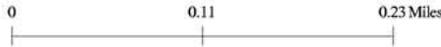


IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 149 VCU: 2100 HARVEST SYSTEM: Helicopter

UNIT 149 OCCURS IN ALTERNATIVE(S): 2 3



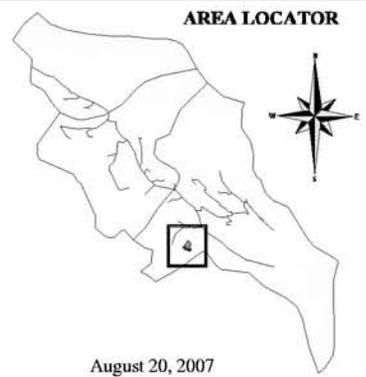
MAPSCALE 1:7200



- Existing Harvest Unit with Year Harvested
- Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road 85343
- Temporary Road
- Existing NFS Road 8530
- NFS Road Reconstruction 8534
- Class I Stream
- Class II Stream

- Class III Stream
- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes Greater Than 72%
- Existing Rock Pit

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- HC6
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Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	149	In Alternatives:	2, 3	Total Unit Acres:	46.4	Vol Strata Acres:	High: 8.8 Med: 35.3 Low: 2.3
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	379	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists primarily of 12-38" DBH western hemlock (59% BA) and 12-30" DBH spruce (30%) and 12-22" DBH mountain hemlock (11% BA) there is also a minor component of 10-16" DBH yellow-cedar in the eastern half of the unit. Western hemlock advanced regeneration is abundant with some spruce also. Wind risk is low throughout unit.</p>
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<p>Silvicultural Objective/Desired Future Condition: Maintain or create a stand with three or more distinct age (size) classes of trees that maintains species diversity, provides for a high degree of structural diversity and meets Forest Plan scenery and high value marten habitat requirements.</p>

<p>Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 25 percent of existing basal (143 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
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<p>TIMBER/LOGGING: Refer to Silvicultural RX and marking guides for single tree selection guidelines to facilitate helicopter yarding.</p>

<p>ENGINEERING/ROADS: N/A</p>

<p>BOTANY RESOURCES: No concerns</p>

<p>FISH/WATERSHED: Concern: GIS-mapped streams 1,2 and 3 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: There is a Class II GIS-mapped alluvial fan channel west of unit. Response: Category A protection (BMP 12.6, 13.14). No harvest within active portion of fan or 140 feet of channel (RIP III). Harvest no more than 10% of trees on remainder of fan (RIP III).</p>
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<p>GEOLOGY/KARST: Concern: There are about 18 acres of moderate vulnerability karst along the eastern boundary of Unit 149. Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).</p>

<p>HERITAGE RESOURCES: No concerns</p>

<p>SCENERY/RECREATION: No concerns</p>

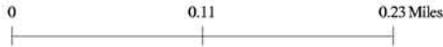
<p>SOILS/WETLANDS: Slopes range from 45-90%. Soils are generally well drained with somewhat poorly drained soils on slopes less than 50%. There are 3 acres of slopes greater than 72% near the Northeast boundary. The soils are generally well-drained over bedrock. There are no signs of instability, hollow topography or past landslides in this area. These slopes are straight, smooth slopes about 200 feet long. Any potential landslide would not enter any stream or water body. These small areas are suitable for the proposed IT25 RX. Slopes up to 80% may be harvested with the proposed helicopter prescription and full suspension. Avoid slopes greater than 80% in Unit 149. Only 25% of the volume in these small areas should be removed, avoid group selection and full suspension is required (BMP 13.5, 13.9). Area to the northeast of Unit 149 dropped for stability concerns. An onsite analysis for suitability on slopes over 72% was conducted on this unit as per Forest Plan Standards (soil resource report).</p>

<p>WILDLIFE: Concern: Unit contains high value marten habitat. Response: Proposed harvest system will not create openings greater than 2 acres in size within this habitat. Retention of 75% of the basal area will meet marten standards and guidelines. Concern: Bear den located in unit. Response: Maintain a 200-foot forested buffer around den sites.</p>
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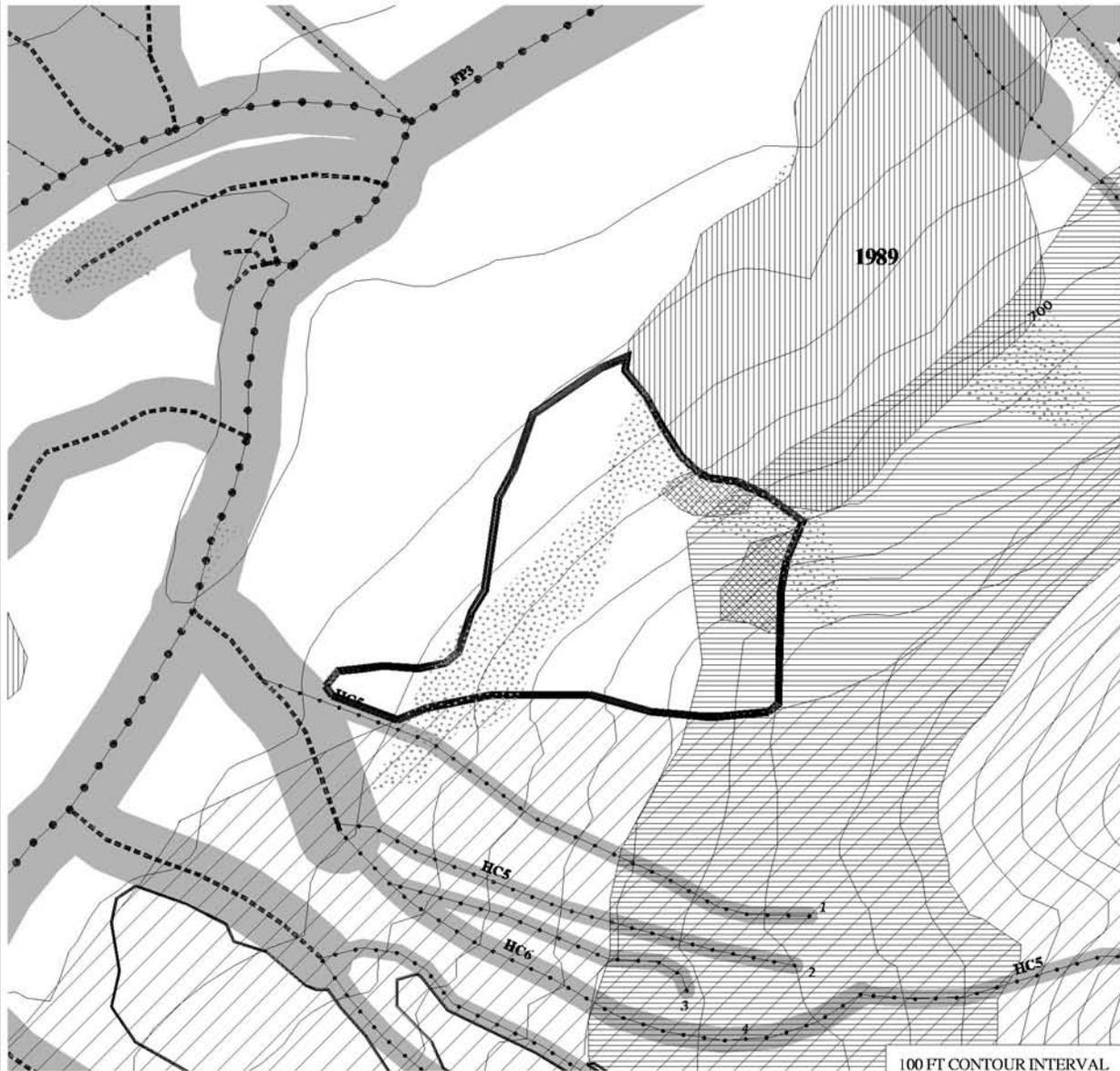
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 149 VCU: 2100 HARVEST SYSTEM: Helicopter

