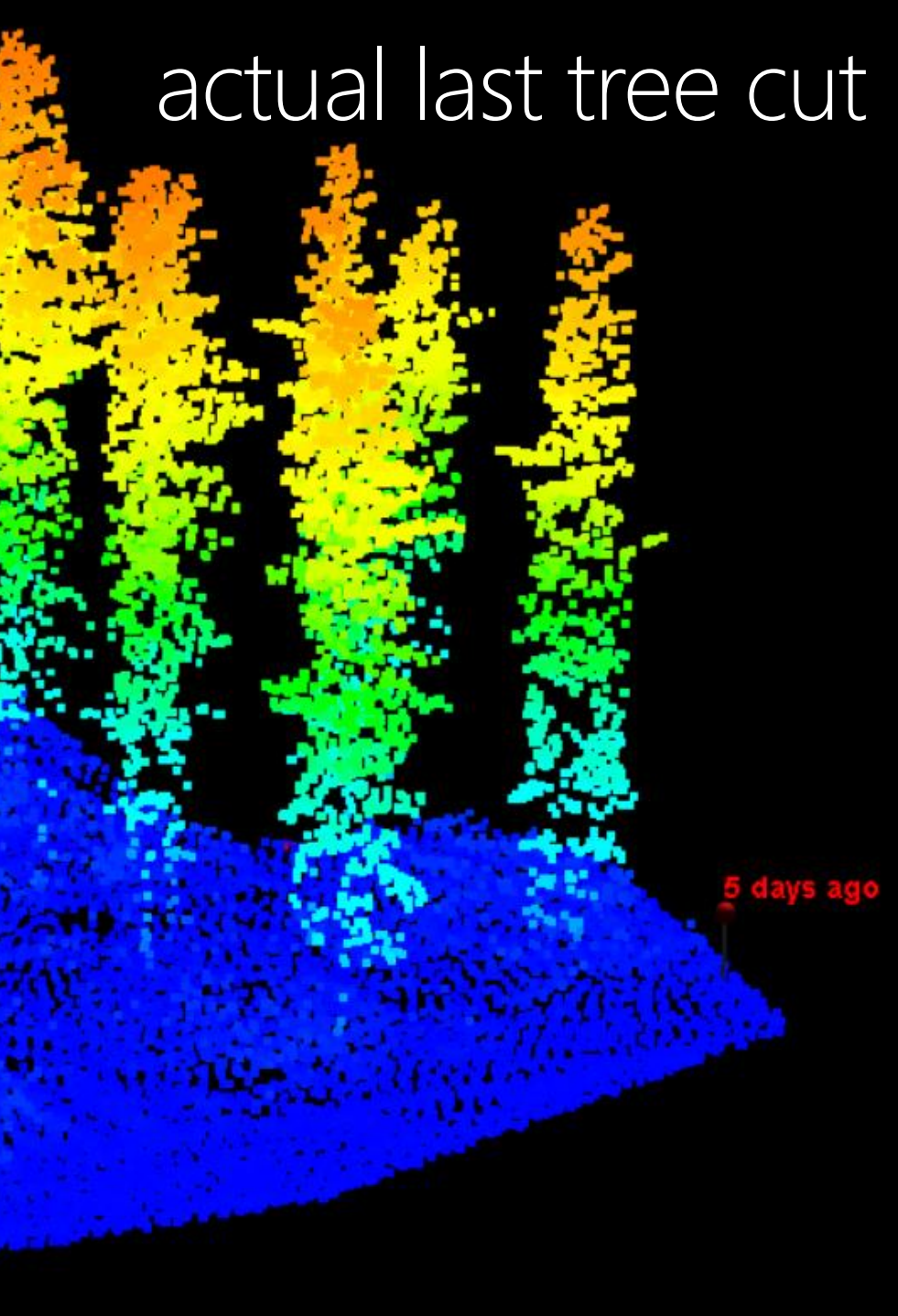


harvester mean tree volume



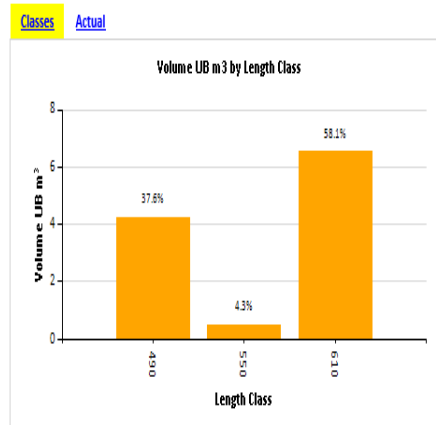
5 days ago

actual last tree cut



case study: utilising harvester data

“monitoring length mix demands to a customer supply contract”



“monitoring area is harvested in our thinning and clear-fell operations”



Diameter	240	260
370	490	499
430	570	580
460	581	592
490	593	603
520	598	609
550	598	609

“monitoring and delivering cutting strategies”

case study: APT file reporting

Bucking File Summary:

Species: Pine
Assortment: 11

Species: Pine
Assortment: 11
Product Group: Part P
Buck: Always
Max Diam mm: 950
Max Len mm: 502
Len -cm: 0
Len +cm: 1

Grades Q3

Length/Diam	380(0)	400(0)	420(0)
370(0)	650	650	650
390(0)	650	650	650
408(0)	730	730	730

Bucking (.apt) File Management

Hide Filters

Update Node Order

