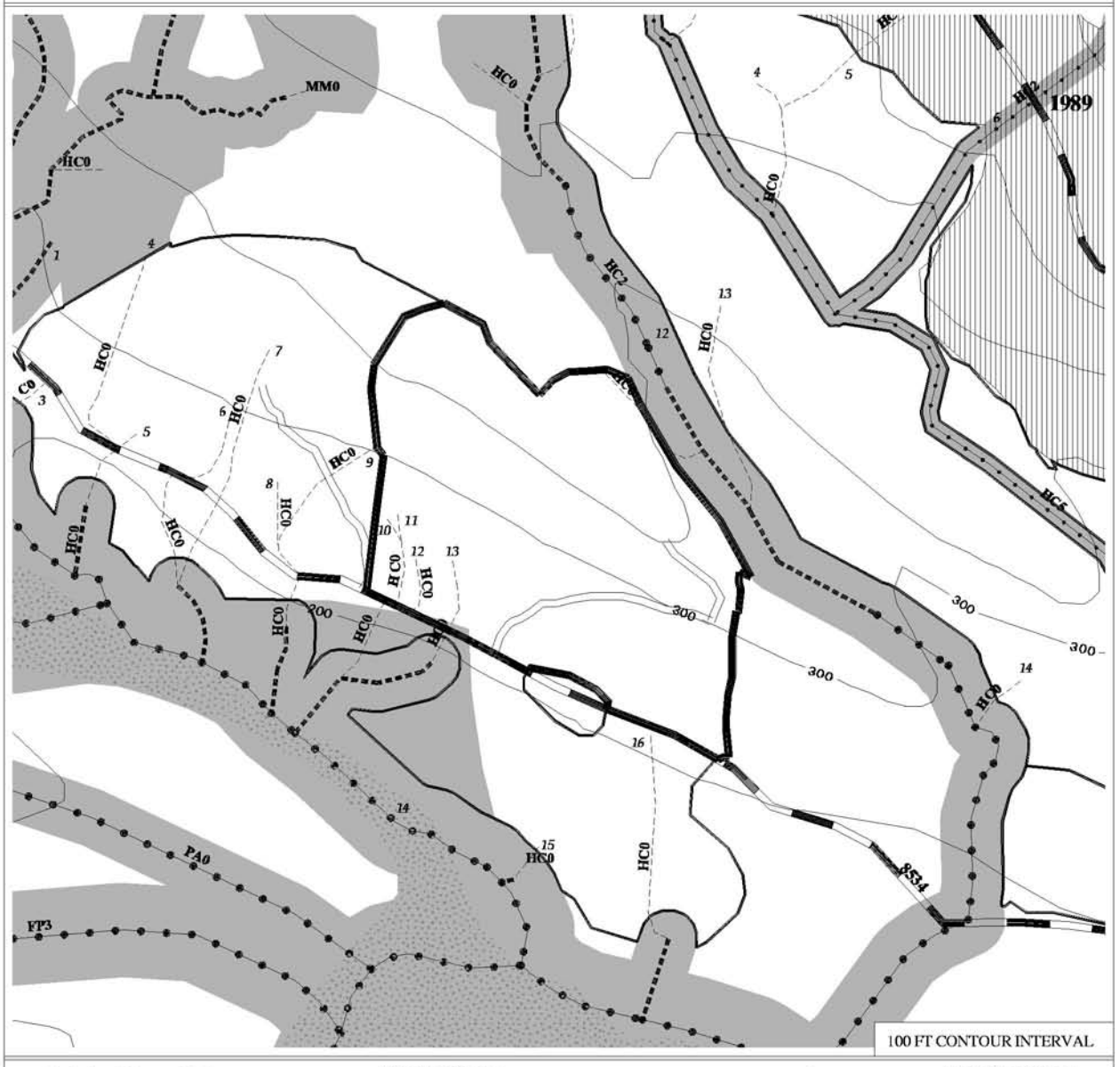
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1081 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1081 OCCURS IN ALTERNATIVE(S): 2 3 4 5

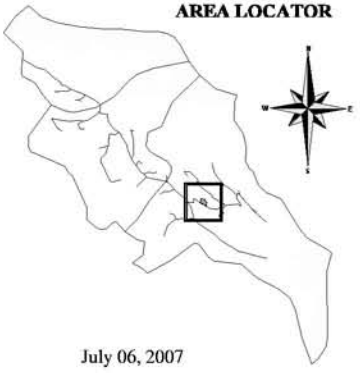
0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Rock Pit

AREA LOCATOR



July 06, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1081**	**In Alternatives:**	2, 3, 4, 5	**Total Unit Acres:**	30.0	**Vol Strata Acres:**	High: 0 Med: 0.1 Low: 29.9
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	435	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 9-32" DBH mountain hemlock (47% BA), 9-24" DBH western hemlock (35% BA), and 16-28" DBH yellow-cedar (17% BA). Western hemlock advanced regeneration is common with some spruce and yellow-cedar also present. Wind risk is 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 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.

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.

ENGINEEERING/ROADS: Temporary road 8 accesses unit from existing Road 8534. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to construction.

BOTANY RESOURCES: Numerous rare plant populations; largely low-volume open forested wetland habitat. **Response:** Don't harvest the SW corner of Unit 1081, from the entry point of Temp Rd. 8 running NW above the large muskeg in Unit 108.

FISH/WATERSHED: Concern: Streams 10, 11, 12, and 13 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16).**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 35-65% in Unit 1081. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)

WILDLIFE: Concern: Goshawk observed adjacent to the unit. Surveys did not identify a nest site. **Response:** Goshawk is likely associated with identified nest site. If a goshawk nest is identified in or adjacent to the unit, contact the project biologist; follow Forest Plan direction for the development of the nest buffer. **Concern:** Red-tailed hawk was observed around 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: 1631 VCU: 2100/2090 HARVEST SYSTEM: Helicopter

UNIT 1631 OCCURS IN ALTERNATIVE(S): 2 3

0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR

August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1631**	**In Alternatives:**	2, 3	**Total Unit Acres:**	41.6	**Vol Strata Acres:**	High: 5.4 Med: 35.4 Low: 0.8
VCU Number:	2100	**Harvest System:**	HE	**Net Estimated Harvest Volume (MBF):**	504	**Prescription /Percent Retention:**	ST40

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 9-42" DBH western hemlock (70% BA), 12-39" DBH spruce (25% BA), and 9-12" DBH yellow-cedar (3% BA) and 9-12" DBH mountain hemlock (2-3% 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: 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 (350 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.

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

ENGINEEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Stream 1, 4, 5, 9, 10, and 12 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 11 is a Class IV HC channel with unstable side-slopes that runs into a fish stream. **Response:** Category B protection with split yard to protect side-slopes. (BMP 13.16, RIP III).**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 is less than1 acre of moderate vulnerability karst along the eastern boundary of Unit 1631. **Response:** A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 40-90% in Unit 1631. **Concern:** There are about 7 acres of slopes greater than 72% in Unit 1631. The poorly drained soils on smooth slopes indicate a high risk for landslides. **Response:** Avoid this portion of Unit 1631 as any landslides would enter a live stream (BMP 13.5 and 13.9). The rest of 1631 is suitable for the proposed helicopter harvest. Area to the west of Unit 1631 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).