UNIT 149 OCCURS IN ALTERNATIVE(S): 4



MAPSCALE 1:7200



100 FT CONTOUR INTERVAL

- Existing Harvest Unit with Year Harvested Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road
- Temporary Road
- Existing NFS Road
- NFS Road Reconstruction
- Class I Stream
- Class II Stream
- Class III Stream

- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Inventoried Roadless
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes > 72%
- Existing Rock Pit

- HC6
- 1



Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	149	In Alternatives:	4	Total Unit Acres:	23.5	Vol Strata Acres:	High 7.6 Med: 15.9 Low:0
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	212	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists primarily of 12-38" DBH western hemlock (59% BA) and 12-30" DBH spruce (30%) and 12-22" DBH mountain hemlock (11% BA) there is also a minor component of 10-16" DBH yellow-cedar in the eastern half of the unit. Western hemlock advanced regeneration is abundant with some spruce also. Wind risk is low throughout unit.</p>
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<p>Silvicultural Objective/Desired Future Condition: Maintain or create a stand with three or more distinct age (size) classes of trees that maintains species diversity, provides for a high degree of structural diversity and meets Forest Plan scenery and high value marten habitat requirements.</p>

<p>Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 25 percent of existing basal (143 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
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<p>TIMBER/LOGGING: Refer to Silvicultural RX and marking guides for single tree selection guidelines to facilitate helicopter yarding.</p>

<p>ENGINEERING/ROADS: N/A</p>

<p>BOTANY RESOURCES: No concerns</p>

<p>FISH/WATERSHED: Concern: GIS-mapped streams 1,2 and 3 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: There is a Class II GIS-mapped alluvial fan channel west of unit. Response: Category A protection (BMP 12.6, 13.14). No harvest within active portion of fan or 140 feet of channel (RIP III). Harvest no more than 10% of trees on remainder of fan (RIP III).</p>
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<p>GEOLOGY/KARST: Concern: There are about 5 acres of moderate vulnerability karst along the eastern boundary of Unit 149. Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).</p>
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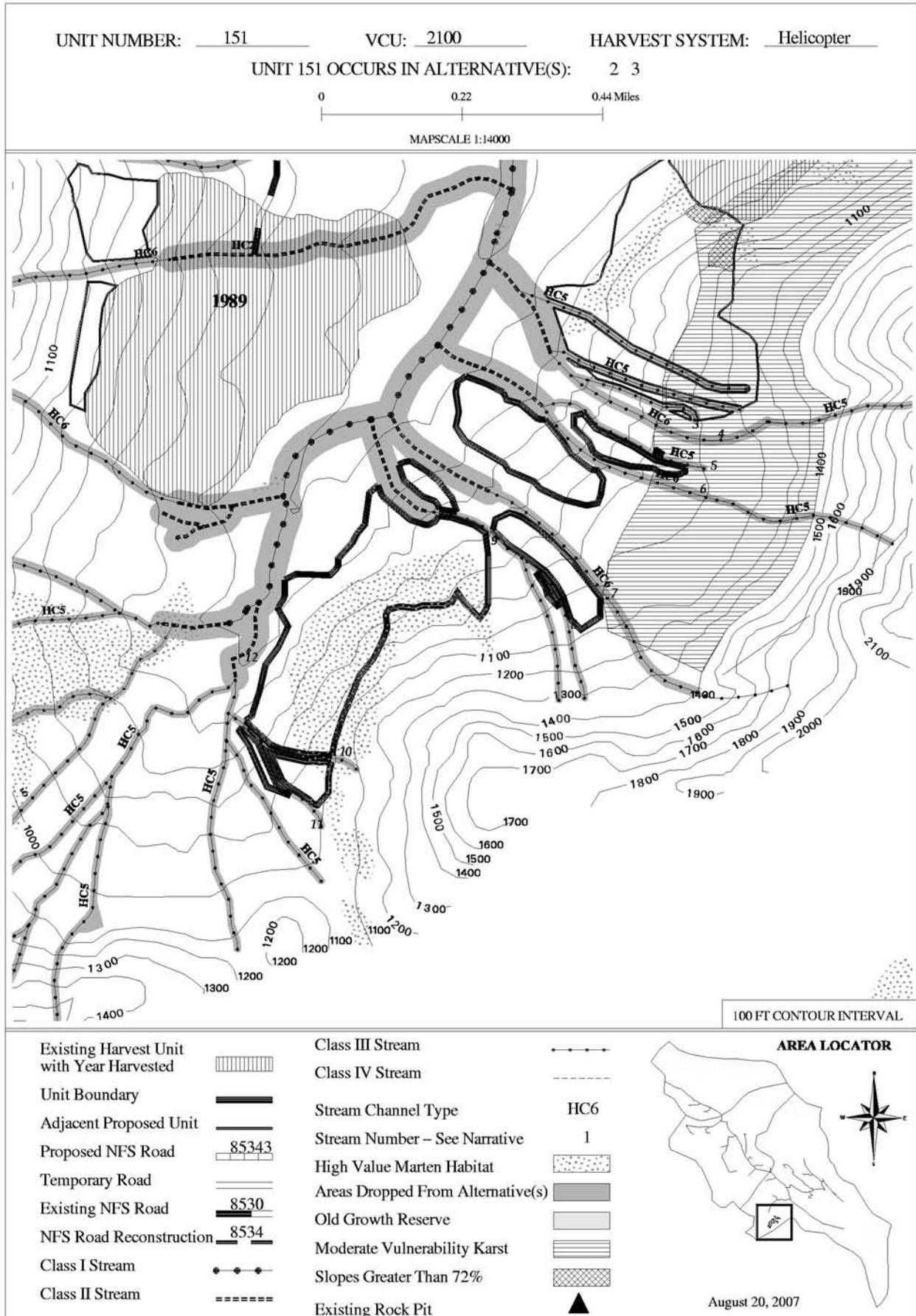
<p>HERITAGE RESOURCES: No concerns</p>

