# EAST CHARLEY TIMBER SALE SSE-1386

## Timber Cruise


### Abstract

Operational timber cruise for the East Charley Timber Sale SSE-1386 K, consisting primarily of State Young Growth timber with a minor residual Old Growth timber component. The stand is located approximately ½ mile north of the Community of Edna Bay, Alaska
Publish July 2024.



Southeast Office DNR-Division of Forestry and Fire Protection

# Table of Contents

# East Charley Timber Sale Cruise Report

July 11, 2023

## Stand Description

This report is a compilation of information summarizing the estimation of timber volume and quality in the East Charley Timber Sale (File SSE-1386 K) on State land on Kosciusko Island near the community of Edna Bay as delineated in the Draft Forest Land Use Plan dated June, 2024. The stand was sampled as one type mainly consisting of young growth timber with a residual old growth component. The dominant characteristic of the stand controlled how the species is described in this report as far as age. For this report, young growth is associated with potentially merchantable timber that is generally less than 70 years old. The balance of the other timber described and cruised was considered old growth. The old growth observed with minor exceptions on the southern end of the sale was dispersed in the stand and not sampled as a discrete population. The sale area was logged in the mid 1940's; the young growth stands are a product of that activity and residual stand disturbance related to that harvest. The residual old growth appears to be associated with commercially unviable timber at the time of the previous harvest entry. The 1940's logging generally focused on high grade timber (spruce) needed for aircraft dock construction in World War II.

## DOF East Charley Timber Cruise

### Sample Type/ Frequency

The units were cruised during May of 2024 by DOF using a variable plot cruise sampling method based on an unbiased grid system. The grid was spaced on 2 x 5 chains representing one acre per cruise plot. This combined sampling produced 199 cruise plots over 201 acres. The Atterbury Cruise Program was used to manage the data. A basal area factor of 40 BAF at 16 feet above projected stump height was used to sample measured trees. Obvious cull trees were generally not recorded. This obtained an average of 4.6 trees per plot overall.

### Min. Size/ Sorts/ Specifications.

Only trees containing a minimum merchantable saw log were sampled. Diameters measuring under 10 inches at four feet above stump height were categorically not recorded. Sorts were developed based on perceived industry markets. See attached ADNR-DOF Old Growth and Second Growth Sort Guidelines for Southeast Alaska. Log grades were determined using Official Log Scaling and Grading Rules for the Pacific Northwest as applied and accepted in the Southeast Alaska region. Logs not meeting DOF saw log sorts were recorded as pulp logs. Young growth and old growth #4 saw logs are segregated into the pulp sort. Utility logs (having 50% sound usable chips) are all in the utility pulp sort.