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:** Goshawk observed adjacent to the unit. Surveys did not identify a nest site. **Response:** Goshawk is likely associated with identified nest site. If a goshawk nest is identified in or adjacent to the unit, contact the project biologist; follow Forest Plan direction for the development of the nest buffer.

IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1641 VCU: 2100 HARVEST SYSTEM: Cable

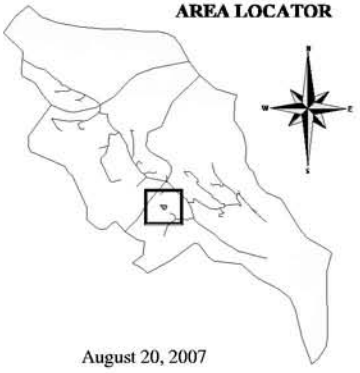
UNIT 1641 OCCURS IN ALTERNATIVE(S): 2

0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1641**	**In Alternatives:**	2	**Total Unit Acres:**	21.0	**Vol Strata Acres:**	High: 0 Med: 18.3 Low: 2.7
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	447	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 16-23" DBH western hemlock (39% BA) and 28-35" DBH yellow-cedar (39% BA) with some 12-19" DBH mountain hemlock (16% BA) and 9-12" DBH spruce (7% BA). There is considerable standing dead hemlock in this stand. 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. This unit does not contain high value marten habitat.

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

ENGINEEERING/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:** Streams 9-12 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Southern boundary stream is a Class I MC channel. **Response:** Locate unit boundary 100 feet north of channel. Category A protection (BMP 13.61, RIP-III). Manage 120 feet beyond no-cut buffer for windfirmness. **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 35-55% in Unit 1641. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)

WILDLIFE: No concerns

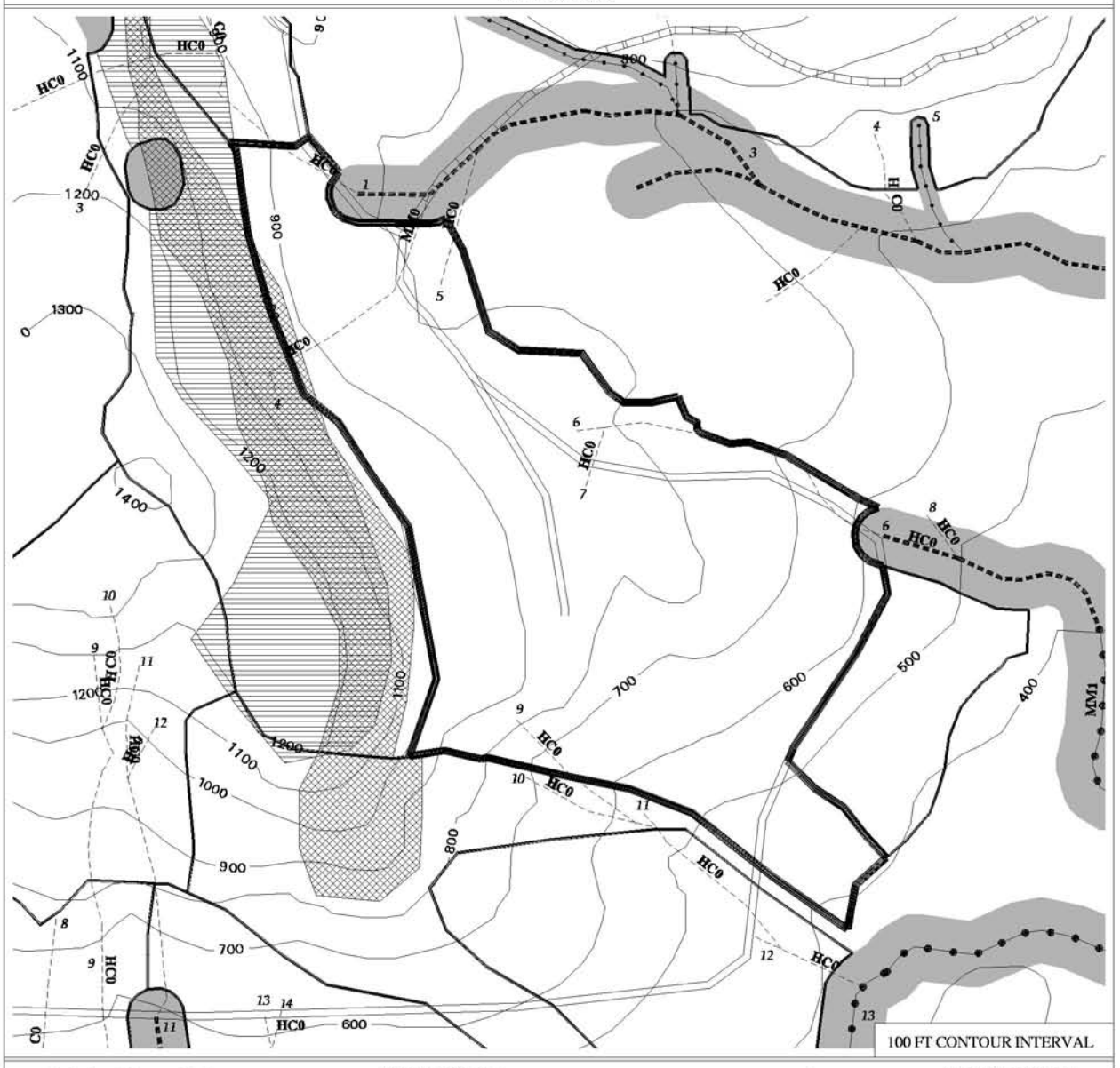
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1651 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1651 OCCURS IN ALTERNATIVE(S): 2

0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR

August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1651**	**In Alternatives:**	2	**Total Unit Acres:**	63.3	**Vol Strata Acres:**	High: 0 Med: 49.2 Low: 14.1
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	1,301	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 9-39" DBH western hemlock (47% BA), 9-36" DBH yellow-cedar (29% BA) with some larger diameter 12-47" DBH spruce (18% BA) and a minor amount of 28-36"DBH mountain hemlock (5% BA). 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. This unit does not contain high value marten habitat.

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

ENGINEEERING/ROADS: Temporary roads 66 and 63 access 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:** Streams 1 (upper), 4, 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:** Streams 1 (lower) and 6 (lower) 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 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: No carbonate bedrock found within unit. No karst resource concerns identified.

