

**Massachusetts Department of Conservation and Recreation
Division of Water Supply Protection, Office of Watershed Management
*Forest Management Project Summary***

Project Title: Camel Brook South
DWSP Harvest Permit Number: 2058
DWSP Proposal ID: PE-19-15-01
DCR Forest Cutting Plan File Number: 272.32388.21

Site Information

Watershed: Quabbin
Town(s): Shutesbury
Acres: 28
Nearest Road: Cornwell Road
Natural Heritage Atlas overlap?: No
Public Drinking Water Supply Watershed?: Yes
Forest Types: white pine/oak, white pine/hemlock
Area of Critical Environmental Concern (ACEC)?: No
Soils: Well drained Montauk fine sandy loam with small areas in excessively well drained Windsor and Merrimac soils and Hinckley sandy loam.
Wetland Resources: none
Vernal Pools: none known

Harvest Information

Harvest Start Date: 7/20/2021
Harvest End Date: 12/09/2021
Number of Wetland Crossings: none
Number of Stream Crossings: none

Best Management Practices Applied

Stream Crossings: no crossings
Filter Strips: A variable width filter strip on Camel Brook in the southeast corner of the lot
Wetland Crossings: wetlands
Harvesting in Wetlands: no wetlands

DWSP Forester supervising this harvest

Name: Richard MacLean & Herm Eck
Forester License number: 63 (Eck)
Phone number: 857-263-0211
Email: richard.maclean@mass.gov

Narrative

General Description/Forest Composition/History

Lot 2058 is situated on the eastern facing slopes between Camel Brook and Rte. 202 in Shutesbury. The lot covers 28 acres and is comprised of, in order of area, white pine / oak, white pine / hemlock, white pine, and red pine stands. The white pine / oak stand is 15.7 acres and covers the eastern edge to the middle slope of the lot and is growing on both the well-drained Montauk fine sandy loam, as well as the excessively well drained Windsor and Merrimac and Hinckley sandy loam. Eastern white pine is the overwhelming majority of the canopy, with northern red oak a secondary canopy dominant, and hemlock and mixed birch and red maple a minor canopy/understory component. The white pine / hemlock stand exists in the northwest corner on the upper slopes of the lot, entirely in the Montauk fine sandy loam. Here where hemlock is a larger component more dead hemlock snags are present, and there was abundant sign of hemlock woolly adelgid (HWA) in the canopy of the living hemlock. The white pine stand is a regenerating stand from a red pine removal harvest in 2002, only minor harvesting will occur in this stand related to use of existing forwarder trails. Finally, the small red pine stand are present adjacent to Rte. 202. This stand is in rapid decline due to red pine scale and much of the canopy dominant red pine is already dead. There is a diversity of advanced regeneration present, including sugar maple, which will be released and protected by the removal of the red pine, as well as a reduction of public hazard by the proximity of the dead red pine to the highway.

Site Selection

The primary goal of harvesting on the watershed is to create and maintain a forest that is resilient to, and can quickly recover from, small and large scale disturbances. With climate change we expect to see a range of disturbances such as diseases, insect infestations, ice storms and hurricanes becoming increasingly common. The ideal way to achieve such resiliency is to foster a forest diverse in species of various stages of development (seedlings through large legacy trees) that are actively growing and regenerating. This combination of structural and species diversity builds resistance and resilience into the forest.

Lot 2058 was chosen because of its maturing even aged structure, presence of advanced regeneration, and dead and dying canopy dominant hemlock trees due to infestation by hemlock woolly adelgid (HWA). Harvesting in a site with low age diversity will help accomplish DWSP goals of increasing age diversity, and expanding natural gaps made by dying hemlock will increase in the likelihood of higher species diversity in the responding regeneration.

Silvicultural Objectives

The primary goal of harvesting on the watershed is to create and maintain a forest that is resilient to, and can quickly recover from, small and large scale disturbances. With climate change we expect to see a range of disturbances such as diseases, insect infestations, ice storms and hurricanes becoming increasingly common. The ideal way to achieve such resiliency is to foster a forest diverse in species of various stages of development (seedlings through large legacy trees) that are actively growing and regenerating. This combination of structural and species diversity builds resistance and resilience into the forest.

