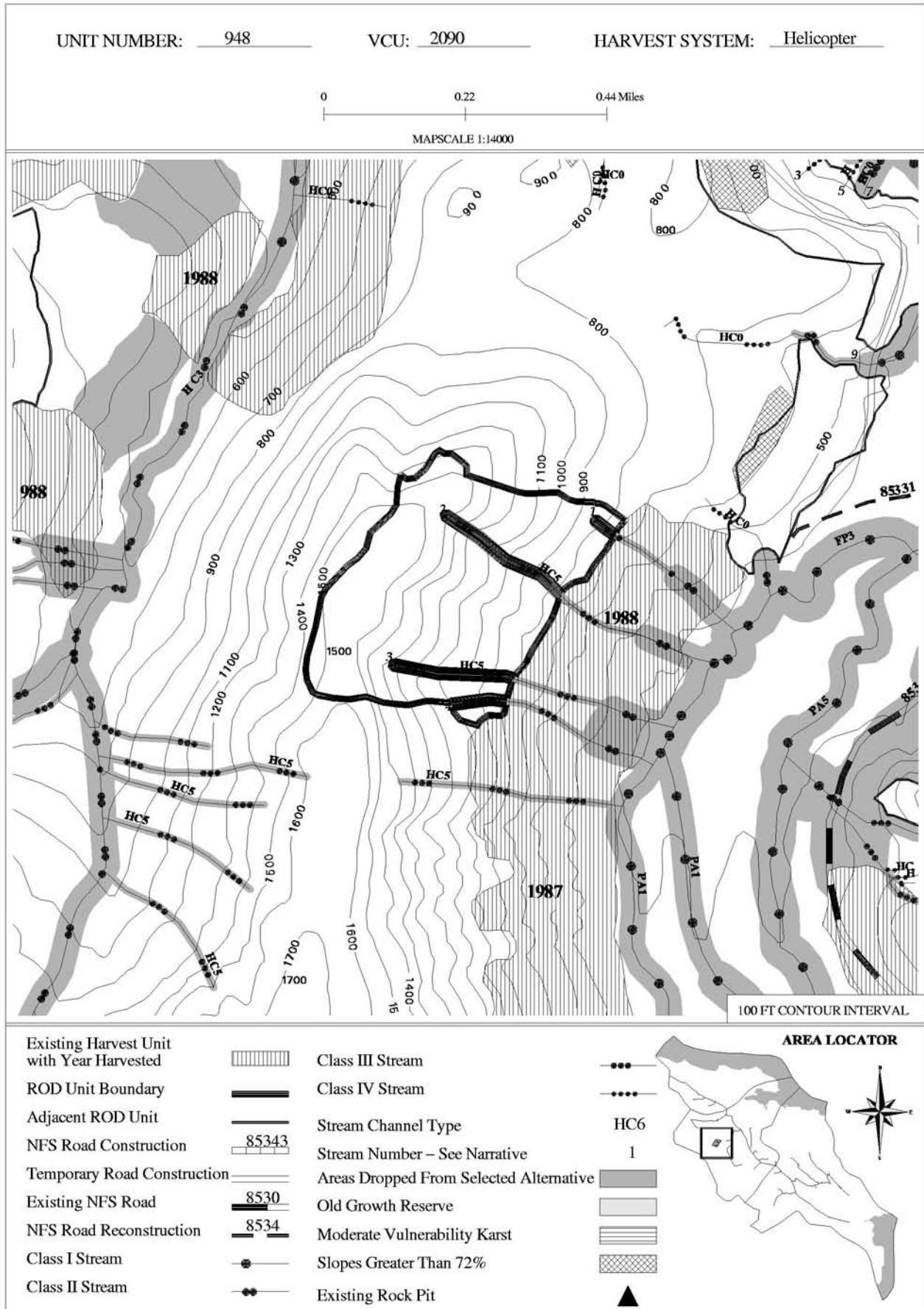


IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	948	Selected Alternative		Total Unit Acres:	74.9	Vol Strata Acres:	High: 3.5 Med: 67.1 Low: 4.3
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	896	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists primarily of 12-36" DBH western and mountain hemlock (80% BA) and 12-40" DBH spruce (20%). Hemlock and spruce advanced regeneration is present but not abundant. Wind risk is low.

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 40 percent of existing basal (255 sq.ft.per acre) area singly and/or in small clumps 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** GIS-mapped streams 1-4 are Class III HC. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).

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

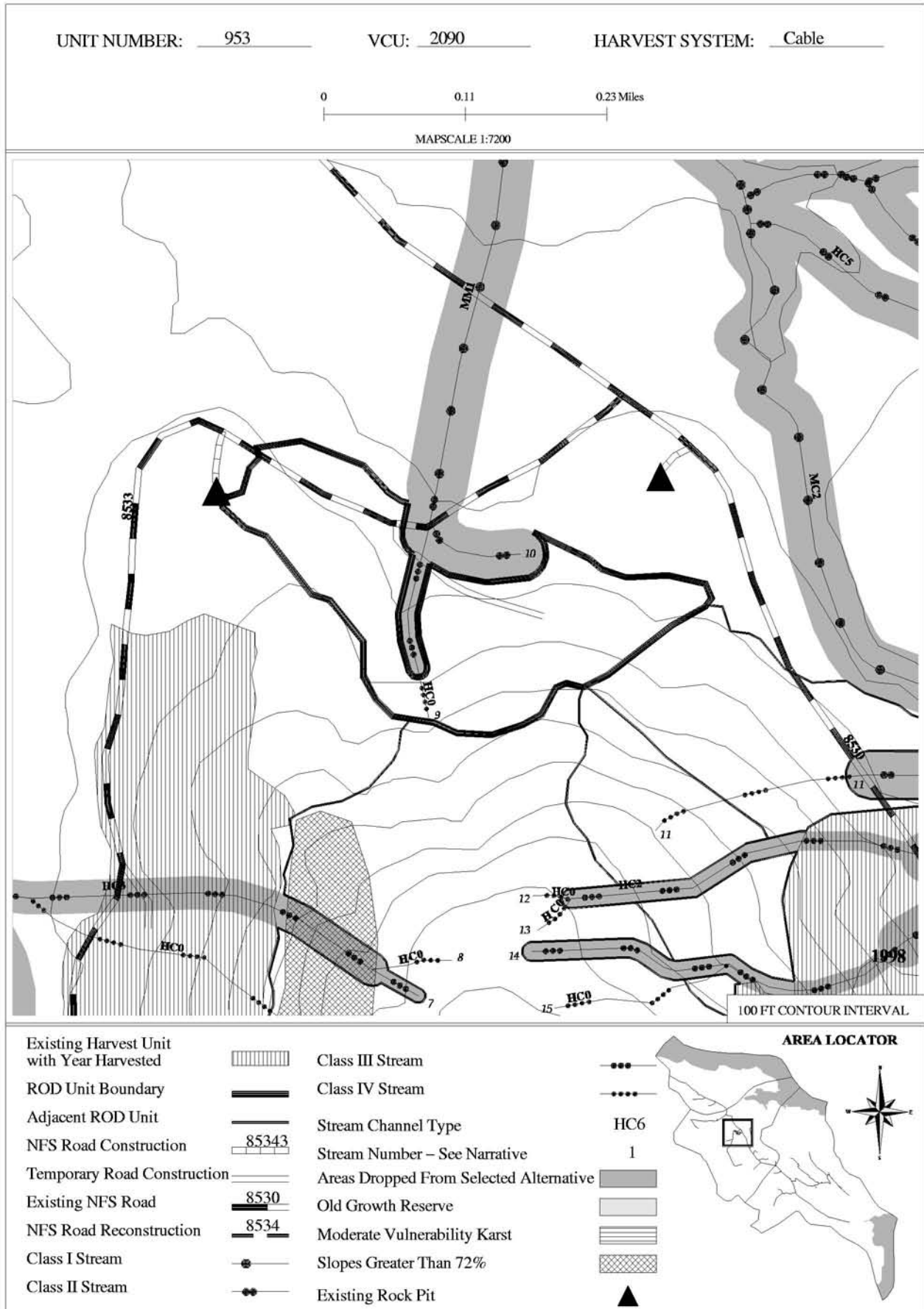
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 55-75% in Unit 948. There are about 11 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. **Concern:** The western quarter of the unit is ridge top subalpine forest and muskeg. **Response:** Helicopter logging will protect wetlands and meet resource objectives. (BMP 12.5 and 13.5) Area to the west and south of Unit 948 dropped for stability concerns.