Filters

- Timberlands
- WAKA
- 034

Search

Showing 1 to 2 of 2 entries

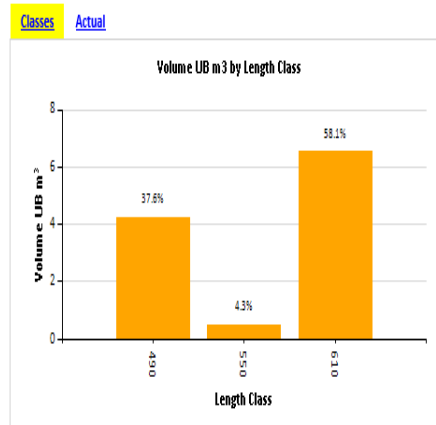
Report	Download	Organisation	Region	Logging Unit	Contractor	Machine	Operation	File Name	File Received
View Report		Timberlands	WAKA	034	Jensen Logging	625c-019	CF	tauhara new1_IPF.ap	Wed 29/4/2015 9:44
View Report		Timberlands	WAKA	034	Jensen Logging	625c-019	CF	tauhara new1_IPF.ap	Tue 17/3/2015 14:52

← Previous 1 Next

20 records per page

case study: utilising harvester data

“monitoring length mix demands to a customer supply contract”



“monitoring area is harvested in our thinning and clear-fell operations”



Diameter	240	260
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520	598	609
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“monitoring and delivering cutting strategies”



