

Woody Debris Assessment on Waikanae Beach on Wednesday 16<sup>th</sup> of July 2024

Introduction

A high rainfall and heavy storm deposited significant woody debris onto the Gisborne Beach during the 24<sup>th</sup> and 25<sup>th</sup> of June 2024.

An assessment was undertaken by Forest Measurement NZ during the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> of July to quantify how much debris was deposited and what it was. This is described in the Woody Debris report submitted on Monday the 22<sup>nd</sup> of July.

A new survey was conducted to better understand the origin of the woody debris on Wednesday the 16<sup>th</sup> of July 2024.

6 equilateral triangular plots of 30 mtr length were established with the same methodology as described in Report on Gisborne Beach July 2024 Woody Debris Measurements, Final. The 6 plots were located between the Cut and directly opposite the Waikanae Surf club. Plots 2 to 6 were in more or less the same position as during the 1<sup>st</sup> survey, although some movement of the logs had occurred. Plot 1 could not be precisely re-located.

The assessment classification used is described in Table 1.

A	Old pine with rootball and part of stem attached	
B	Old pine with signs of harvest activity	
C	Old thinning (rootball with scarf or scarfed stem with broken end)	
D	Old pine but likely cut by the woody debris taskforce in the river	
E	Old pine with unknown origins	
F	Fresh pine with rootball and part of stem attached	
G	Fresh pine with marks of harvest activity	
H	Fresh thinning	
I	Fresh but likely cut by the woody debris taskforce in the river	
J	Fresh pine with unknown origins	
K	Other species with rootball and part of stem attached	
L	Other species but likely cut by the woody debris taskforce in the river	
M	Other species with unknown origins	
<b>Table 1: Classification used in the 16<sup>th</sup> of July 2024 assessment.</b>		

**Table 2 Volume by Plot in m3/ha**

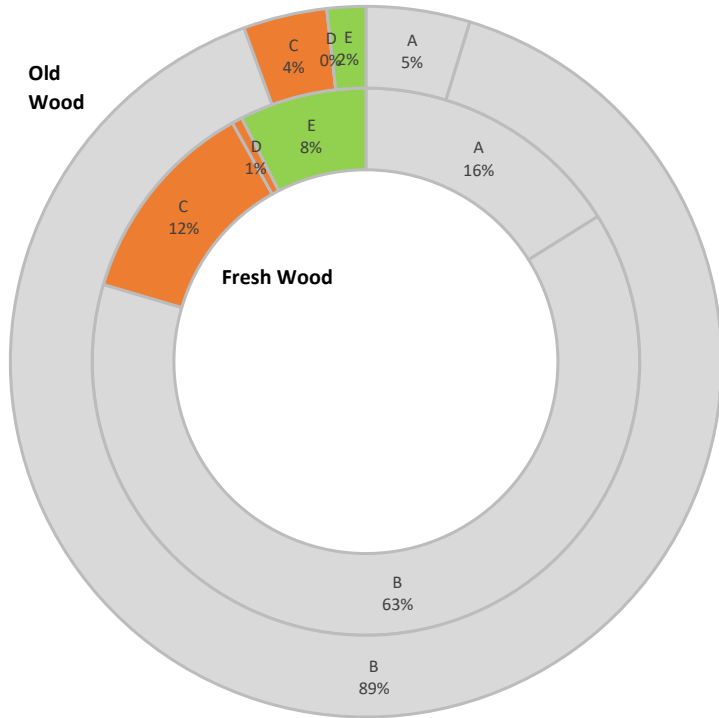
	Windthrow / Slip	Harvest	Thinning	Task force	Unknown Source	Windthrow / Slip	Harvest	Thinning	Task force	Unknown Source	Windthrow / Slip	Task force	Unknown Source
Volume	Old Pine					Fresh Pine					Other species		
Plot	A	B	C	D	E	F	G	H	I	J	K	L	M
<b>1</b>	0	0	0	0	27	7	0	0	169	103	35	52	134
<b>2</b>	0	0	0	0	64	0	0	13	0	99	44	82	120
<b>3</b>	0	0	0	0	162	0	0	0	0	51	10	229	272
<b>4</b>	0	0	0	0	90	26	0	27	159	113	23	304	311
<b>5</b>	0	0	0	0	104	132	0	6	197	261	388	351	284
<b>6</b>	0	0	0	0	191	54	0	32	106	145	182	133	207
<b>Total</b>					638	219	0	78	630	772	681	1150	1327