### Acreage

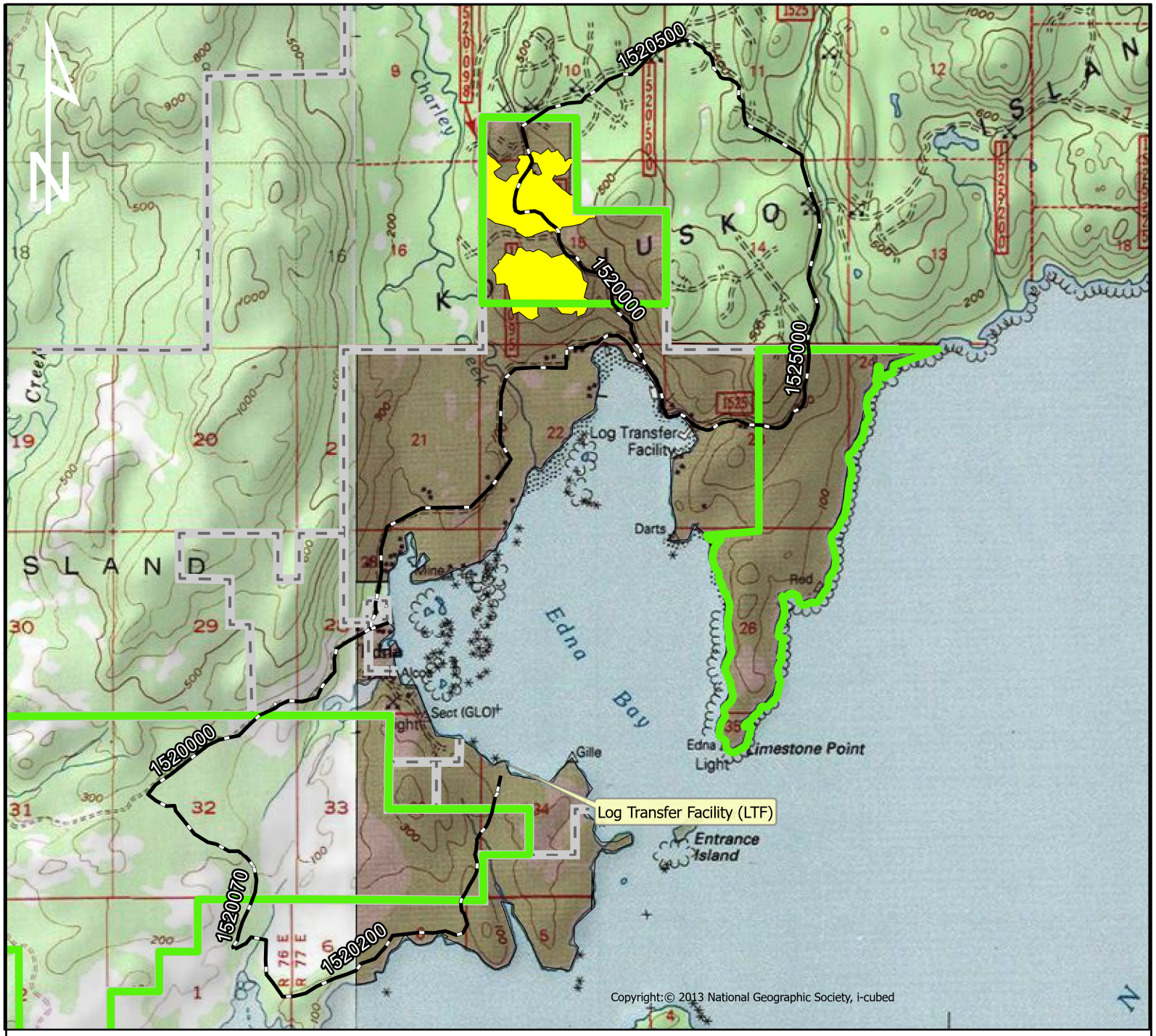
Cruised acreage was determined using ArcGIS, based off points collected along the harvest unit line using a GIS grade GPS receiver (Geode) that was restricted to sampling positions when theoretical accuracy was calculated to be less than 10 feet. GPS data utilized GNSS correction applied by the proprietary algorithm of Juniper Systems, Inc. ArcGIS calculated there to be 201 acres of timber.

## Stratification

Timber was generally a mixed stand with portions exhibiting a pronounced age type but not a discrete geographically definable age class. The timber was not stratified by age. Individual trees were subjectively identified by the cruiser as having residual old growth or young growth characteristics generally associated with size and tree form. Some of the smaller hemlock could be treated as either old growth or young growth; these trees were likely influenced by the previous harvest entry. The larger old growth hemlock has notably more defect than the young growth. While some of this is associated with tree age, most was attributable to previous logging damage and secondary stand disturbances. The very minor populations of old growth Sitka Spruce and Western redcedar in the units are not generally distributed uniformly in the stand; estimations of the population represented should be conservatively used.

# East Charley Timber Sale Map

Vicinity Map (1 page)

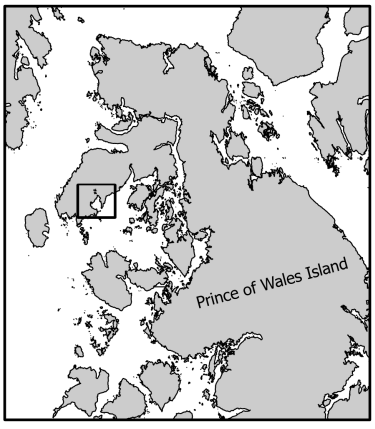



0 2,000 4,000 8,000 Feet

Area Map 1 in = 4000 FT

Township: T68S R76E Section(s): 10, 15
Copper River Meridian

# APPENDIX A1
# SSE-1386-K
# EAST CHARLEY TIMBER SALE
# AREA MAP




Vicinity Map 1 in = 32 miles

## Legend

- Proposed Harvest Unit
- Southeast State Forest (SESF)
- Other State/Private Land
- Property Line
- System Road