This lot is mostly composed of even aged white pine / oak and white pine hemlock. The primary objective of this lot will be to increase the age diversity of the lot by regenerating new acreage and recruiting a new age class. In 15 years a second entry into the area will create a third age class. Secondly, openings and retention trees were chosen to release existing regeneration and then maximize the likelihood of increasing species diversity. In particular openings were focused around canopy dominant hemlocks recently killed by hemlock wooly adelgid (HWA) with the goal of reducing current patterns of black birch dominance under HWA killed hemlock. Near Rte. 202 sanitation cutting of dead and dying red pine will reduce public safety hazards associated with the highway.

Retention stems were chosen to focus on large, healthy, canopy dominant individuals representing a diversity of species. Larger openings also feature girdled trees retained as future snags for wildlife habitat, carbon storage, and other ecosystem services while not casting canopy shade which could impede or alter regeneration response. Forwarder trails were laid out to take advantage of existing trails, or to maximize their utility in a future second entry.

Cultural Resources

This lot contains stone walls and foundations, primarily on the southern edge near Rte. 202. Existing barways are being utilized for skid roads where possible and the foundation will be protected. Any unmapped or currently unknown cultural resources found during the harvest will be flagged, protected and DCR archaeology will be notified.

Rare or Endangered Species

No known rare or endangered species are present. No known vernal pools are present. If any rare or endangered species or habitat of interest is identified during the harvest it will be protected and Natural Resources will be notified of its presence.

Figures

Figure 1. Forest Cutting Plan

Forest Cutting Plan

and Notice of Intent under M.G.L.
Chapter 132 – The Forest Cutting
Practices Act, 304 CMR 11.00

(Effective Date: 3/15/16) **Amend #1 (8/21)**

For DCR Use Only:

File Number	272.32388.21	Case No.	
Date Rec'd	06/08/2021	Nat. Hert.	False
Earliest Start	06/22/2021	Nat. Hert. Imp.	False
River Basin	Millers	Pub. Dr. Wat.	No
Gen. Obi.	LT	ACEC	False

Site Information

Location

FINAL (12/22)

Town Shutesbury
Road Cornwell Rd
Acres 28.00 Proposed Start Date 06/22/2021
Vol. MBF 95 Vol. Cds. 53 Vol. Tons 157

Plan Preparer

Name Herm Eck
Address 485 Ware Rd
Town, State, Zip Belchertown MA 01007
Phone 413-213-7949
Type of Preparer LF
*Mass. Forester License # 63
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name Quabbin Ware River Region DCR DWSP
Mailing Address 485 Ware Rd
Town, State, Zip Belchertown MA 01007
Phone 413-213-7903
Ch61 ☐ 61A ☐ 61B ☐ Stew ☐ *Case #
FSC ☐ CR ☐ CR Holder

Licensed Timber Harvester**

Name
Address
Town, State, Zip MA
Phone
Mass. Lic. Harvester #
**This information may be supplied after the plan is approved, but before work begins.

Best Management Practices

Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing				
Mitigation				
Stabilization				

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	Va			

Harvesting in Wetlands

Indicate location on map	HW-1	HW-2	HW-3	HW-4
Forest Type (see pg 2)				
Acres to be Harvested				
Resid. Basal Area (>50%?)				

Service Forester Comments

Approved 6/17/21. **(E-sub)**
Amendment 8/3/2021: Adjust haul roads to fit the equipment of the operator.

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom	Note:
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge	Applicant must provide DCR with all relevant information before plan may be approved and cutting may begin. Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits. Consult MA Forestry BMP Manual for further information.
TH Lic. Tim. Har	BR Bridge	MU Mulch	DR Dry	ST Stony	
TB Timber Buyer	FO Ford	CO Corduroy	OT Other	MU Mud	
LO Landowner	PO Poled	ST Stone		GR Gravel	
OT Other	OT Other	HB Hay Bales		OT Other	
		OT Other			

If Other (OT) is used in any category an explanation must be given on an attached narrative page

pg 3 of 5

Figure 1a: Massachusetts Forest Cutting Plan, page one.

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	52.300	Red Maple	0.900
Red Pine	8.200	Sugar Maple	
Pitch Pine		Red Oak	3.800
Hemlock	23.500	Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdw.	1.900
White Ash		Total Mbf	94.800
Beech		Cordwood (Cds)	53.000
White Birch		SW Pulp (Tons)	157.000
B & Y Birch	4.200	HW Pulp (Tons)	
Black Cherry		Chips (Tons)	

Stand Treatment

*Note: Volumes and values indicated in the Plan are as reported by the plan preparer and have not been independently verified by the service forester upon approval. Mbf = thousand board feet.