WILDLIFE: **Concern:** High deer use was observed in the north east portion of the unit. **Response:** Proposed timber management will not create openings greater than 2 acres in size within this habitat. Retention of 60% of the basal area will help to maintain deer habitat. **Concern:** Bear den located in northeast portion of the unit just above the 1100 foot contour and on the south side of the stream. **Response:** Maintain a 200-foot forested buffer around den sites.

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	953	Selected Alternative		Total Unit Acres:	24.1	Vol Strata Acres:	High: 4.2 Med: 9.0 Low: 10.9
VCU Number:	2090	Harvest System:	C	Net Estimated Harvest Volume (MBF):	470	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists primarily of 16-24" DBH western hemlock (70% BA), 16-20" spruce (20% BA) and 20-24" DBH mountain hemlock (10% BA). Wind risk is moderate to high.</p>

<p>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.</p>

<p>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.</p>
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<p>TIMBER/LOGGING: This unit is comprised of two cable settings. The western-most setting accesses the area west of stream #9, a class III stream that requires split yarding. The eastern-most setting accesses the area east of stream #9.</p>

<p>ENGINEERING/ROADS: Temporary road 53 accesses unit from existing Road 8533. Road location has been flagged. Deviations to flagged route must be approved by USFS prior to harvest.</p>
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<p>BOTANY RESOURCES: No concerns</p>

<p>FISH/WATERSHED: Concern: Stream 9 (upper) is a Class IV HC channel. Response: Category C protection (BMP 12.6, 13.14). Concern: Stream 9 (lower) is a Class III HC channel. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: Stream 10 is a Class II PA channel. Response: Category A protection (BMP 12.6, 13.14). No harvest within 100 feet of channel (RIP III). Concern: Windthrow risk is 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)</p>

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

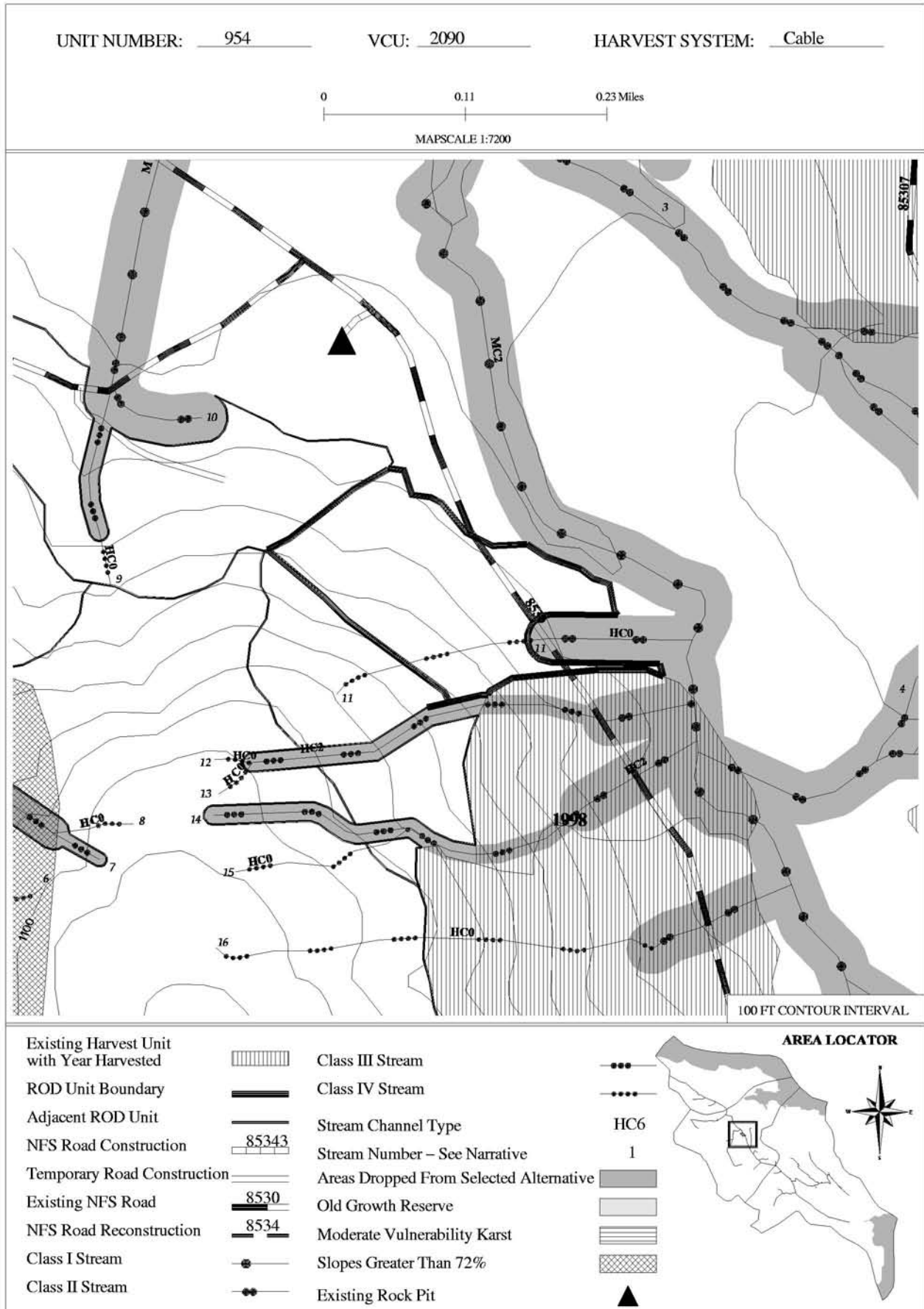
<p>HERITAGE RESOURCES: No concerns</p>

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

<p>SOILS/WETLANDS: Slopes range from 25-55% in Unit 953. Nearly all the unit is forested wetland (BMP 12.5). Partial suspension is required to meet soil and wetland quality standards (BMP 13.9). Concern: The proposed temporary road is located on forested wetland and no alternative route exists. Response: 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)</p>