ALASKA DIVISION OF FORESTRY & FIRE PROTECTION

TC 05/29/2024

# East Charley Cruise Tabular Summaries

(Atterbury Program Reports, 3 Pages)

East Charley Type 98

## Board Foot Volumes Report

## Statistical Report

T TSPCSTGR

# Species, Sort Grade - Board Foot Volumes (Type)

Project: EASTCHAR

Page 1
Date 7/30/2024
Time 6:00:07PM

T068 R076 S15 T98

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 068 | 076 | 15 | EASTCHAR | 98 | 201.00 | 199 | 913 | S | W |

T068 R076 S15 T98

| Spp | ST | Sort | Grad | % Net BdFt | Bd. Ft. per Acre Def% | Gross | Net | Total Net MBF | Percent Net Board Foot Volume: Log Scale Dia. 4-5 | 6-11 | 12-16 | 17+ | Log Length 12-20 | 21-30 | 31-35 | 36-99 | Average Log Ln Ft | Dia In | Bd Ft | CF/ Lf | Logs Per /Acre |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | | SG | 2S | 49 | .1 | 11,758 | 11,751 | 2,362 | | | 68 | 32 | 0 | 21 | 46 | 33 | 32 | 15 | 271 | 1.70 | 43.3 |
| S | | SG | 3S | 25 | .1 | 5,678 | 5,673 | 1,140 | | 76 | 24 | | 1 | 10 | 35 | 54 | 34 | 10 | 120 | 0.89 | 47.2 |
| S | | CS | 3S | 11 | .2 | 2,595 | 2,590 | 521 | | 100 | | | | | | 100 | 36 | 6 | 60 | 0.51 | 43.2 |
| S | | PU | 3S | | 1.7 | 114 | 112 | 22 | | 68 | 32 | | 6 | 15 | 79 | | 32 | 7 | 62 | 0.53 | 1.8 |
| S | | PU | 4S | 2 | | 524 | 524 | 105 | | 100 | | | 60 | 38 | 3 | | 18 | 6 | 22 | 0.34 | 23.5 |
| S | | O | 2S | 13 | .3 | 2,905 | 2,896 | 582 | | | | 100 | | 58 | 37 | 5 | 28 | 22 | 581 | 3.35 | 5.0 |
| **S** | **Totals** | | | 58 | .1 | 23,574 | 23,547 | 4,733 | | 32 | 40 | 28 | 2 | 21 | 36 | 41 | 31 | 10 | 144 | 1.01 | 164.1 |
| WH | | PR | 2S | | | 77 | 77 | 15 | | | | 100 | | | 100 | | 33 | 22 | 685 | 3.59 | .1 |
| WH | | SA | 1S | 1 | 10.0 | 41 | 37 | 7 | | | | 100 | | | 100 | | 33 | 28 | 1080 | 5.48 | .0 |
| WH | | SA | 2S | 48 | 8.8 | 5,146 | 4,694 | 943 | | | 29 | 71 | | 6 | 57 | 37 | 34 | 17 | 399 | 2.42 | 11.8 |
| WH | | SA | 3S | 18 | 4.6 | 1,903 | 1,815 | 365 | | 44 | 43 | 13 | 1 | 15 | 28 | 57 | 34 | 10 | 131 | 1.05 | 13.8 |
| WH | | SA | 4S | | | 9 | 9 | 2 | | 100 | | | 61 | 39 | | | 22 | 7 | 30 | 0.62 | .3 |
| WH | | PU | 3S | 17 | 8.6 | 1,796 | 1,641 | 330 | | 25 | 18 | 57 | 3 | 9 | 13 | 75 | 34 | 12 | 215 | 1.58 | 7.6 |