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WO	WK	WP	RP
Acres	15.700	8.600	2.700	0.900
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	SE	NT	SN
Source of Regeneration	AD,SE	AD,SE	AD	AD,SE

Landowner

Landowner Signature

The most important information on a cutting plan is the Landowner's objective, as this will determine which trees will be harvested and which will remain; **this decision will also determine the future condition of the forest for decades to come.** After having read the Massachusetts Forest Cutting Plan Information Sheet on page one, indicate your objective by checking the appropriate box below.

☒ **LT - Long-term Forest Management**

Planned management of the forest to achieve one or more of the following objectives: produce immediate and maximize long-term income, enhance wildlife habitat, improve recreational opportunities, protect soil and water quality, or produce forest specialty products.

☐ **ST - Short-term Harvest**

Harvest of trees with the main intention of producing short-term income with minimal consideration given to improving the future forest condition, which often results in a forest dominated by poor quality and low value species.

I (we) have read the Massachusetts Cutting Plan Information Sheet, and am aware of my (our) management options.
I (we) hereby certify that I (we) have the legal authority to carry out the operation described above.
I (we) certify that I (we) have notified the Conservation Commission in the town in which the operation is to take place and the abutters of record within two hundred feet of the area to be harvested.
I (we) understand that the volumes and values (Ch61 only) in this plan have not been independently verified by the service forester upon approval and will report final values and volumes to the Director or his/her agent if the final figures differ from those reported.

6-7-21
(See upload)

Signature of landowner(s)

See next pg

Date

Service Forester

Determination and Status

Approved ☒ Disapproved ☐ Expires 06/08/2023

Cutting Plan

[Signature] 06/17/2021
Signature of Service Forester/Director's Agent Date

Extension 1 ☐ 2 ☐ Expires Ser. For. Ints. 1

Amendment App 1 Dis 1 ☐ App 2 ☐ Dis 2 ☐ AR 1

8/21

Codes

Final Report and Comments

I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.

[Signature] 12.16.22
Signature of Service Forester/Director's Agent Date

Forest Types		Designation of Trees		Type of Cut		Source of Regeneration	
WP White Pine	HK Hemlock	OM Mixed Oak	CT Cut Tree	SH Shelterwood	Intermediate Harvests:	AD Advanced	
WK WP/Hem	HH Hem/Hdw	RM Red Maple	LT Leave Tree	ST Seed Tree	CT Commercial Thin	SE Natural Seed	
WH WP/Hdw	BC Black Cherry	BE Beech	SB Stand Boundary	CC Clear Cut	NT Non Com Thin	PL Plant	
WO WP/Oak	BB Bee/Bir/Map	SF Spruce/Fir	OT Other	SE Selection	Non-Standard Systems:	CO Coppice	
RP Red Pine	OII Oak/Hdw	SM Sugar Maple	Landowner Objective	SA Salvage	HG Highgrade*	DS Direct Seed	
SR Red Spruce	OR N Red Oak	PP Pitch Pine	LT Long-term Mgt.	SN Sanitation	DL Diameter Limit*	OT Other	
			ST Short-term Har.		OT Other*		

*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page pg 4 of 6

Figure 1b: Massachusetts Forest Cutting Plan, page two. With final approval signature from Service Forestry

Forest Cutting Plan

Narrative Page (Effective Date: 3/15/16)

Use this page to provide further explanation or if

Other (OT) was used in any category on pages 3 or 4.

Landowner DCR DWSP

Town Shutesbury

File Number 272.32388.21

BMPs

Use this Section to provide further explanation or if Other (OT) was used in any category in the Best Management Practices Section on Page 3.

BLUE PAINT - Cut Trees (horizontal slash - sawlogs; dots - cord/pulpwood; X - culls; vertical slash; TSI; Three vertical dots - harvest boundary; 'G' - girdle tree) | ORANGE PAINT - Save Trees (horizontal slash with a dot - opening edge; dot - non edge retention tree) | PINK FLAGGING is to be avoided with equipment (stone features, hazards) | BLUE FLAGGING - Forwarder Trails

Designation of Trees

Use this Section to describe the types of trees to be harvested and/or retained if Other (OT) was used for "Designation of Trees" in the Stand Treatment Section on page 4. Additional narrative description may be added on a separate page.