<p>WILDLIFE: Concern: Red-tailed hawk was observed around unit. Response: Maintain a 600-foot no-harvest buffer that is windfirm around active raptor nest if identified and restrict harvest and road building activities from March 1 to July 31 within the buffer.</p>
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IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP

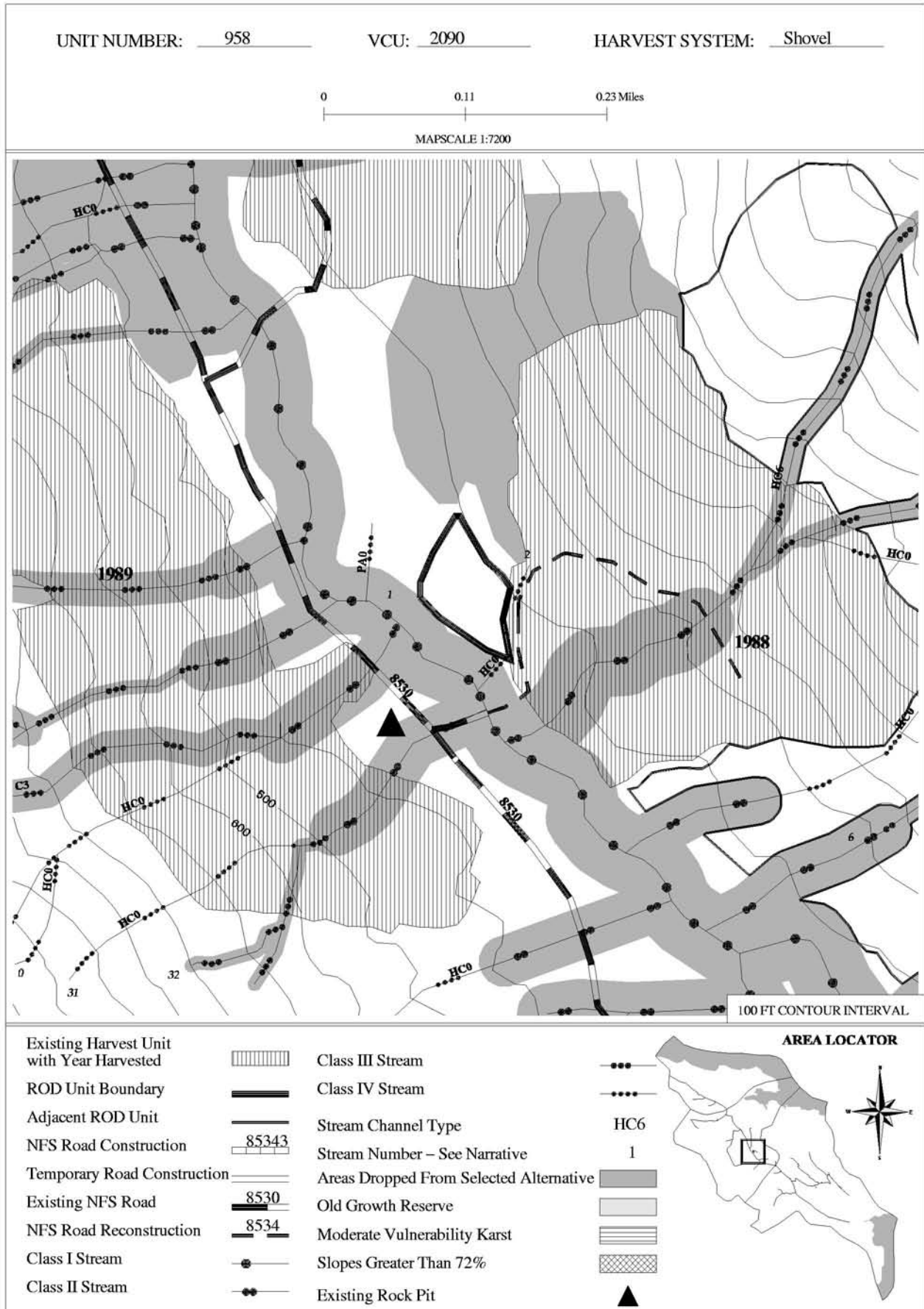


Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	954	Selected Alternative		Total Unit Acres:	16.4	Vol Strata Acres:	High: 13.9 Med: 2.5 Low: 0
VCU Number:	2090	Harvest System:	C	Net Estimated Harvest Volume (MBF):	423	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation							
SILVICULTURE:							
Existing Stand Condition/Vegetation: Stand consists primarily of 12-40" DBH western hemlock (86% BA) and 24-44" DBH spruce (14% BA). There is an area of moderate windthrow in the center of the unit. Advanced hemlock regeneration is moderate with a minor amount of spruce. 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 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.							
TIMBER/LOGGING: This unit is comprised of one cable setting.							
ENGINEERING/ROADS: N/A							
BOTANY RESOURCES: No concerns							
FISH/WATERSHED: The upper part of Stream 11 is a Class IV HC channel. Response: Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). Concern: The lower part of stream 11 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: Northeast boundary stream is a Class I MC channel. Response: Category A protection (BMP 12.6, 13.14). No harvest within 100 feet of channel and side-slope break (RIP III). Concern: Windthrow risk is 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: Concern: Unit crosses a VPR Response: Incorporate landscape architect input during layout to meet VQO of Maximum Modification							
SOILS/WETLANDS: slopes range from 35-60% in Unit 954. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9)							
WILDLIFE: No concerns							

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	958	Selected Alternative		Total Unit Acres:	3.0	Vol Strata Acres:	High: 0 Med: 0.5 Low: 2.5
VCU Number:	2090	Harvest System:	SH	Net Estimated Harvest Volume (MBF):	32	Prescription /Percent Retention:	ST50

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand is comprised of predominately of 12-28" DBH mountain hemlock (44% BA), 12-28" DBH western hemlock (33% BA) and 16-40" DBH spruce (23% BA) and a minor component of yellow-cedar. There is a moderate amount of spruce advanced regeneration. Wind risk is estimated to be low.

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 (107 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Stream 1 (southern boundary streams) is a Class I MC channel. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 100 feet of channel and side-slope break (RIP III). Stream 2 is a Class IV HC channel. **Response:** Category C protection (BMP 12.6, 13.14). Equipment will not operate in stream courses and will not cross streams without a temporary structure (BMP 13.9, 13.14). Remove logging debris from channel (BMP 13.16).