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 25-55% in Unit 1651. There are about 8 acres of forested wetland in the unit. A minimum of partial suspension is required to meet soil and wetland standards. (BMPs 12.5, 13.9) **Concern:** The proposed temporary road crosses forested wetland. **Response:** Avoiding these wetlands is not feasible so provide adequate cross drainage to maintain groundwater flow. Remove all structures and close the road after the unit has been harvested. (BMP 14.9) (33 CFR BMPs 4, 5, 6)

WILDLIFE: No concerns

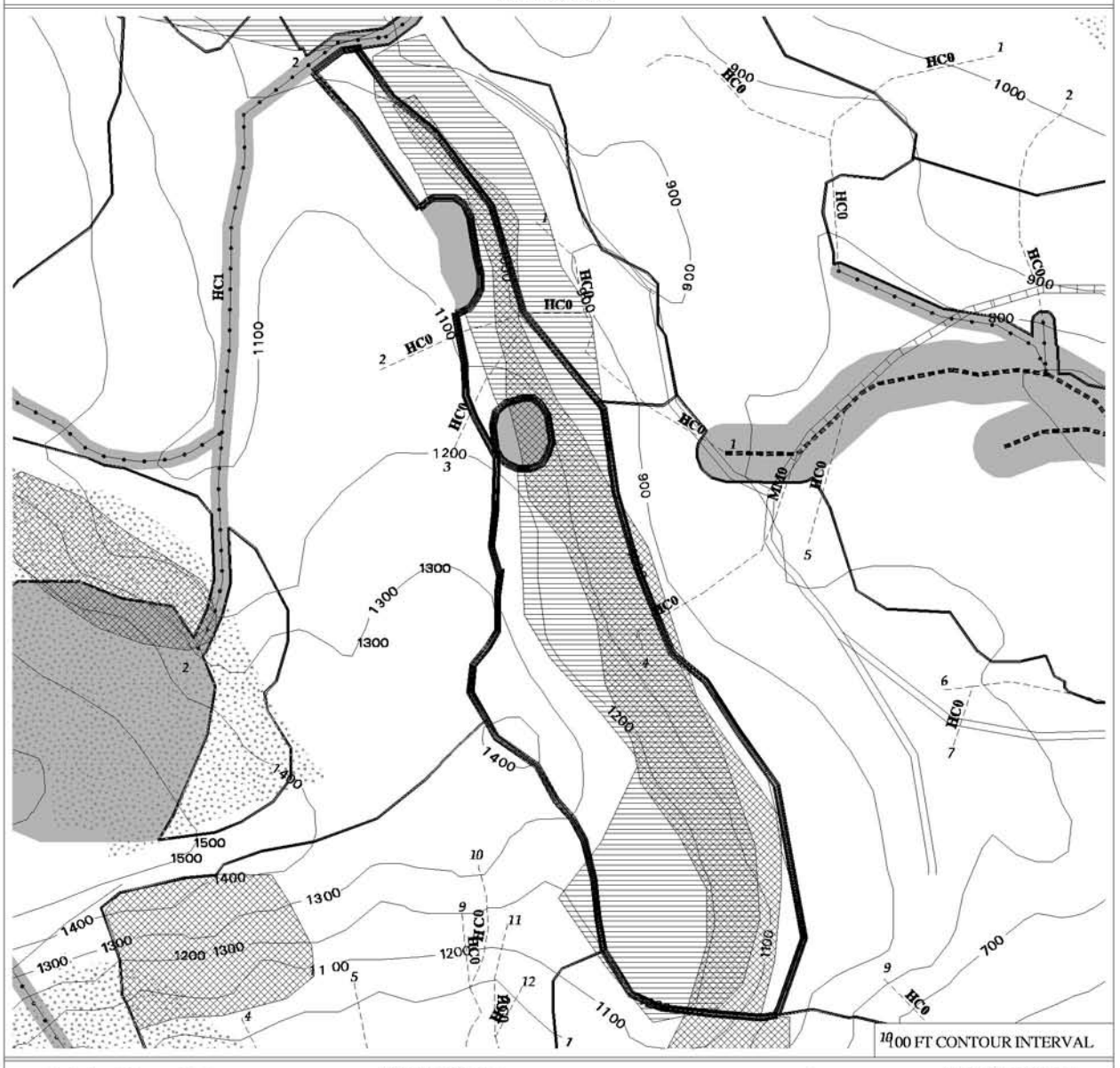
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1652 VCU: 2090/2100 HARVEST SYSTEM: Helicopter

UNIT 1652 OCCURS IN ALTERNATIVE(S): 2 3

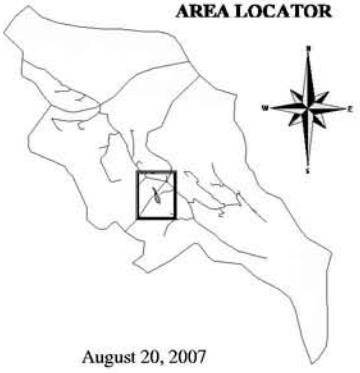
0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1652**	**In Alternatives:**	2, 3	**Total Unit Acres:**	36.3	**Vol Strata Acres:**	High: 0 Med: 34.1 Low: 2.2
VCU Number:	2100	**Harvest System:**	HE	**Net Estimated Harvest Volume (MBF):**	436	**Prescription /Percent Retention:**	ST40

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 12-48" DBH spruce (41% BA), 9-28" DBH western hemlock (37% BA), 12-28" DBH mountain hemlock (22% BA). There is a considerable amount of windthrow near the top of the ridge on the western side of the unit. Western hemlock and spruce advanced regeneration is present but not abundant. Wind risk is moderate to high on the western side.
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 (250 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.

ENGINEEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Northern boundary stream is a Class III HC channel. **Response:** Locate unit boundary south of v-notch and manage for windfirmness within 120 feet of v-notch (BMP 13.16, RIP-III). **Concern:** Streams 2, 3, and 4 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16).

GEOLOGY/KARST: Concern: There are 4 karst features and 24 acres of moderate vulnerability karst in Unit 1652. **Response:** The features and their 100 foot no-harvest buffer in the west of Unit 1652 are excluded from the unit and a minimum of partial suspension is require to meet karst resource objectives in the moderate vulnerability area. (BMP 13.2 and 13.9)

HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 50-120% in Unit 1652. **Concern:** There are about 17 acres of slopes over 72%. The southern 3/4 of this steep area is made up of devil's club and alder- covered cliffs. The soils are shallow over bedrock and are easily disturbed by timber harvest. **Response:** Avoid the areas greater than 72% along the eastern boundary of the unit. The rest of Unit 1652 is suitable for the proposed helicopter harvest (BM 13.5, 13.9). An onsite analysis was conducted on this unit as per Forest Plan Standards (soil resource report).

WILDLIFE: Concern: Goshawk observed adjacent to the unit. Surveys did not identify a nest site. **Response:** Goshawk is likely associated with identified nest site. If a goshawk nest is identified in or adjacent to the unit, contact the project biologist; follow Forest Plan direction for the development of the nest buffer.