<p>SCENERY/RECREATION: No concerns</p>

<p>SOILS/WETLANDS: Slopes range from 45-90%. Soils are generally well drained with somewhat poorly drained soils on slopes less than 50%. There are 3 acres of slopes greater than 72% near the Northeast boundary. The soils are generally well-drained over bedrock. There are no signs of instability, hollow topography or past landslides in this area. These slopes are straight, smooth slopes about 200 feet long. Any potential landslide would not enter any stream or water body. These small areas are suitable for the proposed IT25 RX. Slopes up to 80% may be harvested with the proposed helicopter prescription and full suspension. Avoid slopes greater than 80% in Unit 149. Only 25% of the volume in these small areas should be removed, avoid group selection and full suspension is required (BMP 13.5, 13.9). Area to the northeast of Unit 149 dropped for stability concerns. An onsite analysis for suitability on slopes over 72% was conducted on this unit as per Forest Plan Standards (soil resource report).</p>

<p>WILDLIFE: Concern: Unit contains high value marten habitat. Response: Proposed harvest system will not create openings greater than 2 acres in size within this habitat. Retention of 75% of the basal area will meet marten standards and guidelines.</p>

IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	151	In Alternatives:	2, 3	Total Unit Acres:	72.8	Vol Strata Acres:	High: 24.7 Med: 32.0 Low: 16.1
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	859	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists of 9-38" DBH western hemlock (64% BA), 12-47" DBH spruce (23% BA), 9-30" DBH mountain hemlock (10% BA) and 24-27" DBH yellow-cedar (3% BA-eastern half). The northern portion contains the best volume. Slopes are fairly uniform and mostly-well drained in this part of the unit. The southern portion is less productive. Western hemlock advanced regeneration is abundant with some yellow-cedar and spruce also. Wind risk is moderate.</p>

<p>Silvicultural Objective/Desired Future Condition: Maintain or create a stand with three or more distinct age (size) classes of trees that maintains species diversity, provides for a high degree of structural diversity and meets Forest Plan scenery and high value marten habitat requirements.</p>

<p>Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 40 percent of existing basal (190 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
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<p>TIMBER/LOGGING: Refer to Silvicultural RX and marking guides for single tree selection guidelines to facilitate helicopter yarding.</p>

<p>ENGINEERING/ROADS: N/A</p>

<p>BOTANY RESOURCES: No concerns</p>

<p>FISH/WATERSHED: Concern: GIS-mapped streams 5 and 6 are Class III HC channels that converge into a Class II HC channel. Response: Category B protection for Class III segments (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Category A protection for Class II segment. (BMP 12.6, 13.14). No harvest within 100 feet and side-slope break (RIP III).</p>

<p>GEOLOGY/KARST: Concern: There is less than 1 acre of moderate vulnerability karst in Unit 151. Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).</p>

<p>HERITAGE RESOURCES: No concerns</p>

<p>SCENERY/RECREATION: No concerns</p>

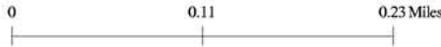
<p>SOILS/WETLANDS: Slopes range from 45-65% in Unit 151. Concern: A minimum of partial suspension is required to meet soil quality standards (BMP 13.9). Response: Unit is proposed as full suspension, which exceeds partial suspension requirements. Area to the southeast of Unit 151 dropped for stability concerns (BMP 13.5).</p>
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<p>WILDLIFE: Concern: Unit contains high value marten habitat. Response: Proposed harvest system will not create openings greater than 2 acres in size within this habitat. Retention of 60% of the basal area will meet marten standards and guidelines.</p>

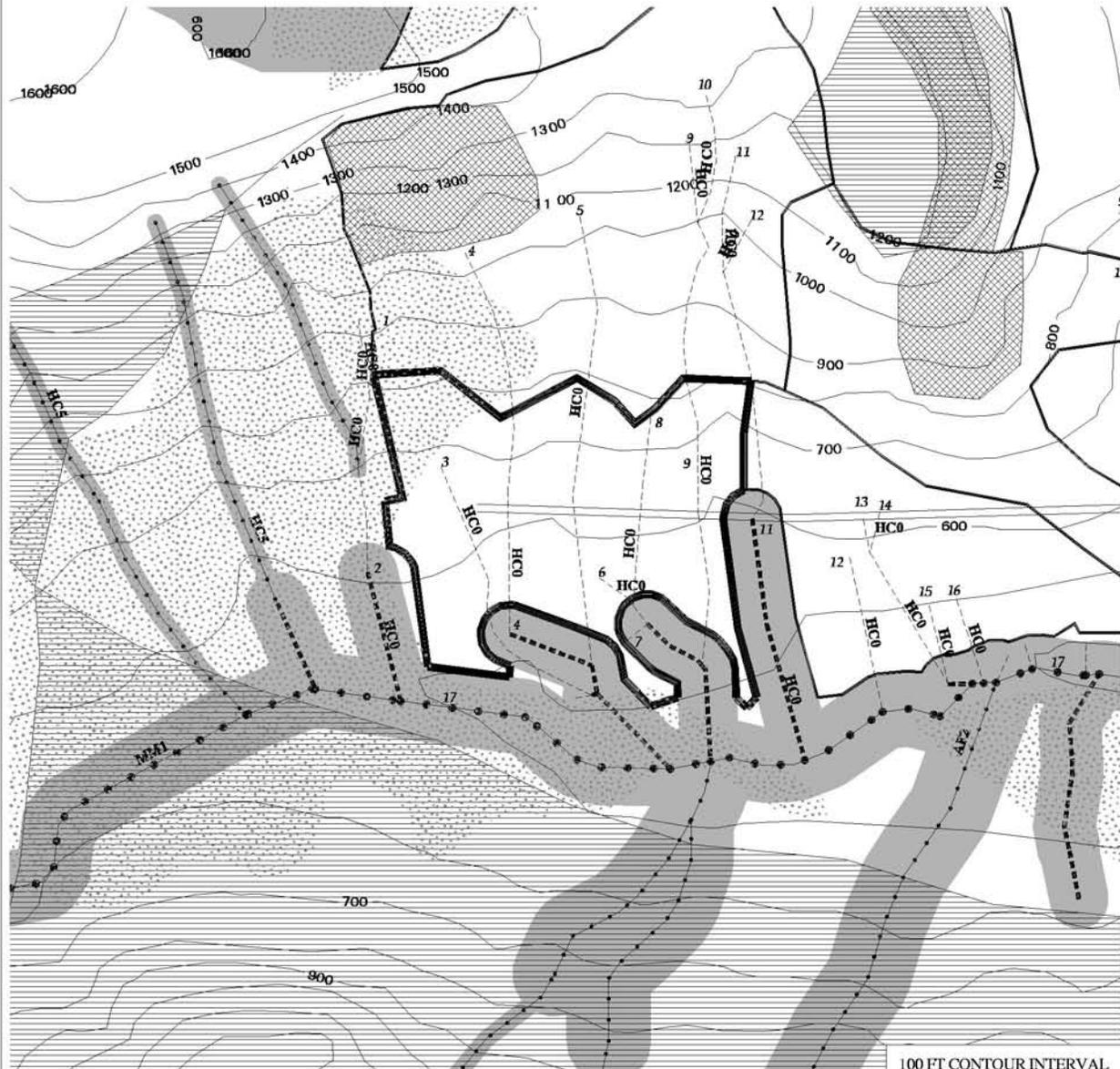
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 163 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 163 OCCURS IN ALTERNATIVE(S): 2