Table 3: Source results from the 6 plots of the 2<sup>nd</sup> Survey

M3/ha	Source					
	Windthrow / Slip	Harvest	Thinning	Task force	Unknown Source	Total
<b>Fresh Pine</b>	219	0	78	630	772	<b>1699</b>
<b>Old Pine</b>	0	0	0	0	638	<b>638</b>
<b>Other Species</b>	681	0	0	1150	1327	<b>3158</b>
<b>Total</b>	<b>899</b>	<b>0</b>	<b>78</b>	<b>1781</b>	<b>2737</b>	<b>5495</b>

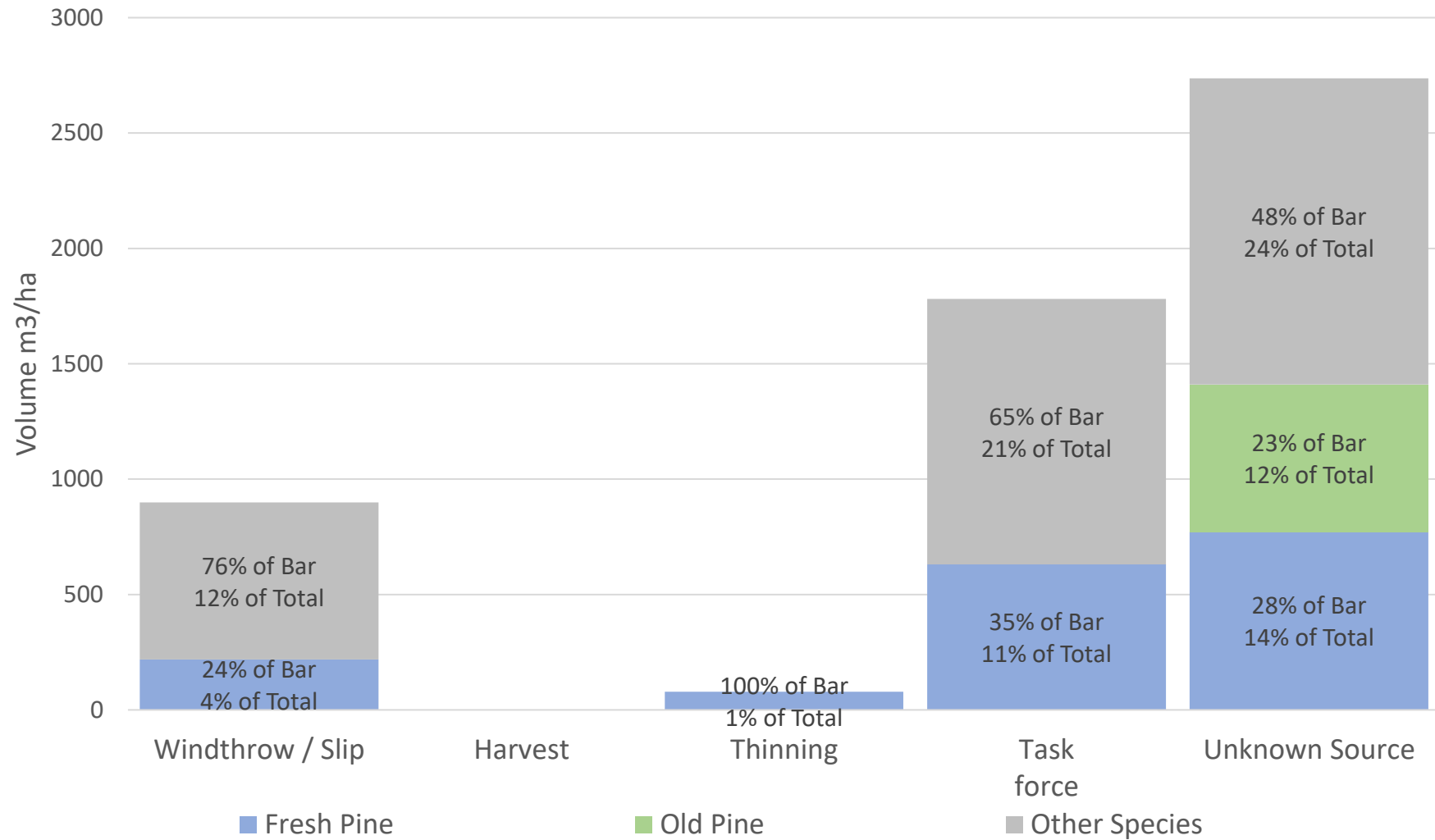
**Graph 1: Likely Source of Pine from the 1<sup>st</sup> Assessment (30 Plots)**