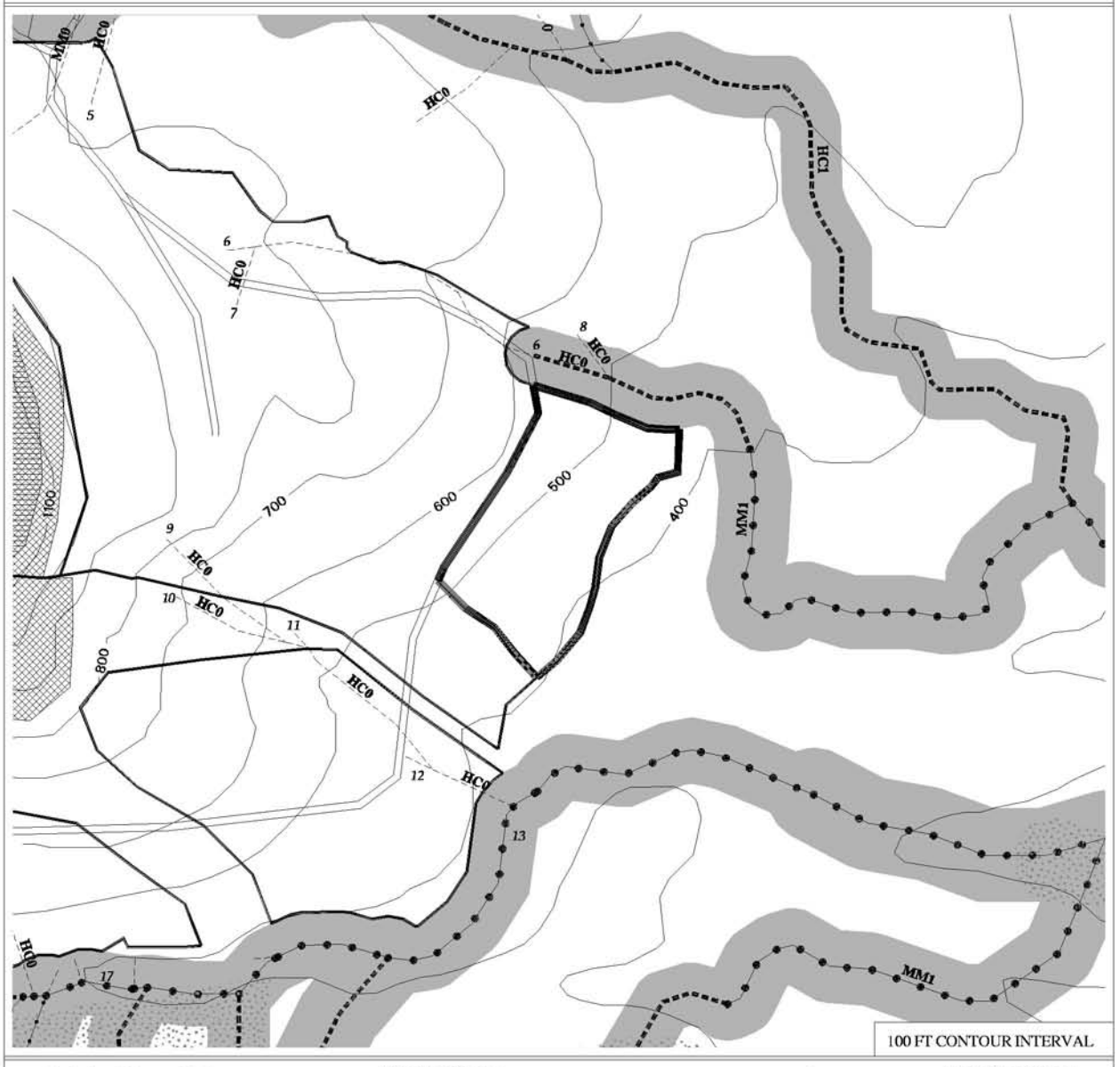
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1654 VCU: 2100 HARVEST SYSTEM: Shovel

UNIT 1654 OCCURS IN ALTERNATIVE(S): 2

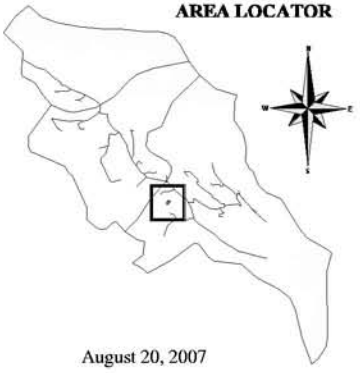
0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number: 1654	**In Alternatives:** 2	**Total Unit Acres:** 9.6	**Vol Strata Acres:** High: 0 Med: 3.6 Low: 6.0
VCU Number: 2100	**Harvest System:** SH	**Net Estimated Harvest Volume (MBF):** 109	**Prescription /Percent Retention:** ST50

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists primarily of average sized 16-28" DBH spruce (50% BA) and smaller diameter 5-9" DBH western hemlock (38% BA) and some 12-16" DBH mountain hemlock (13% BA) and a minor component of yellow-cedar. Western hemlock advanced regeneration is abundant with some spruce also present. There is a small patch of windthrow near the northeast corner of the unit. 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 requirements.
Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 50 percent of existing basal (100 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate shovel yarding. 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 shovel yarding.

ENGINEEERING/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 6 is the northeastern boundary stream, a Class II HC channel. **Response:** locate unit south of 100-foot no-cut buffer (BMP 13.16, RIP III). **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 15-25% in Unit 1654. Soils are somewhat poorly drained, deep mineral soils to poorly drained organic soils in the shallow areas and swales. There are small pockets of forested wetland through the unit (BMP 12.5). **Concern:** Shovel yarding may cause rutting due to lack of bearing strength on poorly drained organic soils in Unit 1654. **Response:** Operate on a puncheon or a slash mattress to provide adequate bearing strength. (BMP 13.2 and 13.9) **Concern:** The proposed temporary road crosses forested wetland. **Response:** Avoiding these wetlands is not feasible so provide adequate cross drainage to maintain groundwater flow. Remove all structures and close the road after the unit has been harvested. (BMP 14.9) (33 CFR BMPs 4, 5, 6)