MAPSCALE 1:7200



100 FT CONTOUR INTERVAL

- Existing Harvest Unit with Year Harvested
- Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road 85343
- Temporary Road
- Existing NFS Road 8530
- NFS Road Reconstruction 8534
- Class I Stream
- Class II Stream

- Class III Stream
- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes Greater Than 72%
- Existing Rock Pit

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- HC6
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Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	163	In Alternatives:	2	Total Unit Acres:	22.6	Vol Strata Acres:	High: 2.2 Med: 20.4 Low: 0
VCU Number:	2100	Harvest System:	C	Net Estimated Harvest Volume (MBF):	514	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 9-34" DBH western hemlock (55% BA), 40-42" DBH spruce (18% BA), and 16-22" DBH yellow-cedar (27% BA). Western hemlock and yellow-cedar advanced regeneration is moderately abundant with some spruce also present. Wind risk is moderate to high.

Silvicultural Objective/Desired Future Condition: Create an even-aged managed stand of the same species composition as the original stand that meets Forest Plan scenery and high value marten habitat requirements, uses an economical regeneration method, and is windfirm, free of mistletoe infection and growing at full site potential.

Silvicultural Prescription: Even-aged management – clearcut: This unit includes stream buffers. This unit contains 2 acres of high value marten habitat in the NW corner. Designate reserve trees (including yellow-cedar if possible) of sufficient size and condition within high value marten habitat to meet marten standards and guidelines. Clump trees adjacent to stream buffer if possible as specified under wildlife section. High wind risk area is along northern unit boundary. A high wind risk boundary may be created on this boundary by retaining trees less than 16" DBH within specified distance of one site tree height from boundary. Review during layout to determine if windfirming is warranted.

TIMBER/LOGGING: This unit is comprised of two cable settings that are defined by a logical setting break based on topography and lateral yarding capabilities.

ENGINEERING/ROADS: Temporary road 66 accesses unit from existing Road 8534 via planned NFSR 853092. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to construction.

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Lower sections of streams 4, 6, and 11 are Class II HC channels.

Response: Category A protection (BMP 12.6, 13.14). No harvest within 100 feet and side-slope break (RIP III). Manage 120 feet beyond stream buffer for windfirmness, or increase width of stream buffer if selective harvest is not feasible. **Concern:** Stream 2 is a Class II MM channel. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel or within floodplain (RIP III). Manage 120 feet beyond stream buffer for windfirmness, or increase width of stream buffer if selective harvest is not feasible. **Concern:** Streams 1, 3, 4 (upper) 5, 6 (upper) 7, and 9 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 9 is a Class IV HC channel with unstable side-slopes. **Response:** Category B protection and split yard to protect side-slopes. **Concern:** Temporary road – stream crossings **Response:** Stream 11 crossing will be a log stringer bridge unless the road is located above fish habitat (BMP 14.17). Other crossing structures and locations will be approved by USFS prior to construction. Upon completion of unit harvest, restore natural drainage patterns by removing road fill from channels and installing water bars as necessary (BMP 13.16). Seed and fertilize disturbed soil adjacent to streams (BMP 12.17)

GEOLOGY/KARST: No carbonate bedrock found within unit. No karst resource concerns identified.

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

Summary of Concerns, Responses, BMPs and Mitigation

SOILS/WETLANDS: slopes range from 15-55% in Unit 163. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9) Area to the northwest of Unit 163 dropped for stability concerns (BMP 13.5).

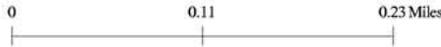
WILDLIFE: Concern: Unit contains high value marten habitat. **Response:** Retain 10-20% of original stand structure as measured by basal area or trees per acre in high value marten habitat. Maintain an average of 4 large live trees/acre (20-30" DBH or larger), 3 snags or decadent trees/acre (20-30" DBH or larger), and 3 large, downed trees/acre (20-30" DBH or larger and 10 feet long). Where trees this large are not available, substitute next largest trees. Retained trees can be clumped to maintain a reasonable assurance of windfirmness and to minimize operational difficulties. Retention should be contiguous with retention in Unit 1631.