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

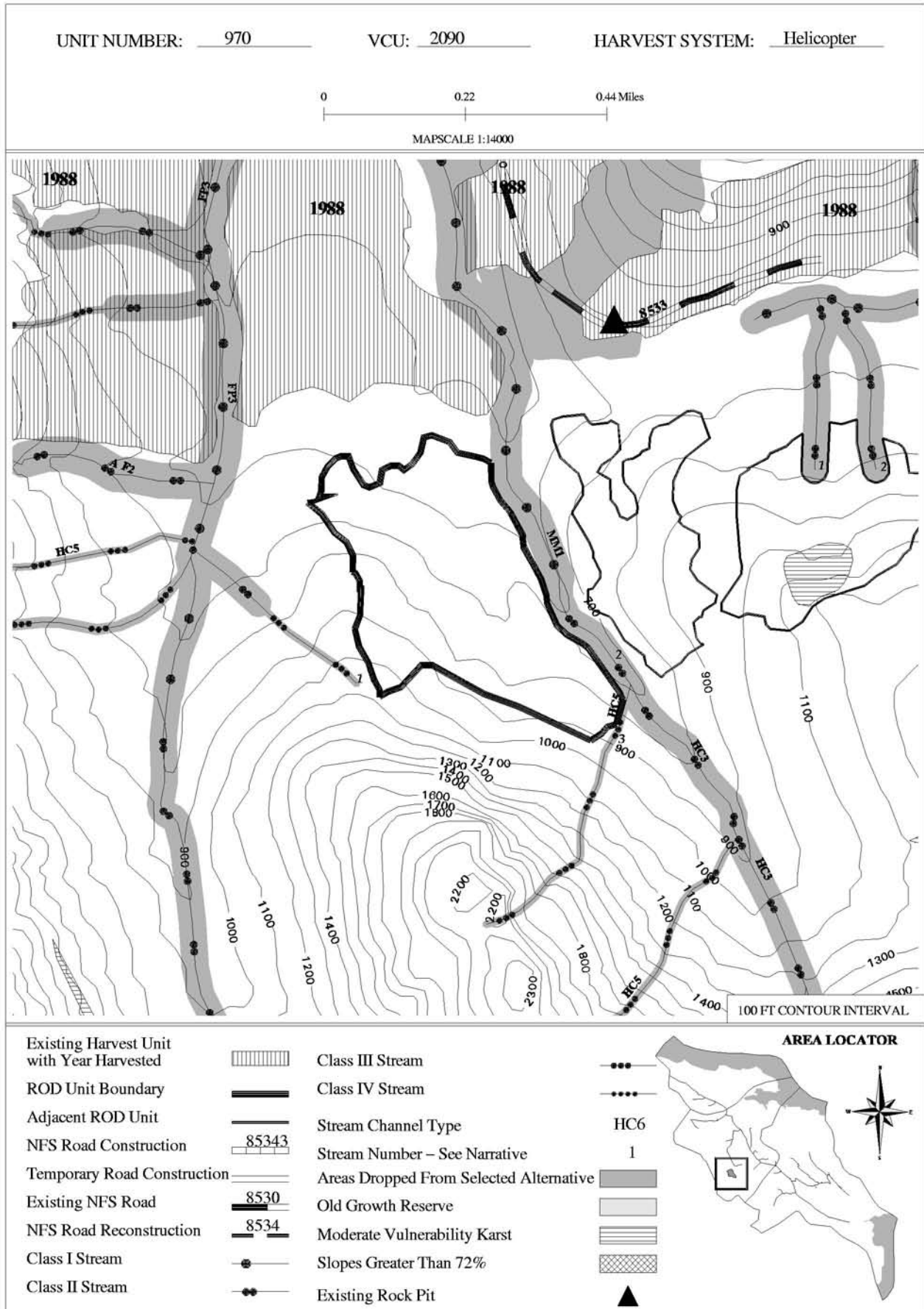
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 5-35% in Unit 958. The entire unit is forested wetland (BMP 12.5). **Concern:** Shovel yarding may cause rutting due to lack of bearing strength on poorly drained organic soils or operation on slopes greater than 25%. **Response:** Operate shovel on a puncheon or a slash mattress to provide adequate bearing strength on the higher areas of the unit [this means areas with less skunk cabbage and more tree roots]. Where the slopes reach 25%, operate the shovel on the contour, utilize the boom, a short choker or cable to remove logs from steeper slopes or directionally fall the trees toward the more gentle ground (BMP 13.2 and 13.9).

WILDLIFE: No concerns

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	970	Selected Alternative		Total Unit Acres:	74.2	Vol Strata Acres:	High: 19.7 Med: 19.4 Low: 35.1
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	793	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists 12-28" DBH western hemlock (35% BA), 12-28" DBH mountain hemlock (33% BA), 12-30" DBH yellow-cedar (17% BA) and 16-28" DBH spruce (11% BA). The most productive area is in the southern portion of the unit where slopes are moderate and fairly well drained. The northern portion of the unit is flatter with several small muskeg openings. Western hemlock and yellow-cedar advanced regeneration is moderately abundant with a minor amount of spruce also present. Wind risk is low.

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 40 percent of existing basal (169 sq.ft.per acre) area singly and/or in small clumps 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: GIS-mapped streams 1 and 3 are Class III HC channels. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). **Concern:** GIS-mapped stream 2 is a Class I MM channel. **Response:** Category A protection (BMP 12.6, 13.14). No harvest within 120 feet of channel (RIP III).

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

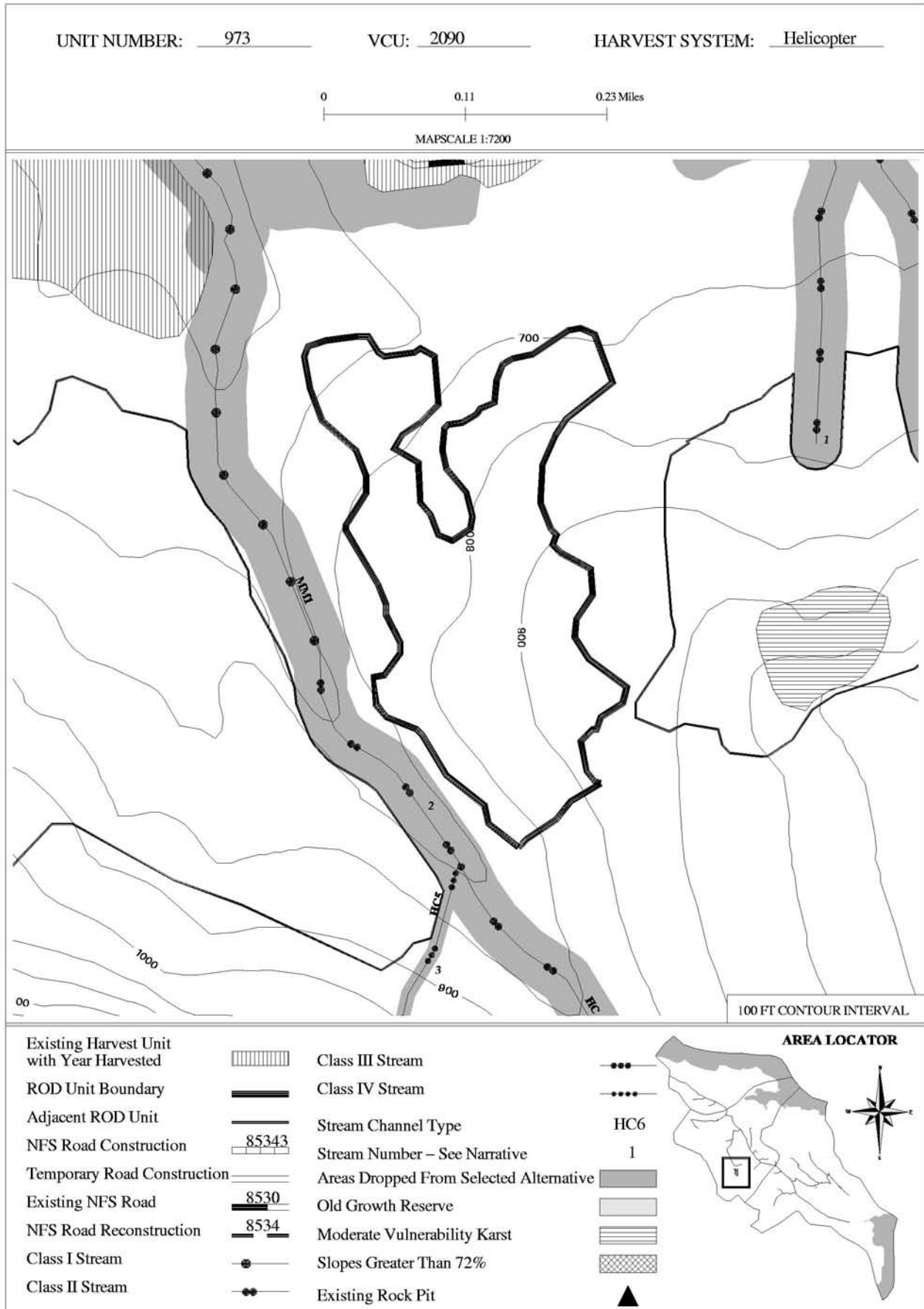
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 20-50% in Unit 970. **Concern:** Most of the unit is forested wetland. **Response:** Helicopter logging will protect wetlands and meet resource objectives. (BMP 12.5) **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 south of Unit 970 dropped for stability concerns (BMP 13.5).