WILDLIFE: No concerns

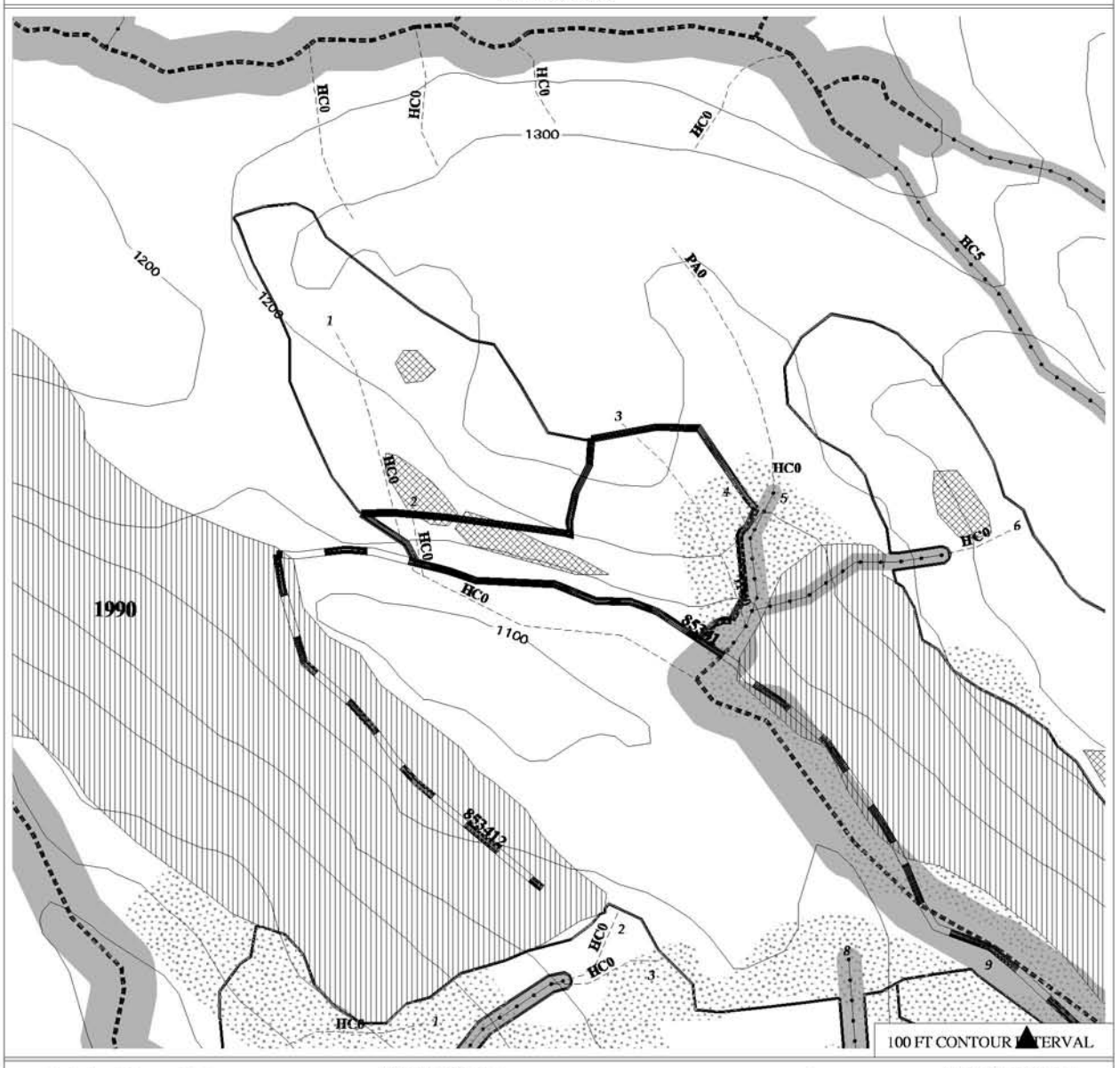
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1711 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1711 OCCURS IN ALTERNATIVE(S): 2 4 5

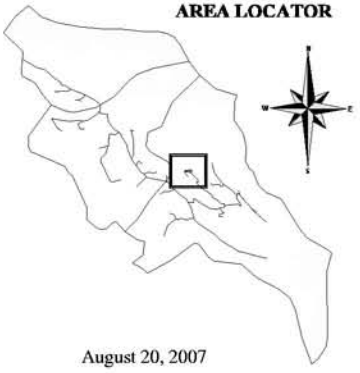
0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1711**	**In Alternatives:**	2, 4, 5	**Total Unit Acres:**	11.0	**Vol Strata Acres:**	High: 2.3 Med: 6.7 Low: 2.0
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	238	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists primarily of 24-36" DBH western hemlock (56% B) and 24-48" DBH spruce (44% BA), both of larger diameter. 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 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. This unit contains 2 acres of high value marten habitat in the NE corner. Designate reserve trees 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.

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

ENGINEEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Streams 1,2, 3 and 4 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 5 is a Class III HC channel. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). **Concern:** Lower part of Stream 5 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). **Concern:** Windthrow risk is moderate to high. **Response:** Manage for windfirmness 120 feet beyond no-cut buffers.

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 35-75% in Unit 1711. There is less than 1 acre of slopes over 72%. The soils are well-drained formed in glacial till. **Concern:** Timber harvest may accelerate landsliding on slopes over 72% gradient. **Response:** exclude this area from the proposed downhill cable harvest (BMP 13.5). The rest of the unit is suitable for the proposed cable with a minimum of partial suspension to meet soil quality standards. (BMP 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: **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. **Concern:** Goshawk observed adjacent to the unit. Surveys did not identify a nest site. **Response:** Goshawk is likely associated with identified nest site. If a goshawk nest is identified in or adjacent to the unit, contact the project biologist; follow Forest Plan direction for the development of the nest buffer.

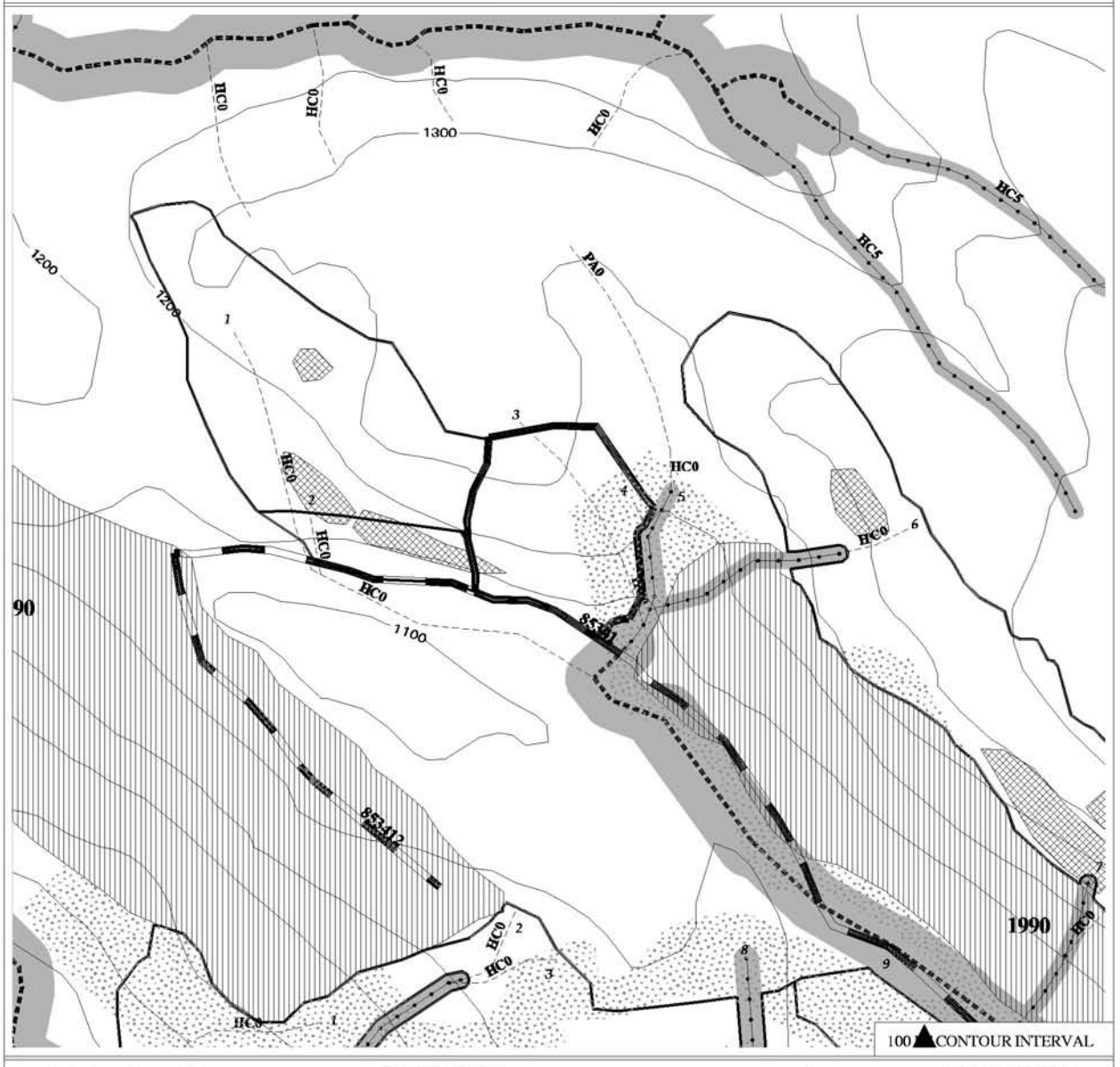
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1711 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1711 OCCURS IN ALTERNATIVE(S): 3