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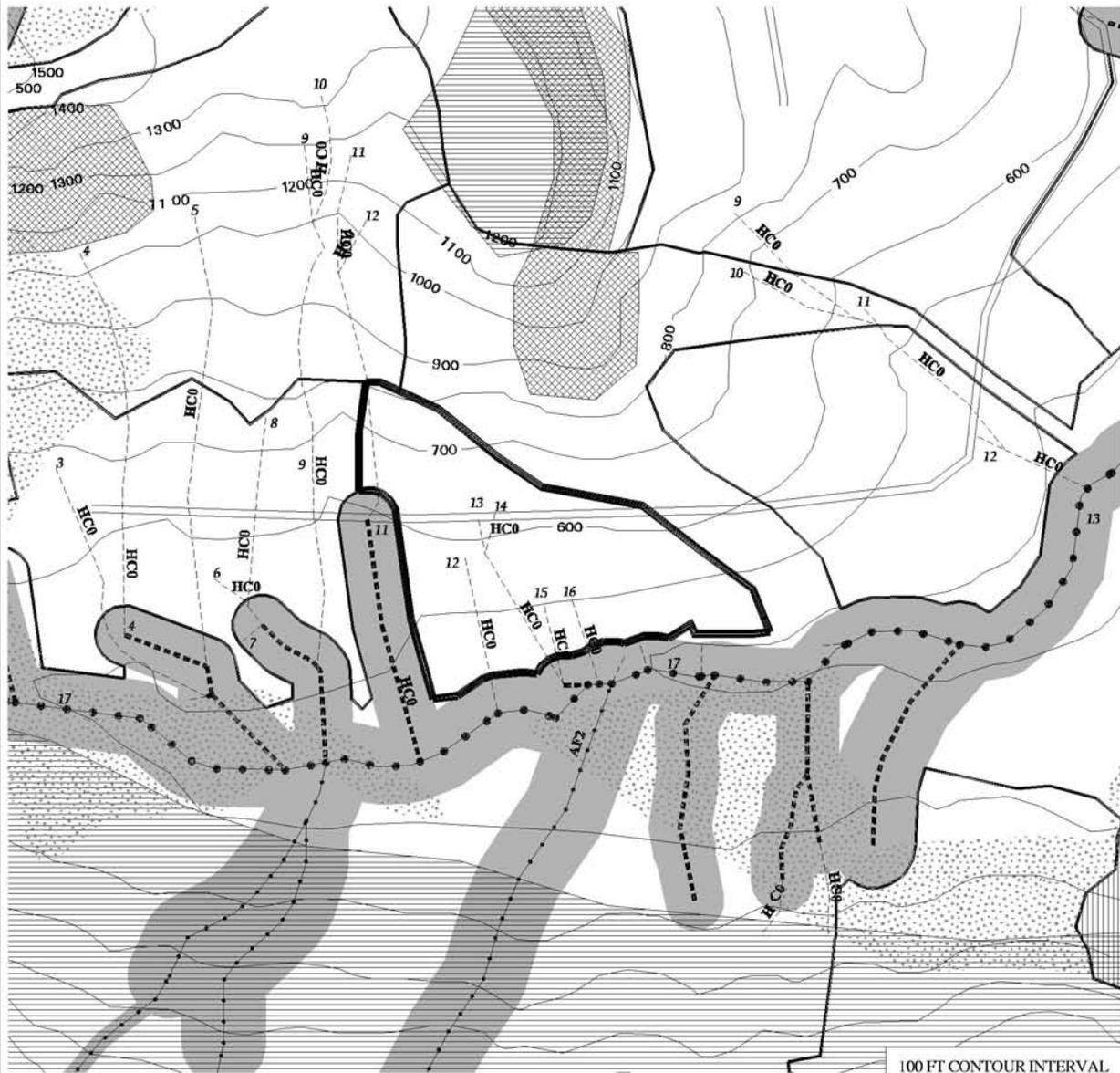
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 164 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 164 OCCURS IN ALTERNATIVE(S): 2



MAPSCALE 1:7200

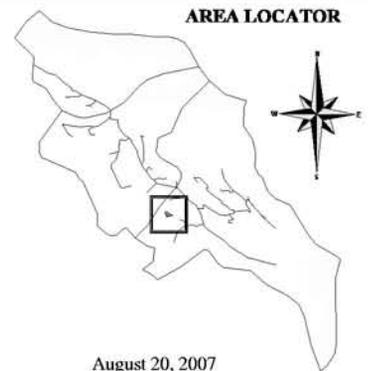


100 FT CONTOUR INTERVAL

- Existing Harvest Unit with Year Harvested
- Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road 85343
- Temporary Road
- Existing NFS Road 8530
- NFS Road Reconstruction 8534
- Class I Stream
- Class II Stream

- Class III Stream
- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes Greater Than 72%
- Existing Rock Pit

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- HC6
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Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	164	In Alternatives:	2	Total Unit Acres:	16.9	Vol Strata Acres:	High: 0 Med: 16.9 Low: 0
VCU Number:	2100	Harvest System:	C	Net Estimated Harvest Volume (MBF):	378	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of a good mix of 11-30" western hemlock (39% BA), 20-27" DBH mountain hemlock (11% BA), 20-35" DBH spruce (22% BA) and 16-34" DBH yellow-cedar (28% BA). Western hemlock and yellow-cedar advanced regeneration is moderately abundant with some spruce also present. Wind risk is moderate to high.

Silvicultural Objective/Desired Future Condition: Create an even-aged managed stand of the same species composition as the original stand that meets Forest Plan scenery and high value marten habitat requirements, uses an economical regeneration method, and is windfirm, free of mistletoe infection and growing at full site potential.

Silvicultural Prescription: Even-aged management – clearcut: This unit includes stream buffers. High wind risk area is along northern unit boundary. A high wind risk boundary may be created on this boundary by retaining trees less than 16" DBH within specified distance of one site tree height from boundary. Review during layout to determine if windfirming is warranted.

TIMBER/LOGGING: This unit is comprised of one cable setting.

ENGINEERING/ROADS: Temporary road 66 accesses unit from existing Road 8534 via planned NFSR 853092. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to construction.

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Stream 11 (upper) is a Class IV HC channel with unstable side-slopes draining into fish habitat. **Response:** Category B protection with split yard to protect side-slopes (BMP 13.16, RIP II). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 11 (lower) is a Class II HC channel. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 100 feet and side-slope break (RIP III). Manage 120 feet beyond stream buffer for windfirmness, or increase width of stream buffer if selective harvest is not feasible (RIP II). **Concern:** Streams 12, 13, 14, 15, and 16 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 17 is a Class I MM/MC channel along the southern boundary of the unit. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel (RIP III). Manage 120 feet beyond stream buffer for windfirmness, or increase width of stream buffer if selective harvest is not feasible (RIP II). **Concern:** Temporary road – stream crossings **Response:** crossing structures and locations will be approved by USFS prior to construction. Upon completion of unit harvest, restore natural drainage patterns by removing road fill from channels and installing water bars as necessary (BMP 13.16). Seed and fertilize disturbed soil adjacent to streams (BMP 12.17)

GEOLOGY/KARST: No carbonate bedrock found within unit. No karst resource concerns identified.

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

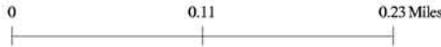
SOILS/WETLANDS: Slopes range from 15-55% in Unit 164. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)