**Likely Source of Pine (% of volume)**

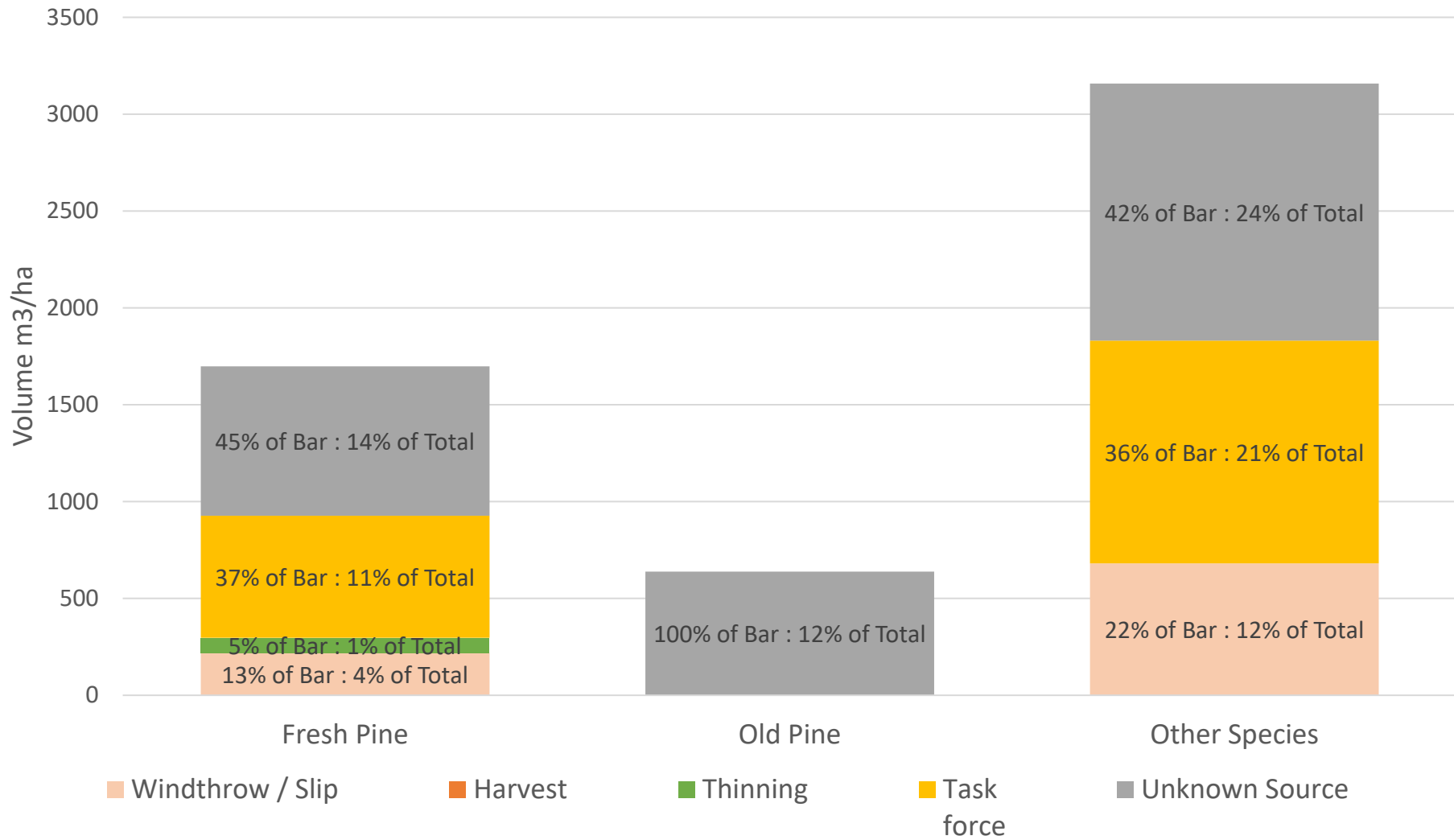


Category	Likely Source	Average Diameter Fresh / Old	Class Fresh / Old
<b>A: Uncut root balls</b> could have been left in the cutover or could have slipped out of a mature stand.	Unable to tell where it came from.	A: 24cm / 27cm	A: 11 / 21
<b>B: Logs with two broken ends</b> could have originated from cutover, landing, thinning's, mature, unharvested are, or anywhere else if they broke up on the way out. Also includes flush cut logs likely to have come from the wood debris taskforce.		B: 13cm / 22cm	B: 15 / 25
<b>C1: Logs &gt;40cm with a scarf cut</b> come from a harvesting site.	Likely to have originated from a harvesting or roading operation. Poor practice may or may not have contributed to mobilisation.	C: 25cm / 42cm	C: 14 / 24
<b>C2: Logs with processor marks</b>			
<b>C3: Logs with flush cut end(s)</b> that would probably have come from a harvesting site. NB: Logs with flush cuts most likely to have come from the wood debris taskforce were included in class "B/15/25"			
<b>D: Stumps with scarf &gt;40cm</b>	Likely to have originated from a harvesting or roading operation. Poor practice may or may not have contributed to mobilisation.	D: 15cm / None	D: 12 / 22
<b>E: Stumps and stems &lt;40cm with scarf cuts.</b>	Most likely from thinning operations	E: 19cm / 23cm	E 13 / 23

Graph 2; 2nd survey Woody Debris volume by Source and Type



Graph 3; Debris volume by Type and Source during the 2nd survey.