0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR

August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1711**	**In Alternatives:**	3	**Total Unit Acres:**	8.2	**Vol Strata Acres:**	High: 2.3 Med: 3.9 Low: 2.0
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	176	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists primarily of 24-36" DBH western hemlock (56% B) and 24-48" DBH spruce (44% BA), both of larger diameter. Wind risk is moderat 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 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. This unit contains 2 acres of high value marten habitat in the NE corner. Designate reserve trees 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.

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

ENGINEEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Streams 3 and 4 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 5 is a Class III HC channel. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). **Concern:** Lower part of Stream 5 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). **Concern:** Windthrow risk is moderate to high. **Response:** Manage for windfirmness 120 feet beyond no-cut buffers.

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 35-65% in Unit 1711. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)

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. **Concern:** Goshawk observed around the unit. Surveys did not identify a nest site. **Response:** Goshawk is likely associated with identified nest site. If a goshawk nest is identified in or adjacent to the unit, contact the project biologist; follow Forest Plan direction for the development of the nest buffer.

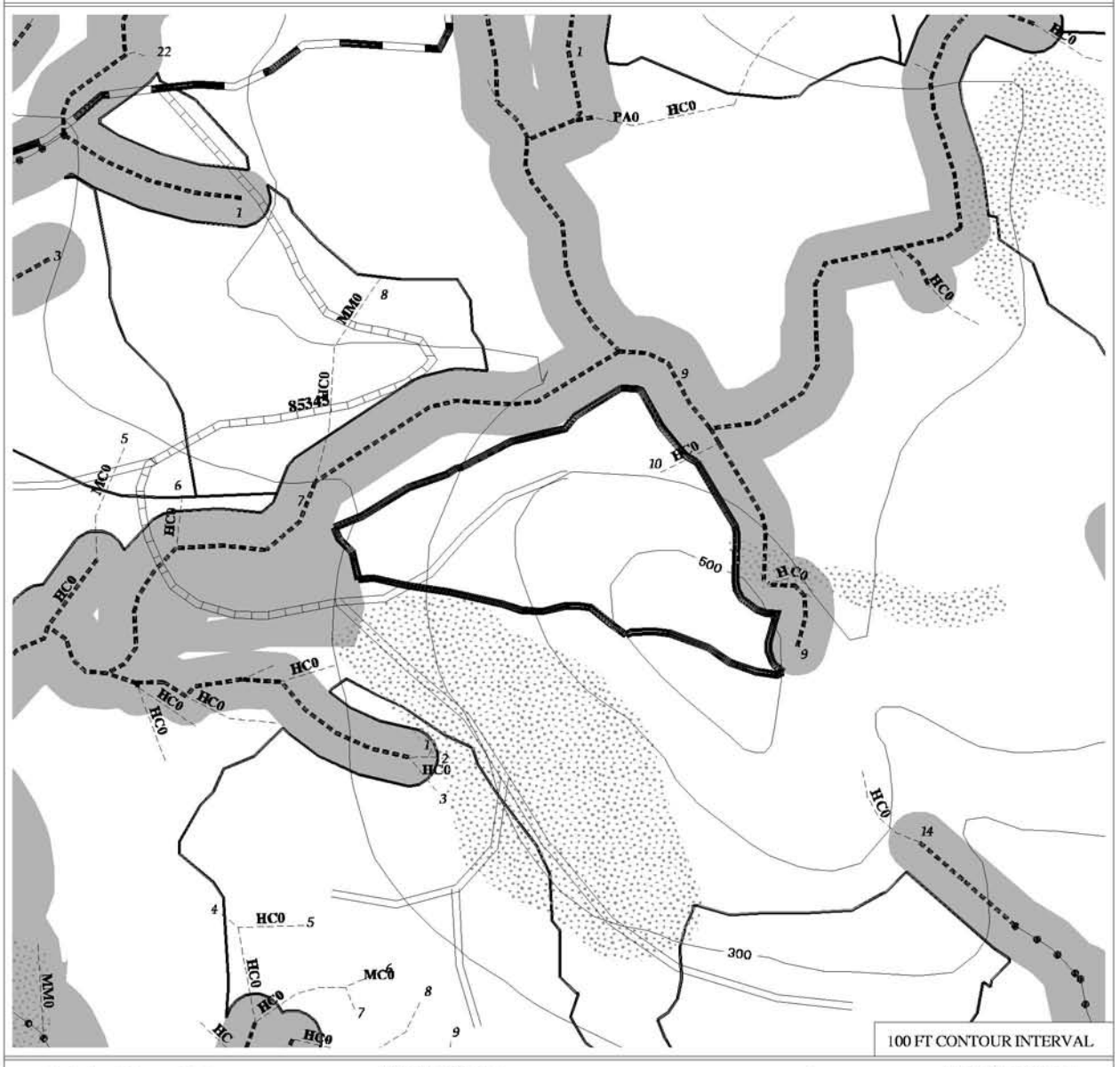
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1772 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1772 OCCURS IN ALTERNATIVE(S): 2

0 0.11 0.23 Miles

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 HC6

Stream Number – See Narrative 1

High Value Marten Habitat

Areas Dropped From Alternative(s)

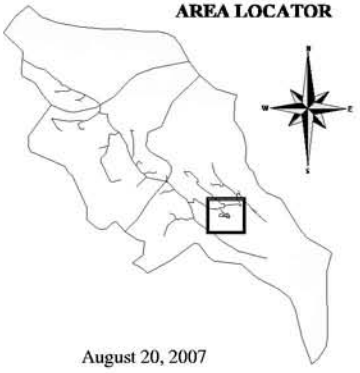
Old Growth Reserve

Moderate Vulnerability Karst

Slopes Greater Than 72%

Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1772**	**In Alternatives:**	2	**Total Unit Acres:**	18.0	**Vol Strata Acres:**	High: 0 Med: 8.2 Low: 9.8
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	325	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of primarily 9-30" DBH western hemlock (86% BA) with some larger 32-36" DBH spruce (7% BA) and some 12-16"DBH yellow-cedar. The eastern portion is more well drained with relatively flat hydric soils in the western portion. There is a patch of younger even-aged hemlock of uniform size in the center of the unit, likely the result of a past windevent. Western hemlock advanced regeneration is abundant with some spruce and cedar present also. Wind risk is 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 is bounded by stream buffers on the NE and NW 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 one cable setting.