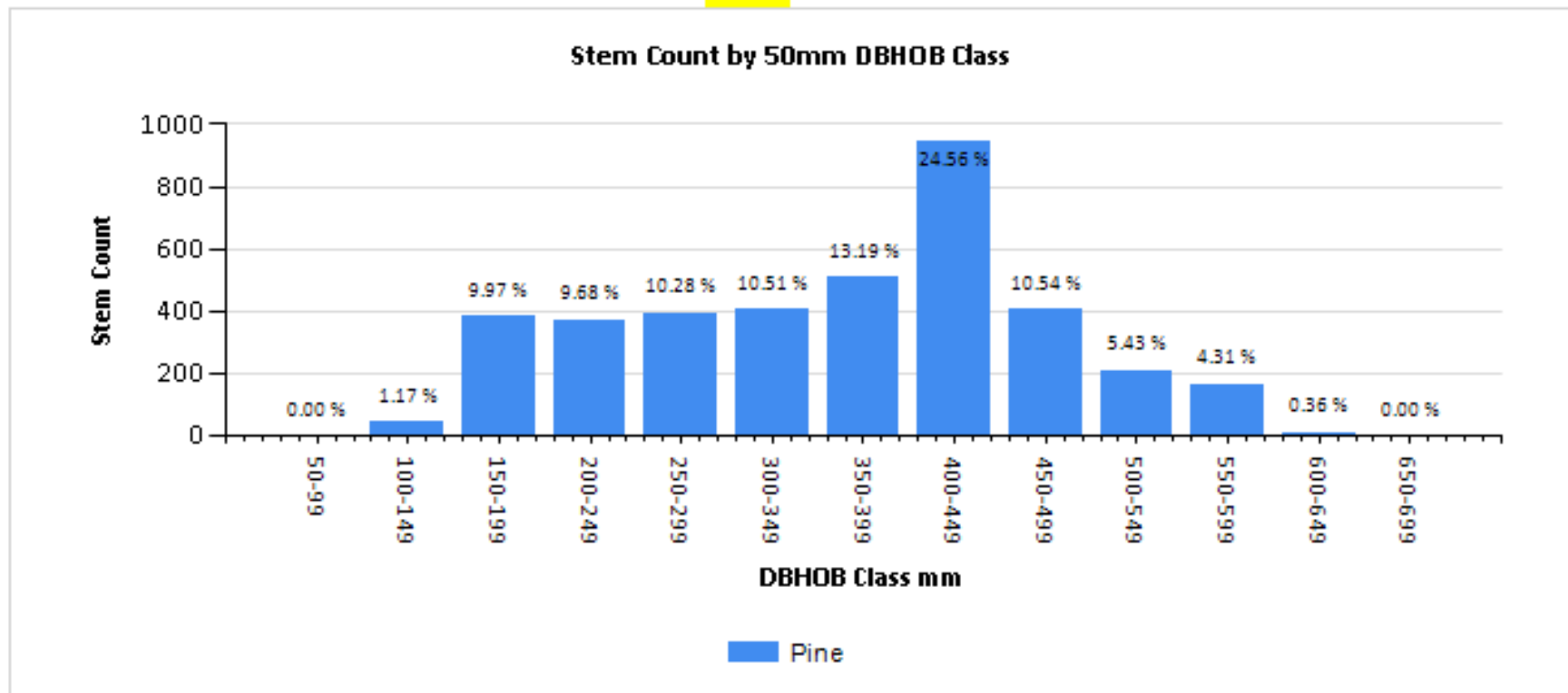
“monitoring production thinning targets”