WILDLIFE: No concerns

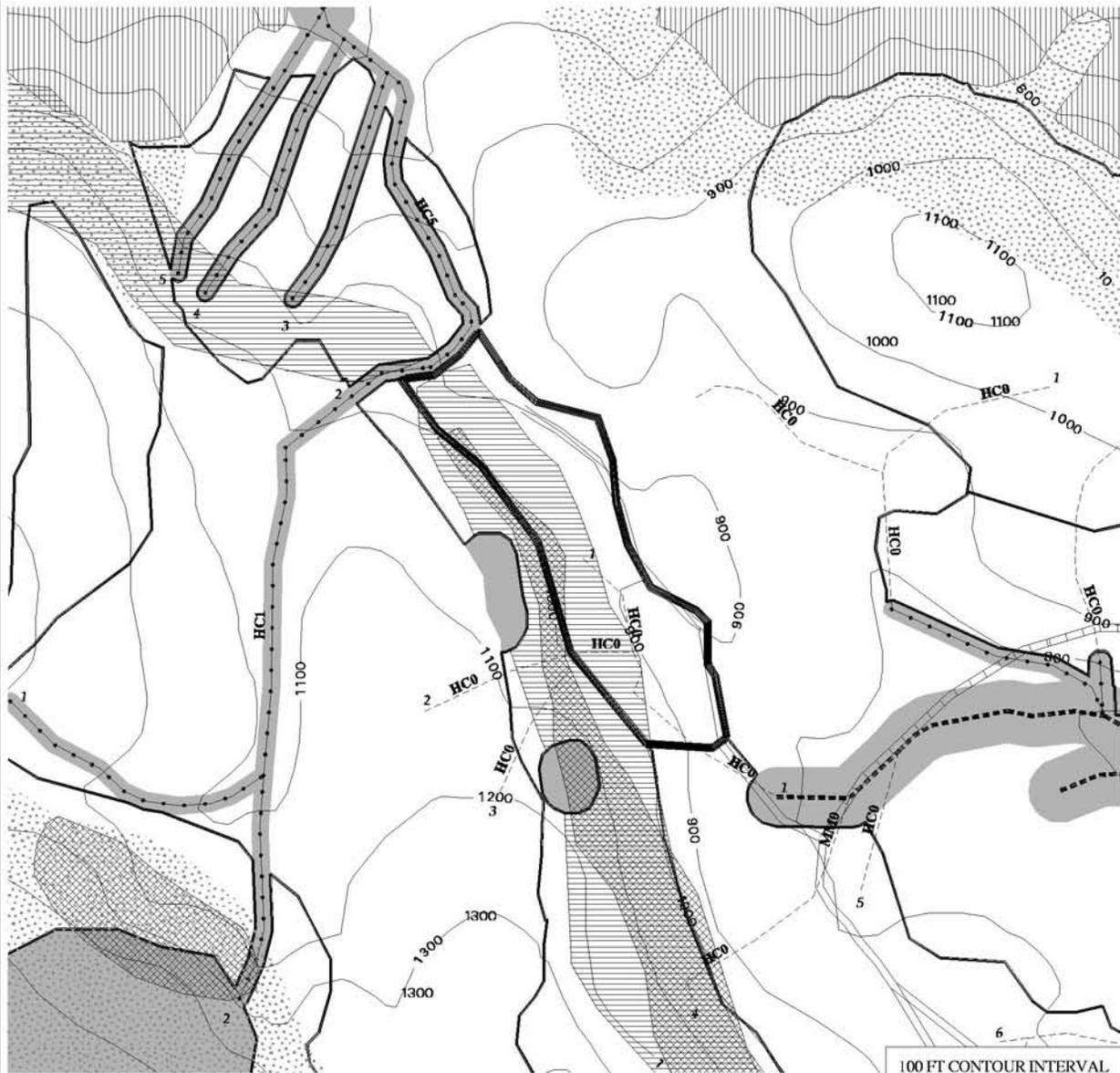
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 165 VCU: 2090/2100 HARVEST SYSTEM: Cable

UNIT 165 OCCURS IN ALTERNATIVE(S): 2



MAPSCALE 1:7200

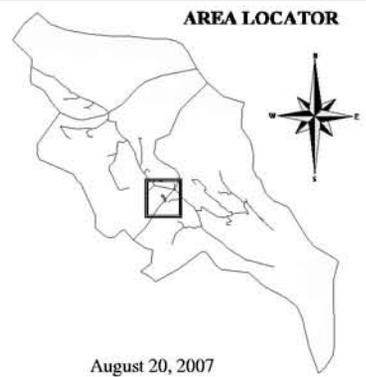


100 FT CONTOUR INTERVAL

- Existing Harvest Unit with Year Harvested
- Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road 85343
- Temporary Road
- Existing NFS Road 8530
- NFS Road Reconstruction 8534
- Class I Stream
- Class II Stream

- Class III Stream
- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes Greater Than 72%
- Existing Rock Pit

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- HC6
- 1



Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	165	In Alternatives:	2	Total Unit Acres:	12.3	Vol Strata Acres:	High: 0 Med: 3.4 Low: 8.9
VCU Number:	2100	Harvest System:	C	Net Estimated Harvest Volume (MBF):	204	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 12-35"DBH mountain hemlock (58% BA), 28-38" DBH western hemlock (25% BA), with a smaller component of 16-20" DBH spruce (8% BA) and 12-16" DBH yellow-cedar (8% BA). Western hemlock advanced regeneration is abundant with lesser amounts of spruce and yellow-cedar. Wind risk is moderate to high.

Silvicultural Objective/Desired Future Condition: Create an even-aged managed stand of the same species composition as the original stand that meets Forest Plan scenery and high value marten habitat requirements, uses an economical regeneration method, and is windfirm, free of mistletoe infection and growing at full site potential.

Silvicultural Prescription: Even-aged management – clearcut: This unit contains stream buffers with RAW zones. For RAW zone retain trees less than 16" DBH within specified distance (refer to fish/watershed section) from windward (southeasterly) edge of stream buffers to minimize windthrow in buffer.

TIMBER/LOGGING: This unit is comprised of two cable settings that are defined by a logical setting break based on topography and lateral yarding capabilities.

ENGINEERING/ROADS: Temporary road 65A accesses unit from existing Road 8534 via planned NFSR 853092. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to construction.

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Northern boundary stream (1) is a Class III HC channel. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). **Concern:** Streams 1,2,and 3 within unit are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 1 enters a Class II MM channel on the southern margin of unit. **Response:** Locate unit north of blue and white flagged channel if feasible. Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel (RIP III). **Concern:** Windthrow risk is moderate to high. **Response:** Manage for windfirmness 120 feet beyond no-cut buffers. **Concern:** Temporary road – stream crossings **Response:** crossing structures and locations will be approved by USFS prior to construction. Upon completion of unit harvest, restore natural drainage patterns by removing road fill from channels and installing water bars as necessary (BMP 13.16). Seed and fertilize disturbed soil adjacent to streams (BMP 12.17).

GEOLOGY/KARST: Concern: There are about 6 acres of moderate vulnerability karst along the western boundary of Unit 165. **Response:** A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

Summary of Concerns, Responses, BMPs and Mitigation

SOILS/WETLANDS: Slopes range from 35-110% in Unit 165, with most of the unit about 45-55%. There is less than 1 acre of slopes greater than 72% along the backline (western boundary) of Unit 165. The soils are shallow to bedrock and well-drained on smooth straight topography. Most of the slopes greater than 72% are contained in Unit 1652. There are not signs of instability in this unit and any potential landslide would not enter any stream or water body. These small areas are suitable for the proposed cable harvest with full suspension (BMP 13.5, 13.9). An onsite analysis for suitability on slopes over 72% was conducted on this unit as per Forest Plan Standards (soil resource report).