ENGINEEERING/ROADS: Temporary road 77D accesses unit from existing Road 8534 via planned NFSR 85345. 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 9 is a Class II MM channel. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel (RIP III). Manage 120 feet beyond no-cut buffer for windfirmness. **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 35-50% in Unit 1772. The northeast quarter of the unit is wetland with some poor fens and muskegs. A minimum of partial suspension is required to meet soil quality standards. (BMP 12.5, 13.9) **Concern:** Proposed temporary road crosses about 400' of wetlands while trying to maintain grade. **Response:** Provide adequate cross drainage, remove structures and close the road after harvest. (BMP 14.9) (33 CFR BMPs 4, 5, 6

WILDLIFE: No concerns

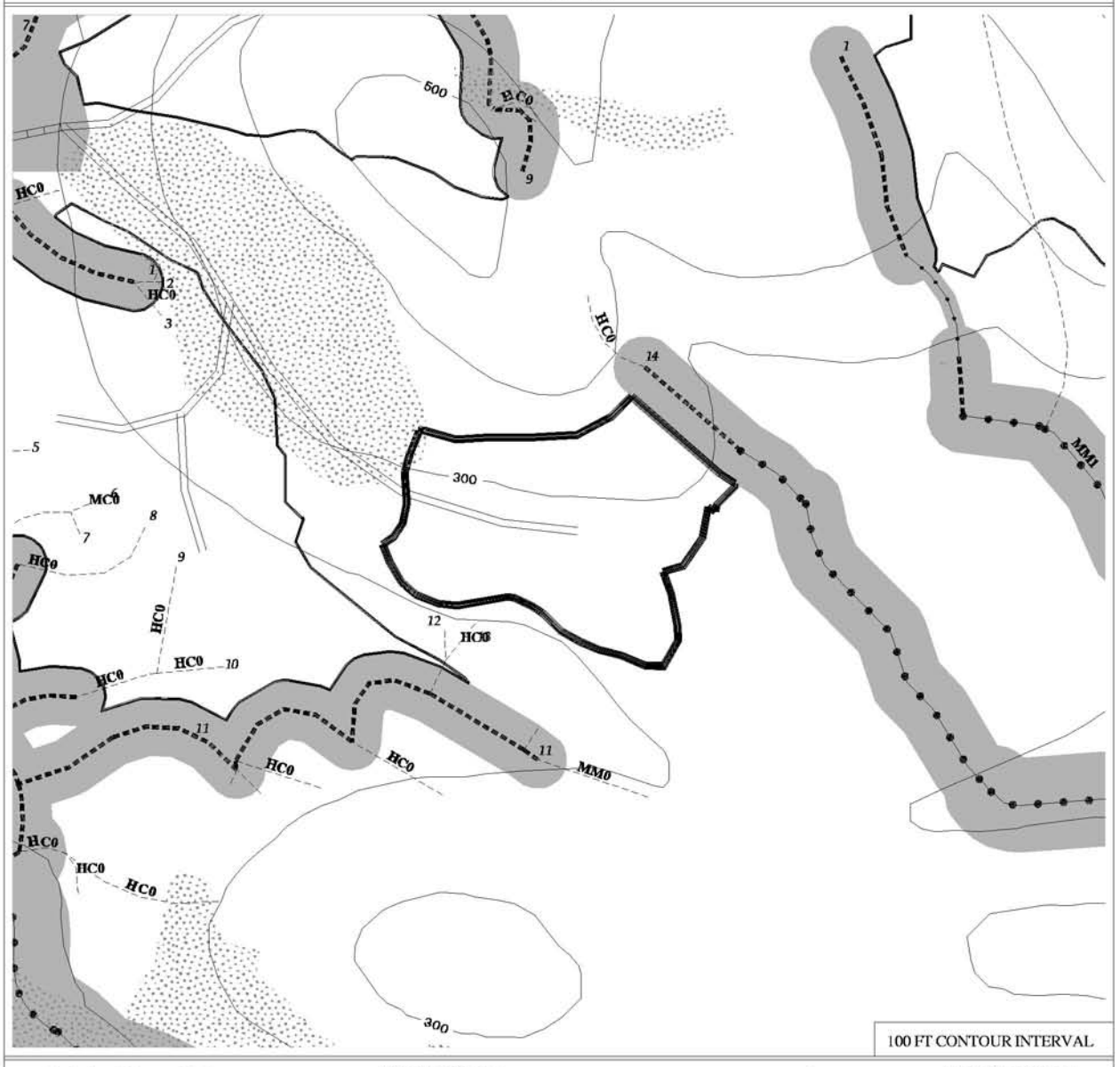
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1773 VCU: 2100 HARVEST SYSTEM: Shovel

UNIT 1773 OCCURS IN ALTERNATIVE(S): 2

0 0.11 0.23 Miles

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 HC6

Stream Number – See Narrative 1

High Value Marten Habitat

Areas Dropped From Alternative(s)

Old Growth Reserve

Moderate Vulnerability Karst

Slopes Greater Than 72%

Existing Rock Pit

AREA LOCATOR

August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1773**	**In Alternatives:**	2	**Total Unit Acres:**	16.2	**Vol Strata Acres:**	High: 0.1 Med: 10.8 Low: 5.3
VCU Number:	2100	**Harvest System:**	SH	**Net Estimated Harvest Volume (MBF):**	200	**Prescription /Percent Retention:**	ST50

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists of 10-26" DBH western hemlock (39% BA), 12-22" DBH yellow-cedar (39% BA) with some larger 18-26" DBH spruce (23% BA). There is a patch of younger even-aged hemlock of uniform size in the northern portion of the unit; likely the result of a past windevent. Slopes are relatively flat and hydric in the southern portion of the unit. Western hemlock advanced regeneration is abundant with some spruce and cedar present also. Wind risk is high.
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 requirements.
Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 50 percent of existing basal (173 sq.ft.per acre) area singly and/or in small clumps or corridors to facilitate shovel yarding. 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 shovel yarding.

ENGINEEERING/ROADS: Temporary road 1773B accesses unit from existing Road 8534 via planned NFSR 85345 and temporary road 77A. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to construction.