case study: production thinning target

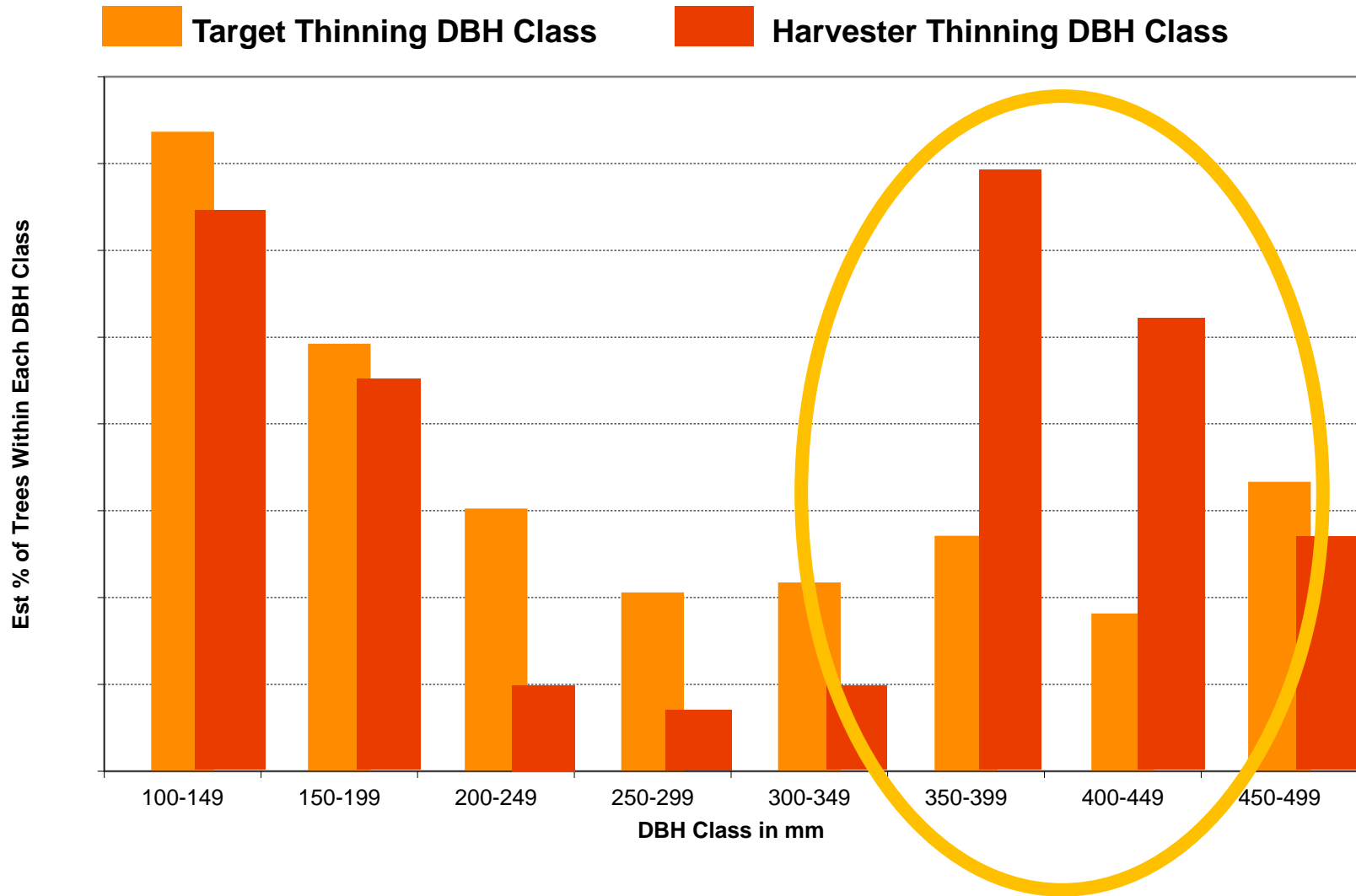
Harvested Stand Table - All selections

Species	Stem Status	Stem Count	Min / Max DBHOB mm	Quadratic Mean DBHOB mm	Total Basal Area m ²	Total Vol UB m ³	Harvested Vol per Stem m ³
Pine	Merchantable	3,809	115 / 630	380	432.74	5,806.69	1.524
	NonMerchantable	43	140 / 443	381	2.72	12.83	0.298
	All Stems	3,852	115 / 630	379	435.45	5,819.52	1.511

Select DBHOB Class Width mm: [10](#) [20](#) [25](#) [50](#) [100](#)