Describe Trees to be Cut				Describe Trees to be Left			% BA/AC	
Stand No.	Species	Size	Quality	Species	Size	Quality	Cut	Left

Regeneration & Future Condition

Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

Stand No. Source of Regeneration (ex. AD, SE.) How will Regeneration be obtained/protected?
If using AD - Describe the species present and how the regeneration will be protected
If using SE - Describe the source of the seed and the number of seed trees/acre

Stand No. Desired Future Condition
Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

Figure 1c: Massachusetts Forest Cutting Plan, page three.

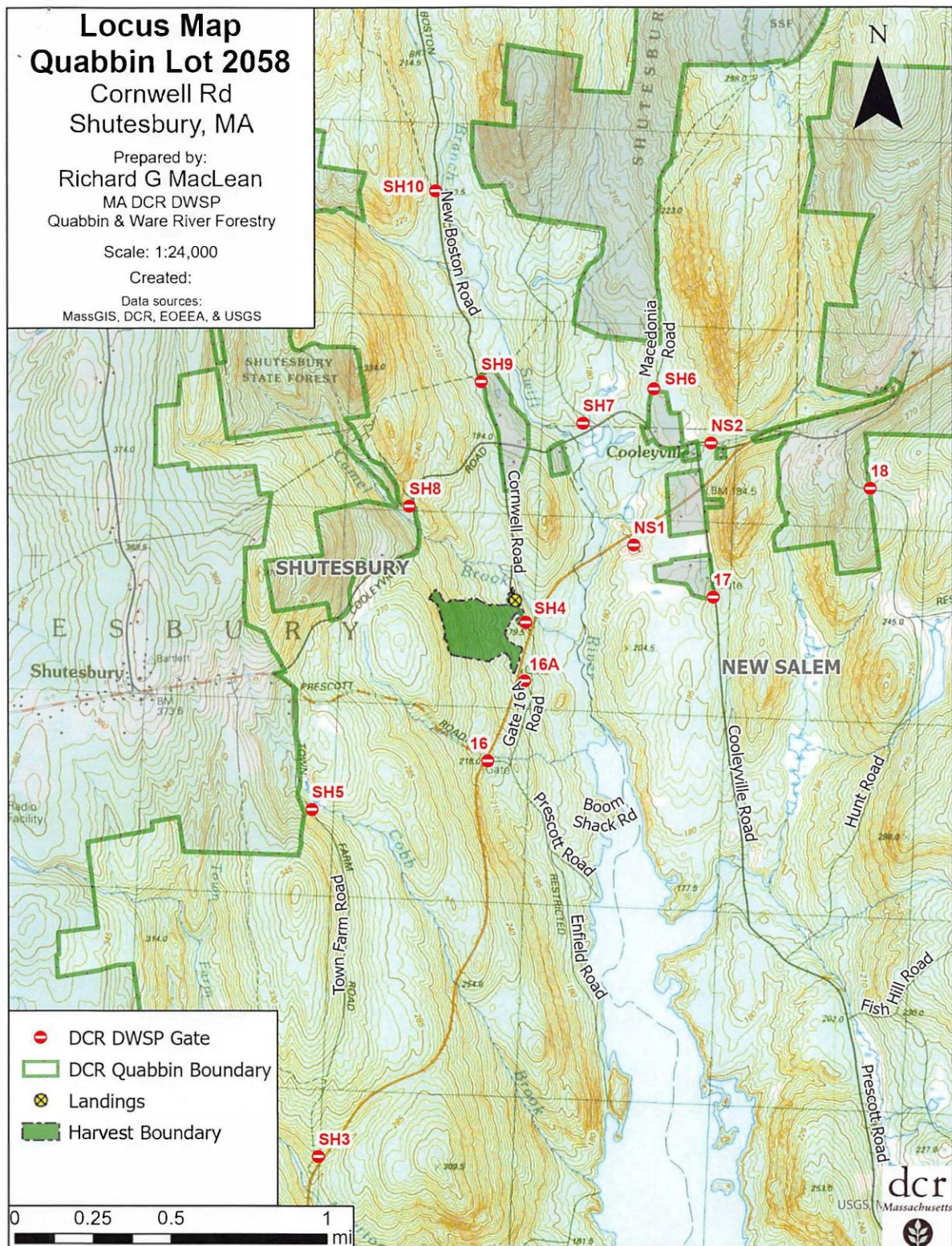


Figure 1d: Massachusetts Forest Cutting Plan, locus map.