| WH | | PU | 4S | 1 | .7 | 158 | 157 | 32 | | 100 | | | 49 | 48 | 3 | | 20 | 7 | 28 | 0.48 | 5.7 |
| WH | | PU | U | 15 | 21.2 | 1,752 | 1,381 | 278 | | 8 | 22 | 70 | 0 | 11 | 56 | 33 | 32 | 15 | 283 | 2.20 | 4.9 |
| **WH** | **Totals** | | | 24 | 9.8 | 10,882 | 9,811 | 1,972 | | 15 | 28 | 57 | 2 | 10 | 44 | 45 | 32 | 12 | 222 | 1.63 | 44.2 |
| HM | | SG | 2S | 20 | 3.5 | 1,365 | 1,317 | 265 | | | 95 | 5 | 3 | 22 | 23 | 52 | 32 | 13 | 201 | 1.45 | 6.5 |
| HM | | SG | 3S | 43 | 1.6 | 2,917 | 2,871 | 577 | | 87 | 13 | | 4 | 11 | 38 | 46 | 32 | 9 | 97 | 0.82 | 29.6 |
| HM | | CS | 3S | 24 | .5 | 1,551 | 1,544 | 310 | | 100 | | | | | | 100 | 36 | 6 | 60 | 0.47 | 25.9 |
| HM | | PU | 3S | 2 | 11.0 | 133 | 119 | 24 | | 72 | 28 | | | 17 | 9 | 74 | 36 | 8 | 83 | 0.79 | 1.4 |
| HM | | PU | 4S | 9 | .7 | 636 | 631 | 127 | | 100 | | | 30 | 63 | 6 | | 21 | 6 | 26 | 0.33 | 23.9 |
| HM | | PU | U | 2 | 19.3 | 102 | 82 | 17 | | 72 | 28 | | | | | 100 | 37 | 8 | 88 | 0.98 | .9 |
| **HM** | **Totals** | | | 16 | 2.1 | 6,704 | 6,564 | 1,319 | | 73 | 26 | 1 | 5 | 16 | 22 | 57 | 30 | 8 | 74 | 0.66 | 88.3 |
| SS | | PR | 1S | 6 | 10.2 | 45 | 40 | 8 | | | | 100 | | | 100 | | 32 | 33 | 1410 | 7.56 | .0 |
| SS | | PR | 2S | 17 | 4.9 | 115 | 109 | 22 | | | | 100 | | 100 | | | 26 | 32 | 1220 | 7.90 | .1 |
| SS | | SA | 2S | 49 | 3.3 | 326 | 316 | 63 | | | 12 | 88 | | 46 | 54 | | 30 | 24 | 829 | 4.38 | .4 |
| SS | | SA | 3S | 16 | | 108 | 108 | 22 | | 19 | 11 | 70 | 4 | 41 | | 55 | 30 | 16 | 360 | 2.21 | .3 |
| SS | | PU | U | 12 | 25.4 | 96 | 71 | 14 | | | 8 | 92 | | | 8 | 92 | 34 | 24 | 756 | 5.24 | .1 |
| **SS** | **Totals** | | | 2 | 6.5 | 690 | 645 | 130 | | 3 | 8 | 88 | 1 | 46 | 34 | 19 | 30 | 22 | 721 | 4.16 | .9 |
| RC | | SA | 3S | 18 | 2.5 | 37 | 36 | 7 | | | 57 | 43 | | 43 | | 57 | 33 | 15 | 257 | 2.56 | .1 |
| RC | | SA | 2R | 82 | 10.3 | 177 | 158 | 32 | | | | 100 | 6 | 65 | 29 | | 27 | 26 | 791 | 7.14 | .2 |
| **RC** | **Totals** | | | 0 | 8.9 | 214 | 195 | 39 | | | 11 | 89 | 5 | 61 | 24 | 11 | 29 | 21 | 570 | 5.01 | .3 |
| **Type Totals** | | | | | 3.1 | 42,064 | 40,761 | 8,193 | | 34 | 34 | 32 | 2 | 18 | 36 | 44 | 31 | 10 | 137 | 1.01 | 297.8 |