WILDLIFE: Concern: High bear use was observed throughout the unit. **Response:** Proposed timber management will not create openings greater than 2 acres in size within this habitat. Retention of 60% of the basal area will help to maintain bear habitat.

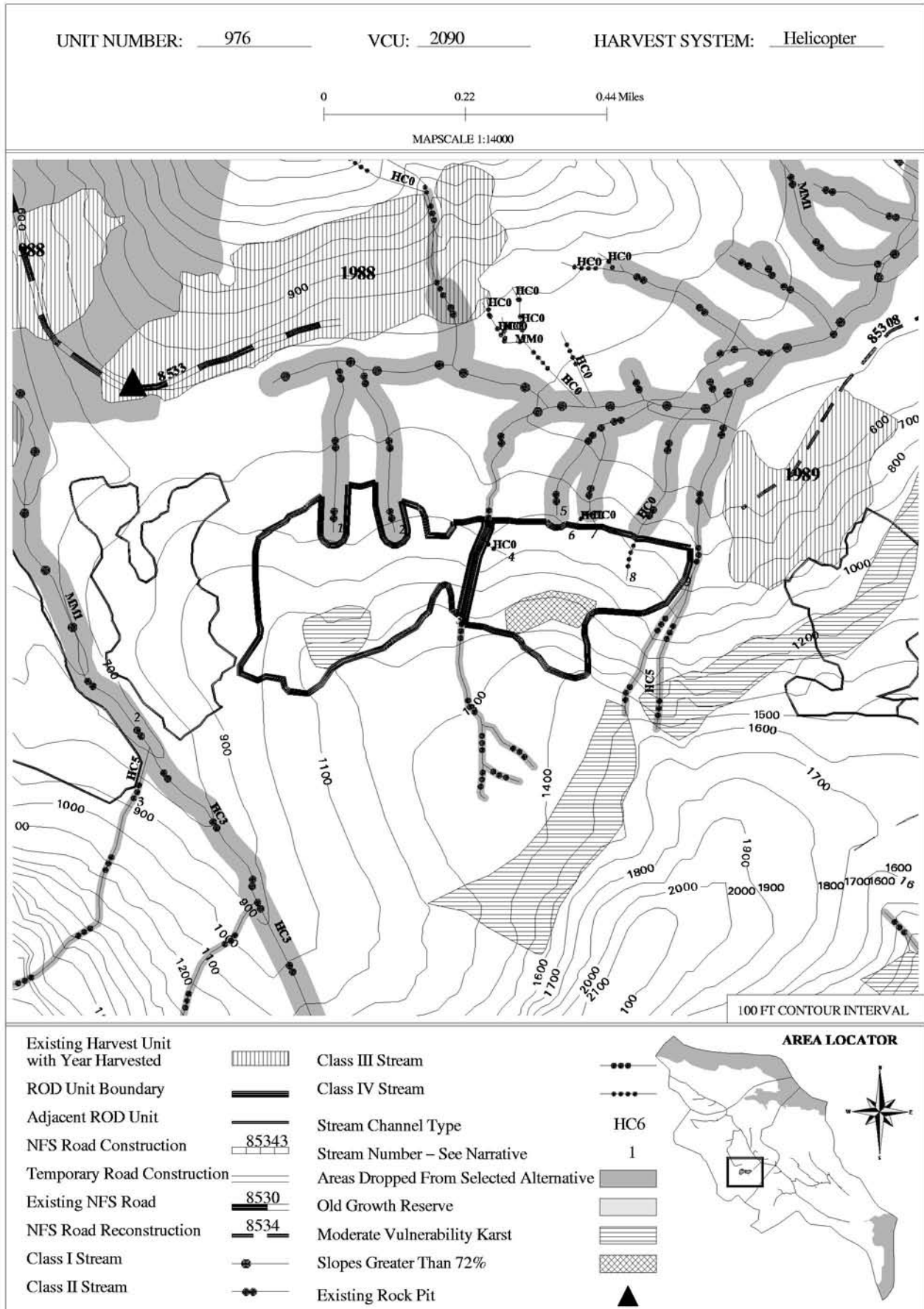
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative							
Unit Number:	973	Selected Alternative		Total Unit Acres:	36.3	Vol Strata Acres:	High: 0 Med: 1.4 Low: 34.9
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	276	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand consists of 12-40" DBH western hemlock (35% BA), 12-24" DBH mountain hemlock (35% BA), 12-24" DBH yellow-cedar (27%) and 9-12" DBH spruce (4% BA). The slopes are moderate and poorly drained. There are several muskegs surrounding the unit. Western hemlock advanced regeneration is abundant with yellow-cedar spruce also present. Wind risk is low. 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 40 percent of existing basal (140 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
<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 Class I and II stream on western unit boundary. Response: Category A protection (BMP 12.6, 13.14). No harvest within greater of riparian area or 120 feet of channel (RIP III).</p>
<p>GEOLOGY/KARST: No carbonate bedrock found within unit. No karst resource concerns identified.</p>
<p>HERITAGE RESOURCES: No concerns</p>
<p>SCENERY/RECREATION: No concerns</p>
<p>SOILS/WETLANDS: Slopes range from 20-50% in Unit 973. Concern: Most of the unit is forested wetland. Response: Helicopter logging will protect wetlands and meet resource objectives. (BMP 12.5) 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.</p>
<p>WILDLIFE: Concern: High deer use was observed in the east portion of the unit. Response: Proposed timber management will not create openings greater than 2 acres in size within this habitat. Retention of 60% of the basal area will help to maintain deer habitat.</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	976	Selected Alternative		Total Unit Acres:	77.1	Vol Strata Acres:	High: 51.1 Med: 10.9 Low: 15.2
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	1,033	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists of 12-40" DBH western hemlock (39% BA) 9-32" DBH mountain hemlock (36% BA) and 9-36" DBH spruce (25% BA). There are several small muskegs surrounding the unit and several v-notches within unit. Western/mountain hemlock and spruce advanced regeneration is moderately abundant. Wind risk is low.</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 requirements.</p>