case study: production thinning target



case study: production thinning target

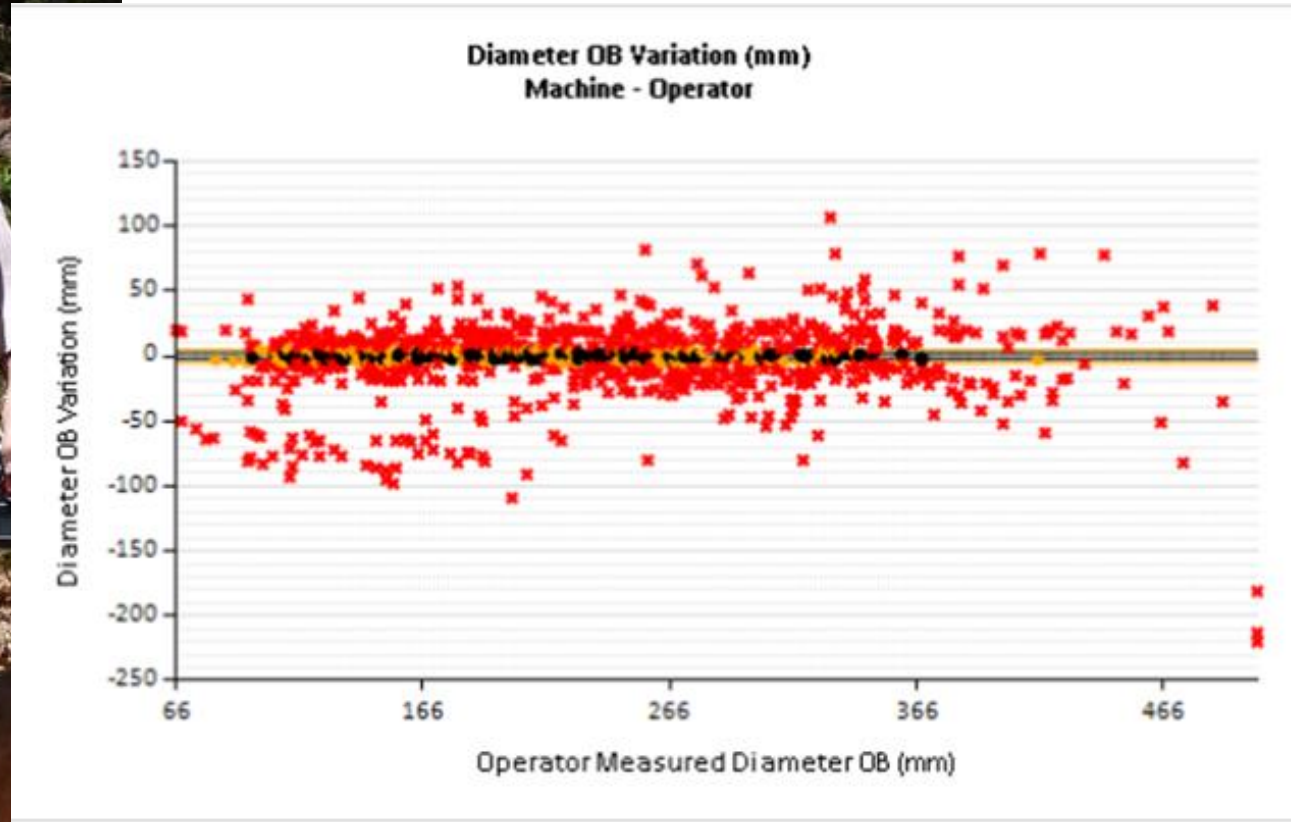


case study: utilising harvester data

“monitoring
machine
calibration and
control check
precision”



case study: harvester calibration and control checks



opportunity is reduce / eliminate post bucking QA/QC to a proactive pre-control check at least 1 per shift