# STATISTICS

PROJECT EASTCHAR



| TWP | RGE | SECT | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 068 | 076 | 15 | EASTCHAR | 98 | 201.00 | 199 | 913 | S | W |

| | PLOTS | TREES | TREES PER PLOT | ESTIMATED TOTAL TREES | PERCENT SAMPLE TREES |
|---|---|---|---|---|---|
| TOTAL | 199 | 913 | 4.6 | | |
| CRUISE | 199 | 913 | 4.6 | 28,698 | 3.2 |
| DBH COUNT | | | | | |
| REFOREST | | | | | |
| COUNT | | | | | |
| BLANKS | | | | | |
| 100 % | | | | | |

## STAND SUMMARY

| | SAMPLE TREES | TREES /ACRE | AVG DBH | BOLE LEN | REL DEN | BASAL AREA | GROSS BF/AC | NET BF/AC | GROSS CF/AC | NET CF/AC |
|---|---|---|---|---|---|---|---|---|---|---|
| SPRC SG | 469 | 71.2 | 18.0 | 78 | 29.6 | 125.6 | 23,574 | 23,547 | 5,210 | 5,210 |
| W HMLK | 234 | 20.2 | 24.1 | 78 | 13.0 | 63.9 | 10,882 | 9,811 | 2,301 | 2,301 |
| HMLK SG | 197 | 50.8 | 14.4 | 59 | 15.1 | 57.1 | 6,704 | 6,564 | 1,763 | 1,764 |
| S SPRUCE | 8 | .3 | 34.0 | 86 | 0.4 | 2.2 | 690 | 645 | 113 | 113 |
| RCDR OG | 5 | .2 | 37.8 | 51 | 0.3 | 1.7 | 214 | 195 | 50 | 50 |
| **TOTAL** | *913* | *142.8* | *17.9* | *71* | *59.2* | *250.5* | *42,064* | *40,761* | *9,436* | *9,437* |

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

| CL: 68.1 % | COEFF | | **SAMPLE TREES - BF** | | | # OF TREES REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| SPRC SG | 71.8 | 3.3 | 473 | 490 | 506 | | | |
| W HMLK | 73.4 | 4.8 | 700 | 736 | 771 | | | |
| HMLK SG | 61.3 | 4.4 | 162 | 169 | 177 | | | |
| S SPRUCE | 56.6 | 21.3 | 2,102 | 2,671 | 3,241 | | | |
| RCDR OG | 71.8 | 35.7 | 871 | 1,354 | 1,837 | | | |
| **TOTAL** | *97.6* | *3.2* | *491* | *507* | *524* | *380* | *95* | *42* |

| CL: 68.1 % | COEFF | | **SAMPLE TREES - CF** | | | # OF TREES REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| SPRC SG | 59.3 | 2.7 | 100 | 103 | 106 | | | |
| W HMLK | 62.4 | 4.1 | 158 | 165 | 171 | | | |
| HMLK SG | 54.7 | 3.9 | 43 | 45 | 46 | | | |
| S SPRUCE | 50.5 | 19.0 | 372 | 459 | 547 | | | |
| RCDR OG | 77.0 | 38.3 | 211 | 342 | 473 | | | |
| **TOTAL** | *83.5* | *2.8* | *108* | *111* | *114* | *278* | *70* | *31* |

| CL: 68.1 % | COEFF | | **TREES/ACRE** | | | # OF PLOTS REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| SPRC SG | 115.5 | 8.2 | 65 | 71 | 77 | | | |
| W HMLK | 157.6 | 11.2 | 18 | 20 | 22 | | | |
| HMLK SG | 128.8 | 9.1 | 46 | 51 | 55 | | | |
| S SPRUCE | 622.8 | 44.1 | 0 | 0 | 0 | | | |
| RCDR OG | 1144.3 | 81.1 | 0 | 0 | 0 | | | |
| **TOTAL** | *59.3* | *4.2* | *137* | *143* | *149* | *140* | *35* | *16* |

| CL: 68.1 % | COEFF | | **BASAL AREA/ACRE** | | | # OF PLOTS REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| SPRC SG | 96.6 | 6.8 | 117 | 126 | 134 | | | |
| W HMLK | 123.5 | 8.7 | 58 | 64 | 69 | | | |
| HMLK SG | 120.6 | 8.5 | 52 | 57 | 62 | | | |
| S SPRUCE | 490.3 | 34.7 | 1 | 2 | 3 | | | |
| RCDR OG | 1187.7 | 84.1 | 0 | 2 | 3 | | | |
| **TOTAL** | *36.1* | *2.6* | *244* | *251* | *257* | *52* | *13* | *6* |

# STATISTICS



**PROJECT EASTCHAR**

DATE 7/30/2024

| TWP | RGE | SECT | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| **068** | **076** | **15** | **EASTCHAR** | **98** | 201.00 | 199 | 913 | S | W |

CL: 68.1 % COEFF **NET BF/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

CL: 68.1 % COEFF **NET BF/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0

| | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
|---|---|---|---|---|---|---|---|---|
| SPRC SG | 97.3 | 6.9 | 21,924 | 23,547 | 25,169 | | | |
| W HMLK | 132.7 | 9.4 | 8,888 | 9,811 | 10,733 | | | |
| HMLK SG | 130.1 | 9.2 | 5,959 | 6,564 | 7,169 | | | |
| S SPRUCE | 503.1 | 35.6 | 415 | 645 | 875 | | | |
| RCDR OG | 1121.7 | 79.4 | 40 | 195 | 350 | | | |
| **TOTAL** | *43.3* | *3.1* | *39,511* | *40,761* | *42,010* | *75* | *19* | *8* |