<p>Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 40 percent of existing basal (204 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>

<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: Stream 1, 2, 5 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). Concern: Streams 3 and 9 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: Stream 4, 6, 7, 8 are Class IV HC channels. Response: Category C protection (BMP 12.6, 13.14).</p>
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<p>GEOLOGY/KARST: Concern: There are about 5 acres of moderate vulnerability karst in Unit 976. Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).</p>

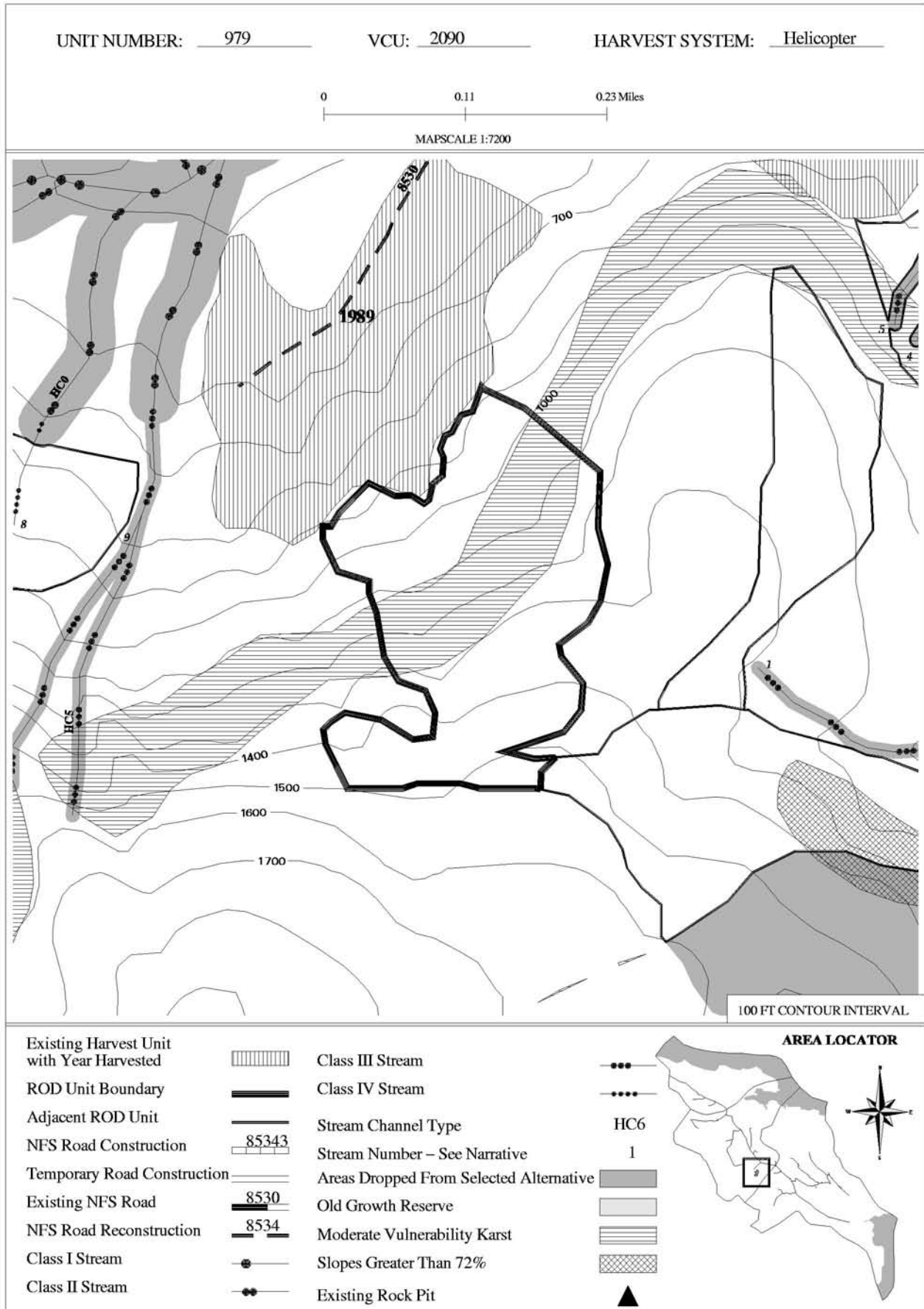
<p>HERITAGE RESOURCES: No concerns</p>

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

<p>SOILS/WETLANDS: Slopes ranged from 20-75% in Unit 976. The steep areas are in the portion east of the Class III v-notch. Concern: There are about 12 acres of past landslide slopes and swales with 4 acres of slopes greater than 72%. Response: Remove at maximum 40% of the volume between the swales to maintain slope stability. Helicopter yarding will meet soil productivity objectives (BMP 13.5). The rest of Unit 976 is suitable for the proposed helicopter harvest (BMP 13.9). Area to the east of Unit 976 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: High deer use was observed in the southwest portion of the unit. Response: Proposed harvest system will not create openings greater than 2 acres in size within this habitat and retention will help to maintain habitat for deer. Concern: Red-tailed hawk nest was observed in the northeast portion of the unit. Response: Maintain a 600-foot no-harvest buffer that is windfirm around active raptor nest and restrict harvest and road building activities from March 1 to July 31 within the buffer.</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	979	Selected Alternative		Total Unit Acres:	30.6	Vol Strata Acres:	High: 25.7 Med: 2.3 Low: 2.6
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	419	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 9-36" DBH western hemlock (40% BA), 9-36" DBH mountain hemlock (33% BA) and 16-50" DBH spruce (27% BA). There are several small muskeg openings in the southern portion of the unit. Western/mountain hemlock and spruce advanced regeneration is moderately abundant. Wind risk is low.

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 40 percent of existing basal (240 sq.ft.per acre) area singly and/or in small clumps 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: No GIS-mapped streams.

GEOLOGY/KARST: Concern: There are about 9 acres of moderate vulnerability karst in Unit 979.

Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).