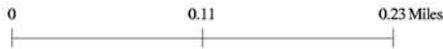
WILDLIFE: No concerns

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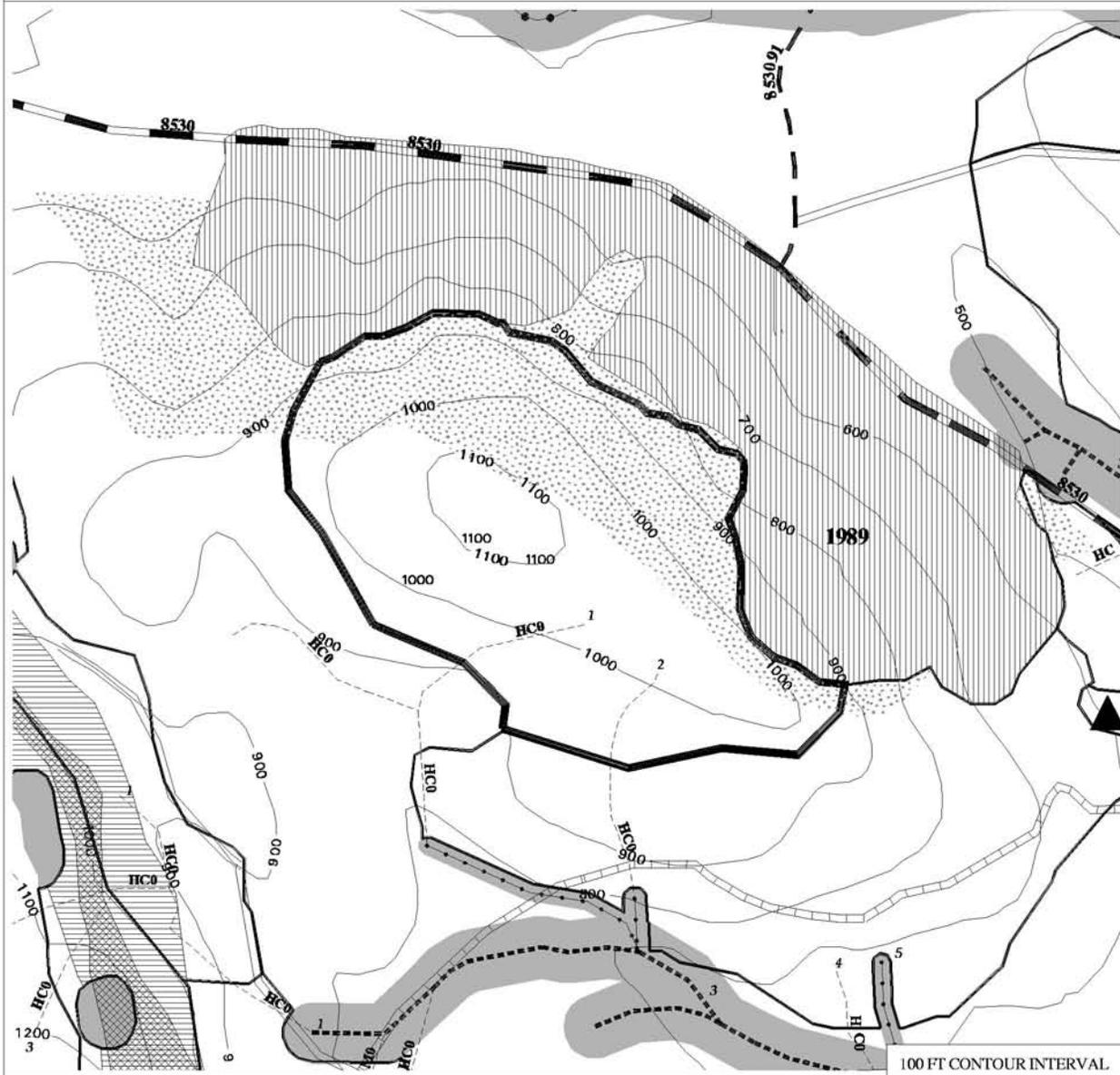
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 167 VCU: 2090/2100 HARVEST SYSTEM: Helicopter

UNIT 167 OCCURS IN ALTERNATIVE(S): 2 3



MAPSCALE 1:7200



100 FT CONTOUR INTERVAL

- Existing Harvest Unit with Year Harvested
- Unit Boundary
- Adjacent Proposed Unit
- Proposed NFS Road 85343
- Temporary Road
- Existing NFS Road 8530
- NFS Road Reconstruction 8534
- Class I Stream
- Class II Stream

- Class III Stream
- Class IV Stream
- Stream Channel Type
- Stream Number – See Narrative
- High Value Marten Habitat
- Areas Dropped From Alternative(s)
- Old Growth Reserve
- Moderate Vulnerability Karst
- Slopes Greater Than 72%
- Existing Rock Pit

-
-
- HC6
- 1

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	167	In Alternatives:	2, 3	Total Unit Acres:	41.7	Vol Strata Acres:	High: 17.5 Med: 24.2 Low: 0
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	556	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 12-39" DBH western hemlock (48% BA), 16-47" DBH spruce (18% BA), 9-40" DBH yellow-cedar (18% BA) and 9-30" DBH mountain hemlock (16% BA). Soils are well drained except for the ridge top in the center of the unit which is scabby with poorer drainage. Wind risk is moderate.

Silvicultural Objective/Desired Future Condition: Maintain or create a stand with three or more distinct age (size) classes of trees that maintains species diversity, provides for a high degree of structural diversity and meets Forest Plan scenery and high value marten habitat requirements.

Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 40 percent of existing basal (274 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate helicopter yarding. To offset the wind risk on the ridge top in the center of the unit decrease the basal area removed to 25% and target the tallest trees for removal. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.

TIMBER/LOGGING: Refer to Silvicultural RX and marking guides for single tree selection guidelines to facilitate helicopter yarding.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Stream 1 and 2 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16)

GEOLOGY/KARST: No carbonate bedrock found within unit. No karst resource concerns identified.

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

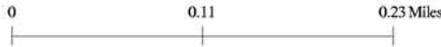
SOILS/WETLANDS: Slopes range from 20-80% in Unit 167. There are about 3 acres of slopes greater than 72%. **Concern:** Areas greater than 72% slope are along the northern boundary. **Response:** Involve a soil scientist during layout to verify small inclusions where slopes over 72% are suitable for timber harvest. (BMP 13.9)

WILDLIFE: **Concern:** Unit contains high value marten habitat. **Response:** Proposed harvest system will not create openings greater than 2 acres in size within this habitat. Retention of 60% of the basal area will meet marten standards and guidelines. **Concern:** Red-tailed hawk observed adjacent to unit. **Response:** Maintain a 600-foot no-harvest buffer that is windfirm around active raptor nest sites if identified and restrict harvest and road building activities from March 1 to July 31 within the buffer.