case study: harvester calibration and control checks

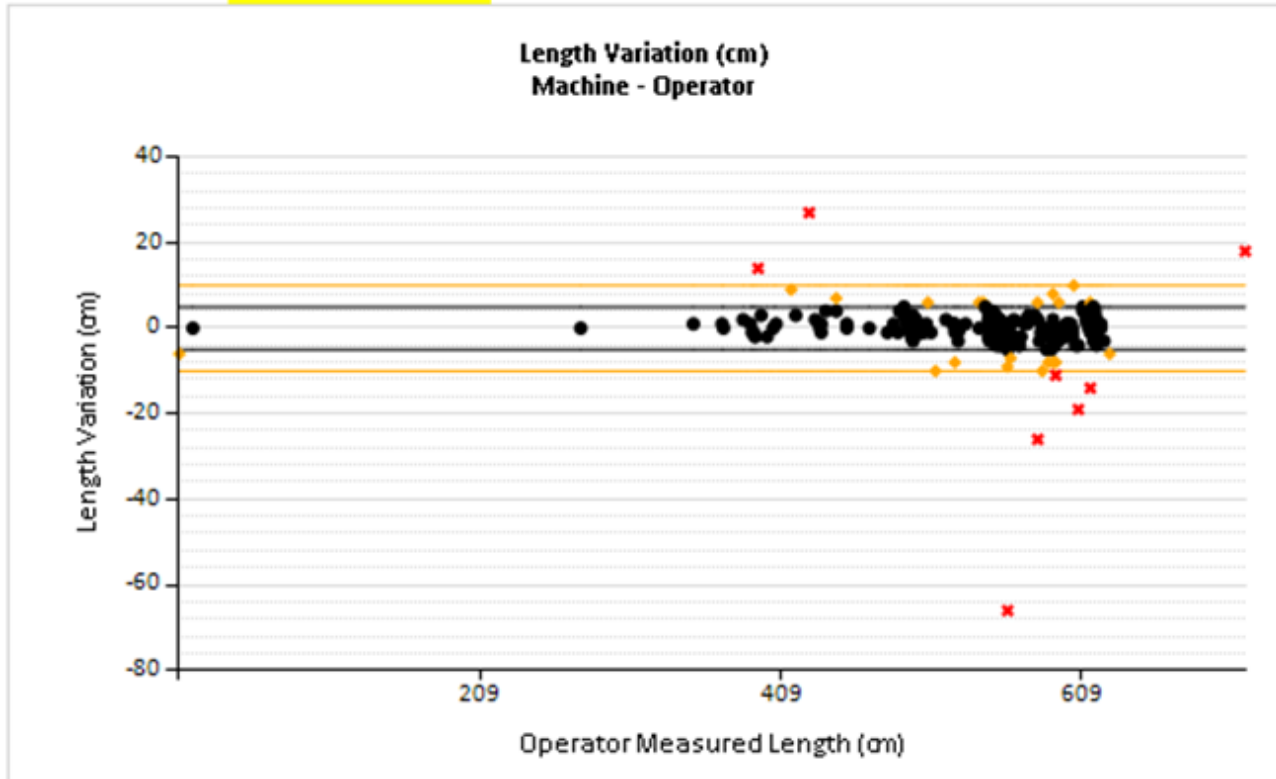


Variance Graphs

Machine - Operator

Operator - Auditor

Machine - Auditor

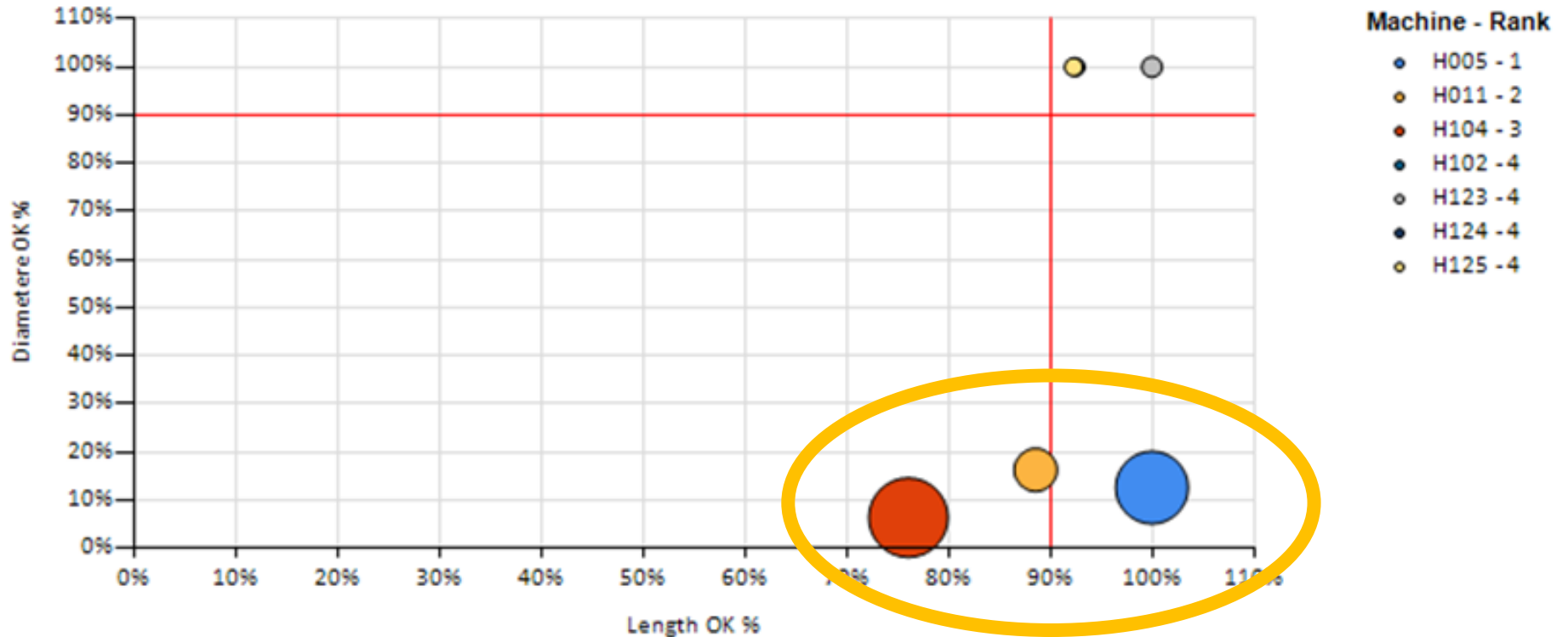


opportunity is reduce / eliminate post bucking QA/QC to a proactive pre-control check at least 1 per shift

case study: harvester calibration and control checks



Machine Length/Diameter Rating



opportunity is reduce / eliminate post bucking QA/QC to a proactive pre-control check at least 1 per shift

case study: utilising harvester data

“Monitoring machine calibration and control check precision”



“monitoring value recovery drivers”



case study: operator value recovery

Stem and Log List

Stem	Species	Operator	Log	Assortment	Length cm	Sed UB mm
3057	Pine	Olly	1	Port 17 Grade	396.00	380
			2	Port 17 Grade	398.00	274
3058	Pine	Olly	1	Port 17 Grade	396.00	376
			2	Port 17 Grade	397.00	300
			3	Port 17 Grade	396.00	230
3059	Pine	Olly	1	Waste	171.00	404
			2	Port 17 Grade	398.00	308
			3	Port 17 Grade	396.00	231
3060	Pine	Olly	1	Port 17 Grade	398.00	367
			2	Port 17 Grade	396.00	303
			3	Port 17 Grade	397.00	232
			4	Waste	281.00	175
3061	Pine	Olly	1	Waste	83.00	433
			2	Port 17 Grade	398.00	348
			3	Port 17 Grade	396.00	273