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Streams 12 and 13 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Equipment will not operate in streamcourses and will not cross streams without a temporary structure (BMP 13.9, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** Stream 14 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 west side of buffer for windfirmness (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 15-25% in Unit 1773. Soils are somewhat poorly drained, deep mineral soils to poorly drained organic soils in the shallow areas and swales. **Concern:** Shovel yarding may cause rutting due to lack of bearing strength on poorly drained organic soils in Unit 1773. **Response:** Operate on a puncheon or a slash mattress to provide adequate bearing strength. (BMP 13.2 and 13.9) **Concern:** Proposed temporary road crosses about 500' of wetlands while trying to maintain grade. **Response:** Provide adequate cross drainage, remove structures and close the road after harvest. (BMP 14.9) (33 CFR BMPs 4, 5, 6)

WILDLIFE: **Concern:** Unit contains less than 2 acres high value marten habitat. **Response:** No design elements or mitigation required to meet Forest Plan standards and guidelines.

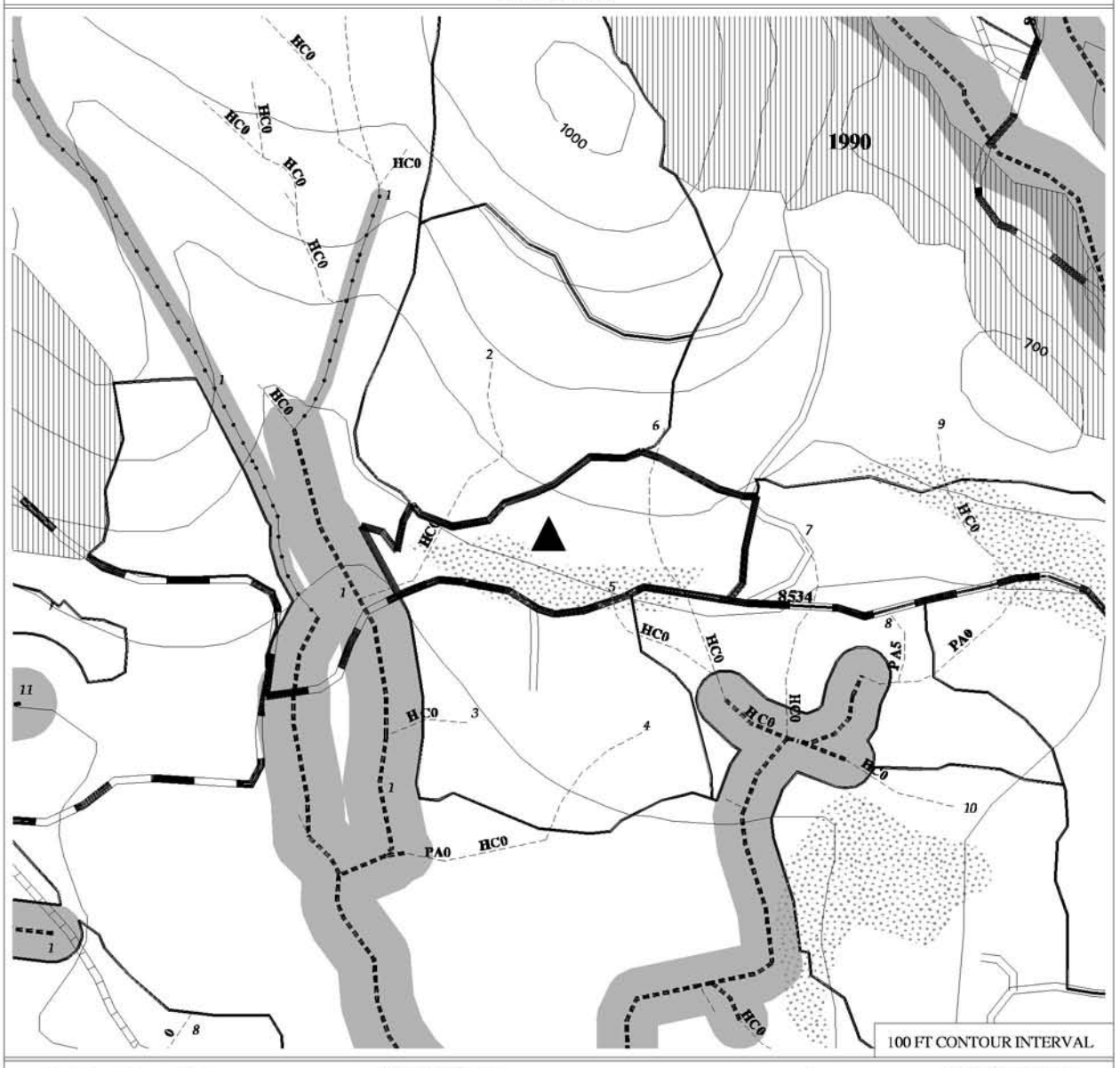
IYOUKTUG TIMBER SALE UNIT CARD
PLANNED HARVEST UNIT MAP

UNIT NUMBER: 1921 VCU: 2100 HARVEST SYSTEM: Cable

UNIT 1921 OCCURS IN ALTERNATIVE(S): 3 4 5

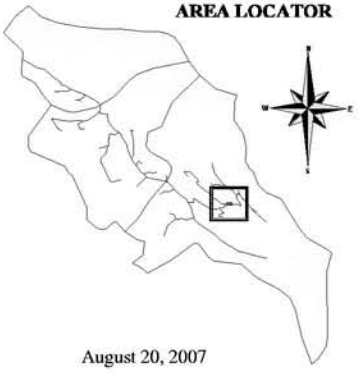
0 0.11 0.23 Miles

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 HC6
Stream Number – See Narrative 1
High Value Marten Habitat
Areas Dropped From Alternative(s)
Old Growth Reserve
Moderate Vulnerability Karst
Slopes Greater Than 72%
Existing Rock Pit

AREA LOCATOR



August 20, 2007

Unit Data Card – Iyouktug Timber Sale Draft EIS

Unit Number:	**1921**	**In Alternatives:**	3, 4, 5	**Total Unit Acres:**	10.8	**Vol Strata Acres:**	High: 2.9 Med: 7.6 Low: 0.3
VCU Number:	2100	**Harvest System:**	C	**Net Estimated Harvest Volume (MBF):**	252	**Prescription /Percent Retention:**	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:
Existing Stand Condition/Vegetation: Stand consists predominantly of average diameter 10-30" DBH western hemlock (82% BA) and larger 22-26" DBH spruce (19% BA). Soils are well drained and slopes are relatively gentle. Western hemlock advanced regeneration is 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 units is bounded on the west by a stream buffer with a RAW zone. 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. This unit contains 3 acres of high value marten habitat in the SW corner. Designate reserve trees 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.

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.

ENGINEEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Stream 1 is a Class II MM1 on the western side of unit. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel (RIP III). Manage for windfirmenss 120 feet beyond no-cut buffer. **Concern:** Stream 2, 5, and 6 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 25-55% slope in Unit 1921. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)

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. **Concern:** High deer use observed throughout unit. **Response:** No design elements or mitigation required to meet Forest Plan standards and guidelines.