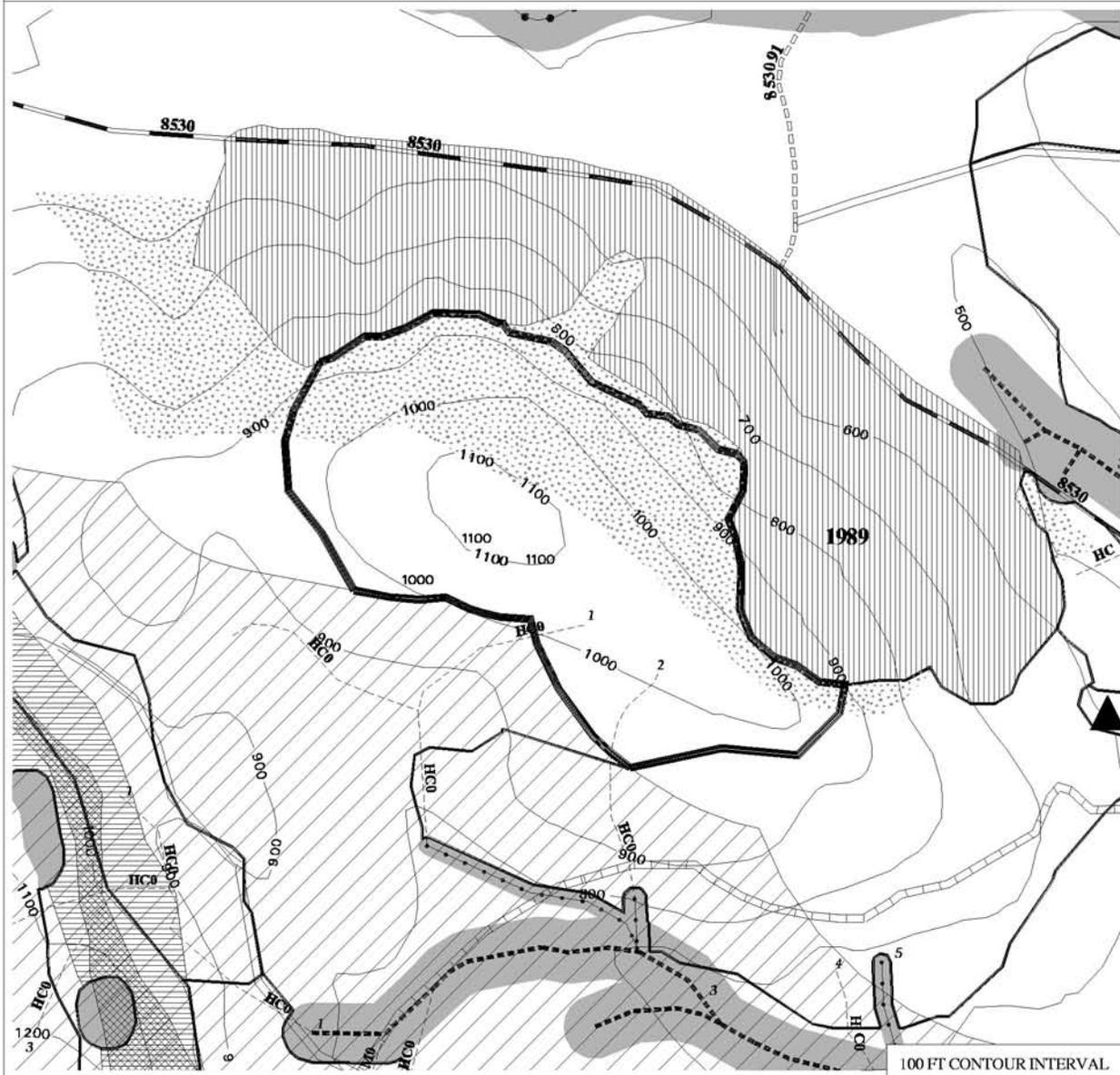
IYOUKTUG TIMBER SALE UNIT CARD PLANNED HARVEST UNIT MAP

UNIT NUMBER: 167 VCU: 2090/2100 HARVEST SYSTEM: Helicopter

UNIT 167 OCCURS IN ALTERNATIVE(S): 4



MAPSCALE 1:7200



Existing Harvest Unit with Year Harvested		Class IV Stream		AREA LOCATOR
Unit Boundary		Stream Channel Type	HC6	
Adjacent Proposed Unit		Stream Number – See Narrative	1	
Proposed NFS Road		High Value Marten Habitat		
Temporary Road		Areas Dropped From Alternative(s)		
Existing NFS Road		Inventoried Roadless		
NFS Road Reconstruction		Old Growth Reserve		
Class I Stream		Moderate Vulnerability Karst		
Class II Stream		Slopes > 72%		
Class III Stream		Existing Rock Pit		

August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS
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Unit Number:	167	In Alternatives:	4	Total Unit Acres:	37.8	Vol Strata Acres:	High: 17.5 Med: 20.3 Low: 0
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	511	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 12-39" DBH western hemlock (48% BA), 16-47" DBH spruce (18% BA), 9-40" DBH yellow-cedar (18% BA) and 9-30" DBH mountain hemlock (16% BA). Soils are well drained except for the ridge top in the center of the unit, which is scabby with poorer drainage. Wind risk is moderate.

Silvicultural Objective/Desired Future Condition: Maintain or create a stand with three or more distinct age (size) classes of trees that maintains species diversity, provides for a high degree of structural diversity and meets Forest Plan scenery and high value marten habitat requirements.

Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 40 percent of existing basal (274 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate helicopter yarding. To offset the wind risk on the ridge top in the center of the unit decrease the basal area removed to 25% and target the tallest trees for removal. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.

TIMBER/LOGGING: Refer to Silvicultural RX and marking guides for single tree selection guidelines to facilitate helicopter yarding.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Stream 1 and 2 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16)

GEOLOGY/KARST: No carbonate bedrock found within unit. No karst resource concerns identified.

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 20-80% in Unit 167. There are about 3 acres of slopes greater than 72%. **Concern:** Areas greater than 72% slope are along the northern boundary. **Response:** Involve a soil scientist during layout to verify small inclusions where slopes over 72% are suitable for timber harvest. (BMP 13.9)

WILDLIFE: **Concern:** Unit contains high value marten habitat. **Response:** Proposed harvest system will not create openings greater than 2 acres in size within this habitat. Retention of 75% of the basal area will meet marten standards and guidelines.