Graph 5

Number of pieces by plot comparison between 1st and 2nd Assessment

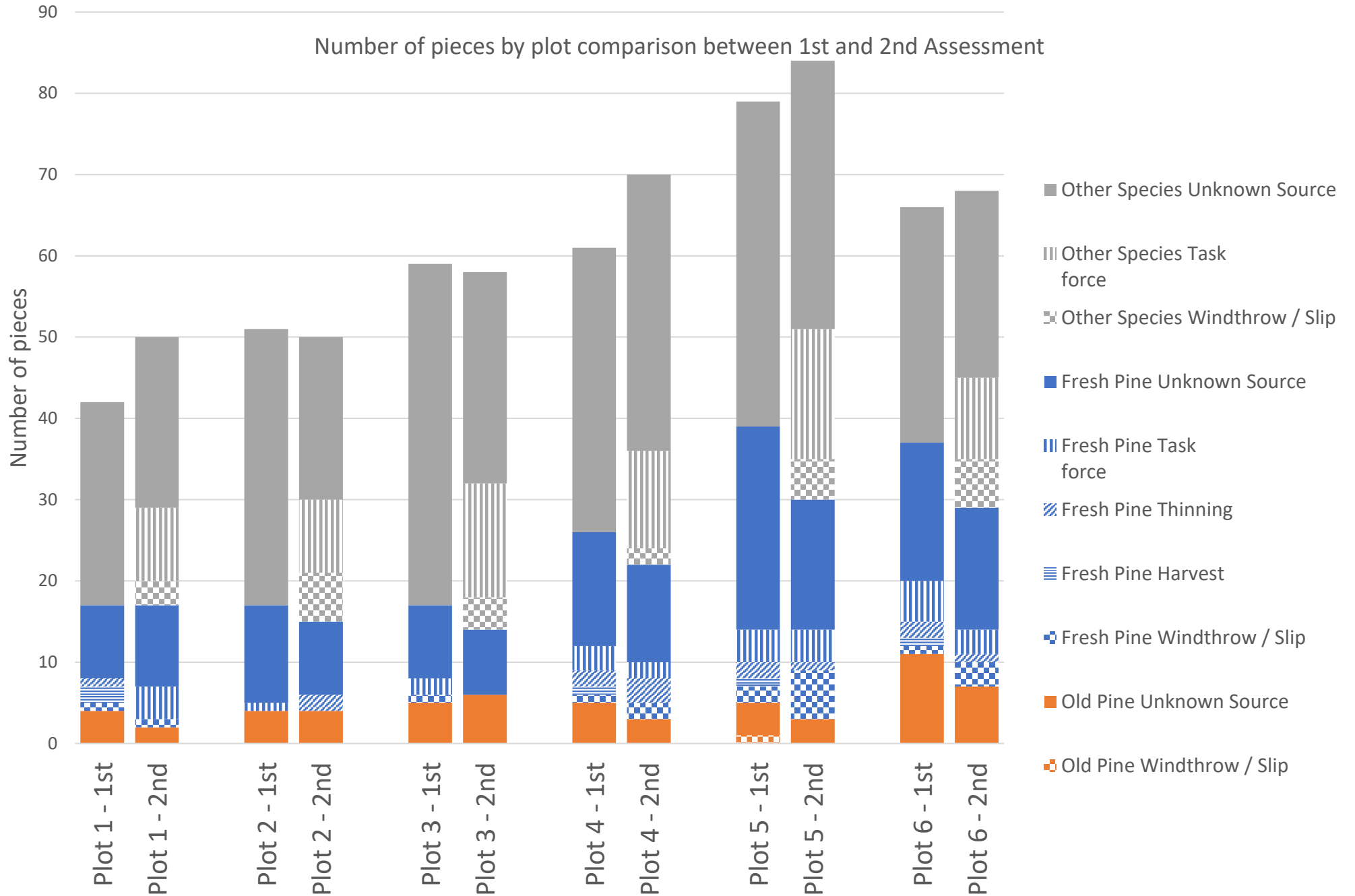






Photo 1. "Other" log of 93 cm in Plot 5.



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24<sup>th</sup> of July 2024