CL: 68.1 % COEFF **NET CUFT FT/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0

| | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
|---|---|---|---|---|---|---|---|---|
| SPRC SG | 96.8 | 6.9 | 4,852 | 5,210 | 5,567 | | | |
| W HMLK | 128.5 | 9.1 | 2,091 | 2,301 | 2,510 | | | |
| HMLK SG | 126.3 | 8.9 | 1,606 | 1,764 | 1,922 | | | |
| S SPRUCE | 494.9 | 35.1 | 73 | 113 | 152 | | | |
| RCDR OG | 1180.4 | 83.6 | 8 | 50 | 91 | | | |
| **TOTAL** | *40.1* | *2.8* | *9,169* | *9,437* | *9,705* | *64* | *16* | *7* |

# ADNR-DOF Sort Guidelines

Southeast Alaska

(2 pages)

# Revised Sort Matrix Reference Card (For Old Growth Cruising)

**2022 ADNR-DOF Old Growth Sort Guidelines for Southeast Alaska**

| Code | Description | Min. Length | Min. Diameter |
|---|---|---|---|
| | **SPRUCE AND HEMLOCK LOGS** | | |
| **A** | **High Grade Sort**<br>Clean appearing #2 and better. Reasonably straight, with clear cuttings. Maximum twist 2" per foot. Max. defect 15%. | 14' | 24" |
| **B** | **Premium Sort**<br>#2 or better. Clear cutting in one Quadrant minimum. Total deductions not more than 50%. | 14' | 20" |
| **S** | **Sawlog Sort**<br>#3 or better, no rough tops. Maximum deduction 66%. | 12' | 6" |
| **P** | **Pulp Sort**<br>Min. 50% net utility scale. Won't fit into sawlog sorts due to quality and defect. | 12' | 6" |
| | **RED CEDAR LOGS** | | |
| **L** | **Shake & Shingle**<br>Suitable to produce 4' blocks for shakes or 16" blocks for shingles. Larger logs that aren't saw quality. | 12' | 20" |
| **S** | **Sawlog Sort**<br>#3 or better, no rough tops. Maximum deduction 66%. | 12' | 6" |
| | **YELLOW CEDAR LOGS** | | |
| **S** | **All Saw Logs**<br>Camp run sort. Grade determines quality. No excessive sweep or twist. Must be suitable for sawlogs. 1/3 sound Scribner volume. | 12' | 6" |

**Preferred Lengths in order of preference: 36', 33' 40', 26', 16', 14', 12'**

## Young Growth Product Categories

**ADNR-DOF Young Growth Reporting for Southeast Alaska**

| Code | Description | Min. Length | Min. Diameter | Max Diameter |
|---|---|---|---|---|
| | **All Species** | | | |
| **O** | **Oversize**<br>#3 and better sawlog. | 16' | 20" | |
| **S** | **Standard/Gang**<br>#3 and better sawlog. | 16' | 8" | 20" |
| **N** | **Chip and Saw**<br>#3 sawlog.<br>36' only allowed length.<br>No Bark seems. | 16' | 6" | 8" |

## Log Grades

| Grade | Abrv | Desc | Fbr | Min Diameter | Min Length | Min Vol | Vol Type |
|---|---|---|---|---|---|---|---|
| 0 | CU | CULL | G | 6 | 1 | 0 | |
| 1 | 1S | #1 SAW | G | 24 | 16 | 0 | |
| 2 | 2S | #2 SAW | G | 12 | 12 | 60 | Net |
| 3 | 3S | #3 SAW | G | 6 | 12 | 50 | Net |
| 4 | 4S | #4 SAW | G | 6 | 12 | 10 | Net |
| 5 | S | SP MILL | G | 16 | 17 | 0 | |
| 7 | 1R | 1 SAW RC | G | 28 | 16 | 500 | Net |
| 8 | 2R | 2 SAW RC | G | 20 | 12 | 210 | Net |
| P | PE | PEELER | G | 24 | 17 | 0 | |
| S | SL | SELECT | G | 30 | 16 | 90 | %clear |
| U | U | UTILITY | G | 6 | 12 | 0 | |