case study: operator value recovery

First Log Volume

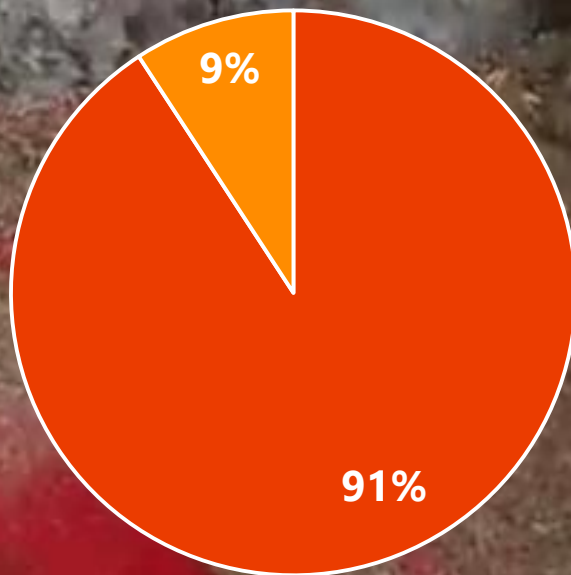
■ Sawlog / Pulp ■ Waste

average butt waste
length 68cm

3% < 5cm

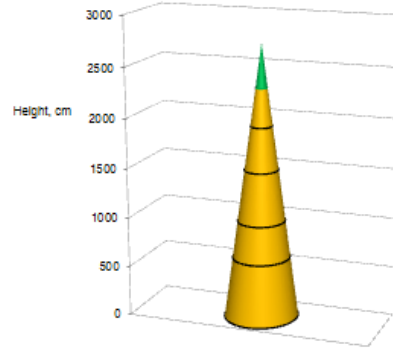
comparison to predicted?
between operators ?
between operator optimiser use
or manual over-ride?

Simple EXCEL based SQL query

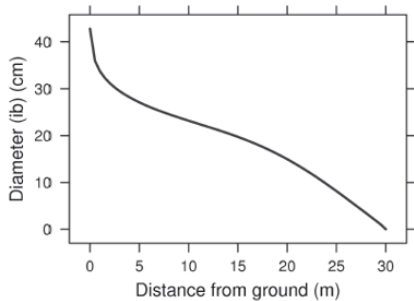


case study: utilising harvester data

"are we maximizing stem volume to minimum target SED"



"breakage length analysis, extractable piece size analysis"



"not achieving volume of S40 expected. Is the taper higher than expected?"

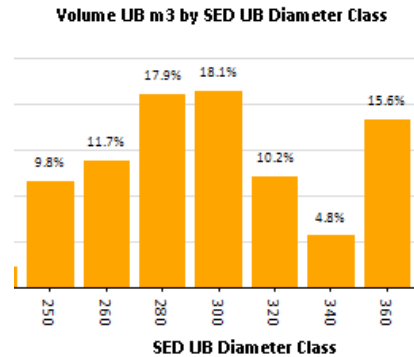


A screenshot of a user notification settings page for 'Edit User - jgibson'. The page has tabs for 'Details', 'Roles', 'Filters', and 'Notifications'. Under 'Email Notifications', there is a checkbox for 'Receive All Mail Watcher Notifications'. Under 'Weekly Notifications', there are checkboxes for 'Receive Weekly Production Report' and 'Receive Weekly Files By Machine Report'. Under 'Daily Notifications', there is a checked checkbox for 'Receive Daily Production Report'. At the bottom, there are 'Save User' and 'Cancel' buttons.

"reports delivered direct to the operator, contractor, supervisor ..."

case study: utilising harvester data

“alter customer grade spec’s to fit SED distributions rather than simple min/max constraints”



“combined log sort through transparent data supplied to customer”



“bush stocks, crew prompted validation of load out and production differences”



“long term simplification of supply chain: **measure it, tag it once.** Then just audit at ports / customer”

and more...

A forest worker wearing a high-visibility yellow and green shirt with "INTERPINE SAFETY 1ST" on the back, a yellow helmet with a headlamp, and blue jeans is working with logs in a forest. The worker is seen from the back, holding a chainsaw. The forest floor is covered with logs and debris. In the background, there is a dirt road and a dense forest of tall trees.

defining forest value

“value”

is the maximum log value projected to exist in the standing forest

“value recovery”

is a measure of the efficiency of the subsequent operations, including harvesting and marketing, to realise that standing log value.

Workshop Objectives

Tomorrow
26 June 15



INTERPINE
INNOVATION



• Engage and Collaborate

- Forest managers and harvester manufacturers to meet each other and to share experiences – good and bad around utilising harvester computer systems and data.
- Sessions of practical insight and then sharing and discussion.

• Formulate an Industry Adoption Group

- Formulate guidance on best practice and education.
- Provide liaison with harvest manufacturers on the forest managers needs.
- Connect with StanForD Committee.

INTERPINE

Bringing innovation to the forest industry



Questions

Not too many ☺

STICKS Project Team

Jeremy Gibson, Goetz Roth

Value Recovery Auditors

Chris Bridson, Ngarangi Mita

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