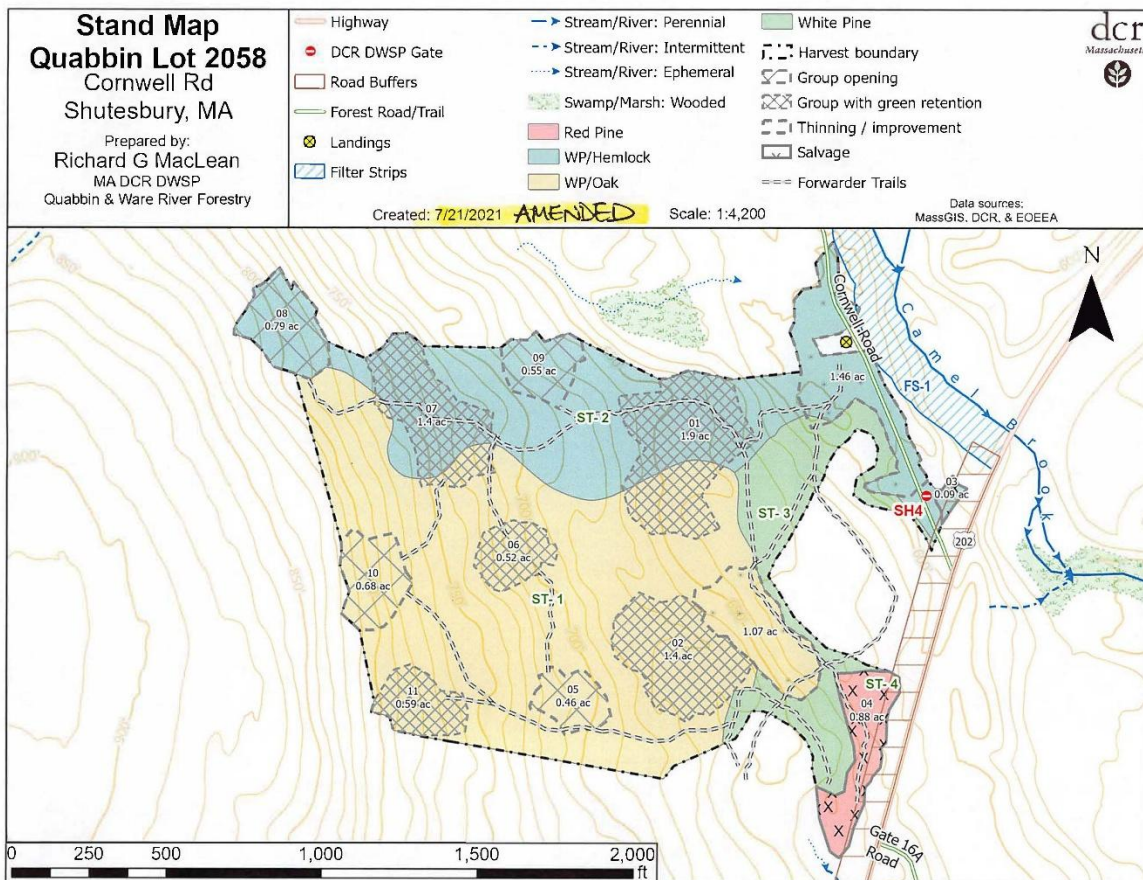


Figure 1e: Massachusetts Forest Cutting Plan, stand map.

dc



COMMONWEALTH OF MASSACHUSETTS
Department of Conservation and Recreation
Division of State Parks and Recreation

FILE # 272-32388-21

W

FOREST CUTTING PLAN CERTIFICATE

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that MA DCR DWSP 485 Ware Rd, Belcher town, MA in accordance with the
(Name of Owner) (Address) 01007
Quabbin-Ware River Region

provision of M.G.L. Chapter 132, Section 40-46, filed in Amherst F.O. with the Dept. of Conservation
and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the

Cornwell Rd lot, Shutesbury
"lot 2058"

Approval Date 6/17/21

Director's Agent Andrew Rawcliffe

DCR Phone No. 617-549-1677

ISSUED BY: Priscilla E. Geigis

Priscilla E. Geigis, Director
Division of State Parks and Recreation

Figure 1f: Massachusetts Forest Cutting Plan Certificate.

Figure 2. *Photo Points*



Figure 2a. Photo Point pre-harvest, 7/20/2021.



Figure 2b. Photo Point immediately post-harvest, 9/2021.



Figure 2c. Photo Point two years post-harvest, 8/2023.



Figure 2d. Photo Point three years post-harvest, 8/2024.