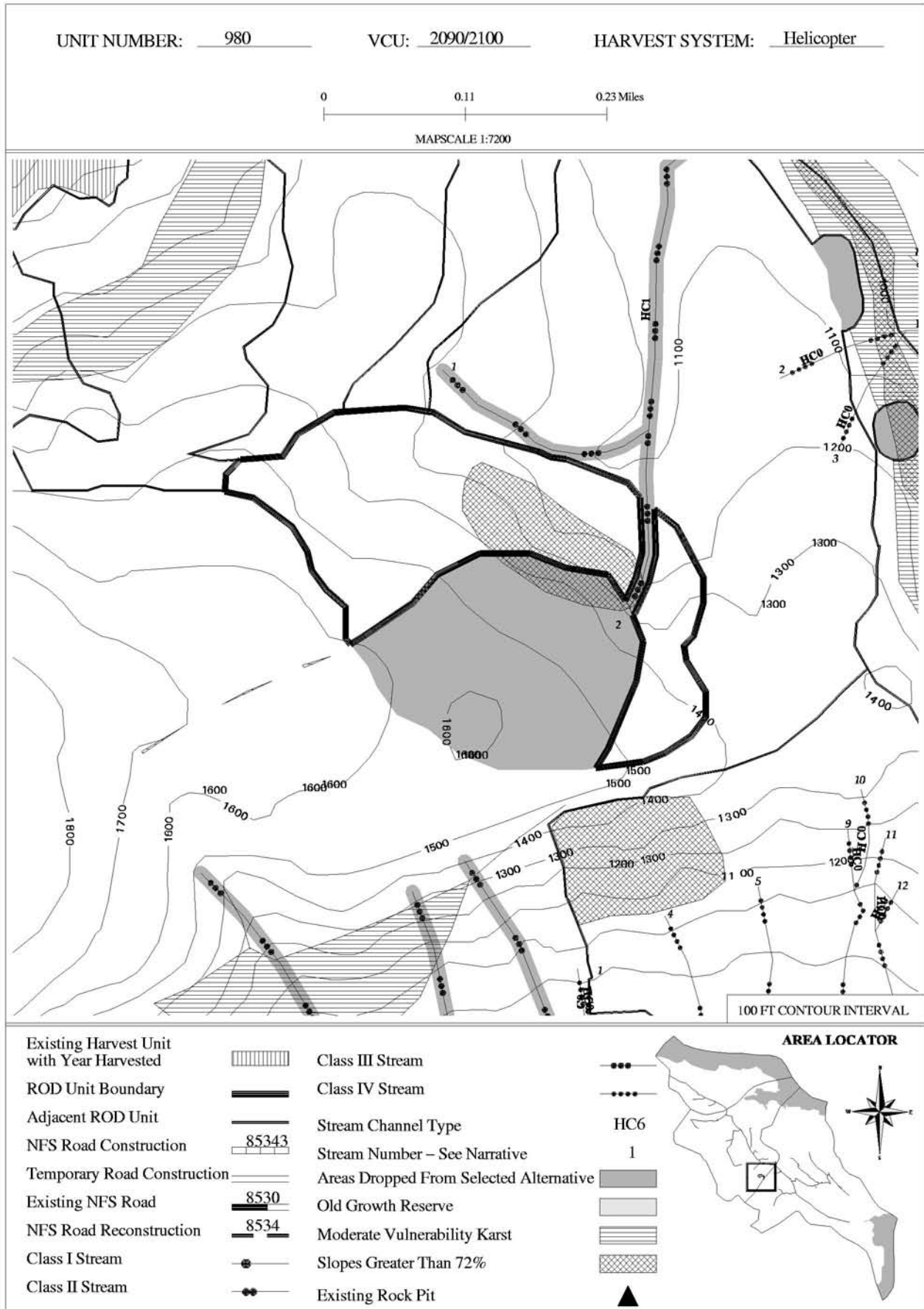
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes ranged from 20-55% in Unit 979. Unit is suitable for proposed helicopter harvest (BMP 13.9). Areas to the southwest and north of Unit 979 dropped for stability concerns (BMP 13.5).

WILDLIFE: No concerns

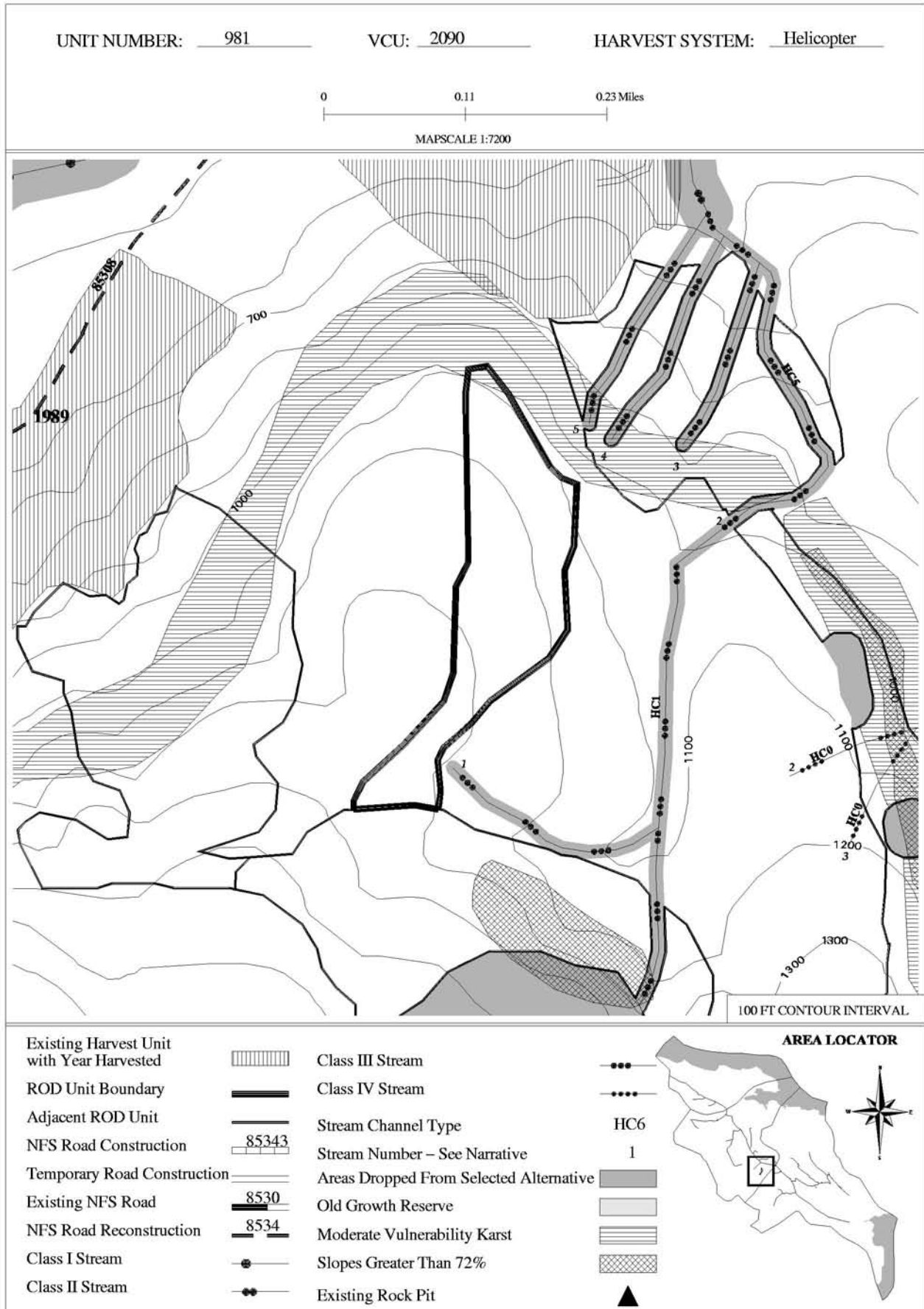
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	980	Selected Alternative	Total Unit Acres:	27.5	Vol Strata Acres: High: 22.1 Med: 5.3 Low: 0.1
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	383 Prescription /Percent Retention: ST40

Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand consists of 9-28" DBH mountain hemlock (95% BA) and 20-48" DBH spruce (50% BA). There are several small alpine muskeg openings in the southern portion of the unit. Western/mountain hemlock advanced regeneration is moderately abundant with some spruce also present. Wind risk is low. 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 40 percent of existing basal (240 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
<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 and 2 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).</p>
<p>GEOLOGY/KARST: Concern: There are about 19 acres of high vulnerability karst in Unit 980. Response: This area in the south part of Unit 980 is excluded from the proposed helicopter harvest to protect the features in this area (BMP 13.2).</p>
<p>HERITAGE RESOURCES: No concerns</p>
<p>SCENERY/RECREATION: No concerns</p>
<p>SOILS/WETLANDS: Slopes ranged from 30-90% in Unit 980. The soils are generally well drained and deep with a history of past landslides. Concern: There are about 6 acres of slopes greater than 72% located near the western boundary. Timber harvest may accelerate landsliding on slopes over 72% gradient. Response: Avoid the slopes over 72% when choosing stands to harvest here to meet soil productivity objectives (BMP 13.5). The rest of Unit 980 is suitable for the proposed helicopter harvest (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).</p>
<p>WILDLIFE: 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.</p>

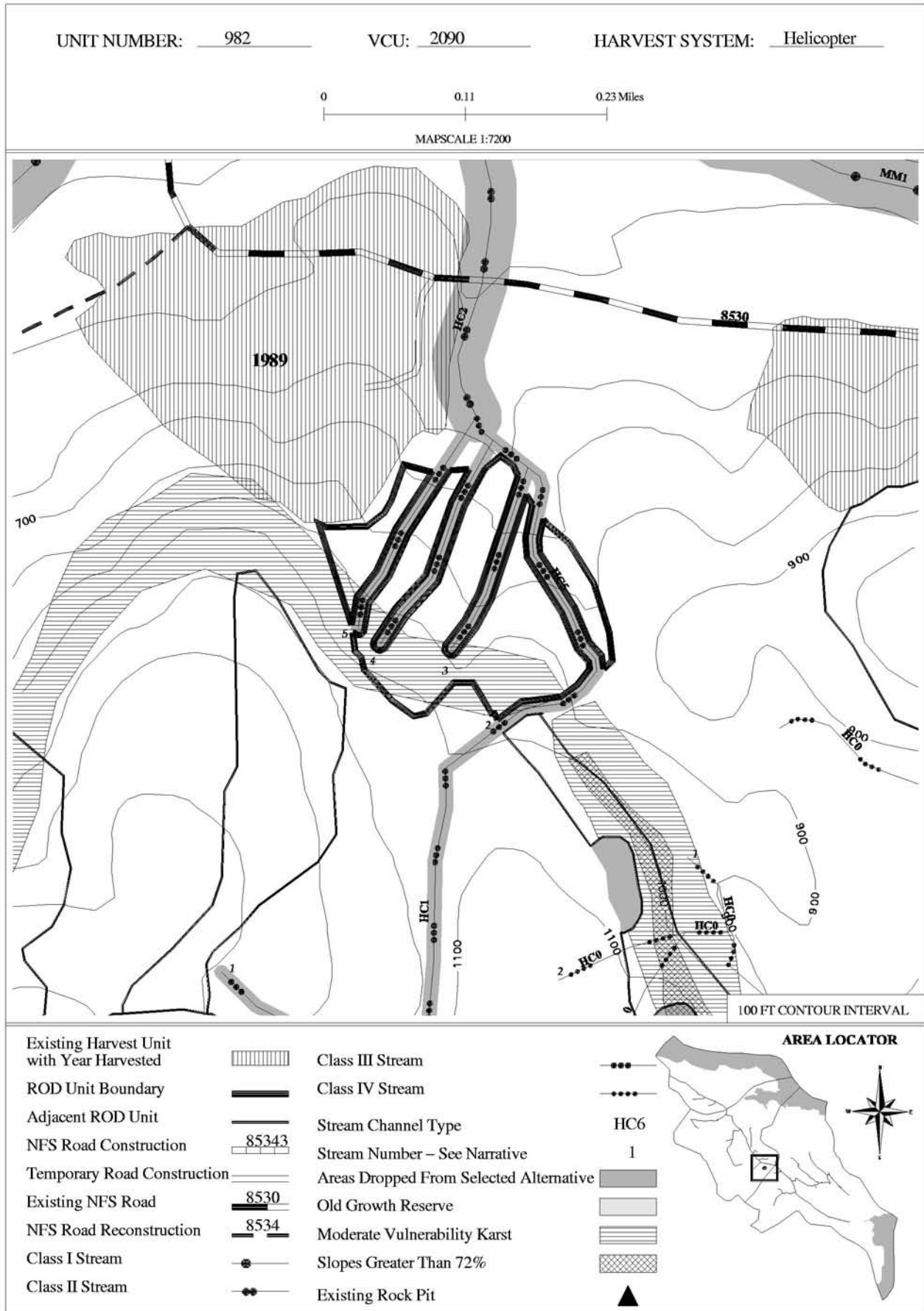
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	981	Selected Alternative	Total Unit Acres:	14.4	Vol Strata Acres: High: 0.0 Med: 1.6 Low: 12.8
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	116 Prescription /Percent Retention: ST40

Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand consists of 9-36" DBH mountain hemlock (50% BA), 9-40" DBH western hemlock (36% BA), and 16-36' DBH spruce (14% BA). There are several muskeg openings surrounding the unit. Western/mountain hemlock advanced regeneration is moderately abundant with some spruce also present. Wind risk is low. 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 40 percent of existing basal (210 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>
<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 stream 1 is a Class III HC channel. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).</p>
<p>GEOLOGY/KARST: Concern: There is less than 1 acre of moderate vulnerability karst in Unit 981. 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 25-40% in Unit 981. Concern: Most of the unit is forested wetland. Response: Helicopter logging will protect wetlands and meet resource objectives. (BMP 12.5) 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. Areas to north of unit 981 dropped for stability concerns (BMP 13.5).</p>
<p>WILDLIFE: No concerns</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	982	Selected Alternative		Total Unit Acres:	16.5	Vol Strata Acres:	High: 0.9 Med: 15.5 Low: 0.1
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	183	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists of 16-50" DBH western hemlock (47% BA), 12-40" DBH spruce 942% BA) and 12-16" DBH mountain (11% BA). The NW portion of the is the most productive. Western/mountain hemlock and spruce advanced regeneration is moderately abundant. 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 requirements.</p>

<p>Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 40 percent of existing basal (253 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. Refer to the intro to unit cards, marking guidelines and detailed RX for more information.</p>

<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: Stream 2 is a Class III HC channel. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: GIS-mapped streams 3, 4, 5 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).</p>
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<p>GEOLOGY/KARST: Concern: There are about 5 acres of moderate vulnerability karst in Unit 982. Response: A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).</p>

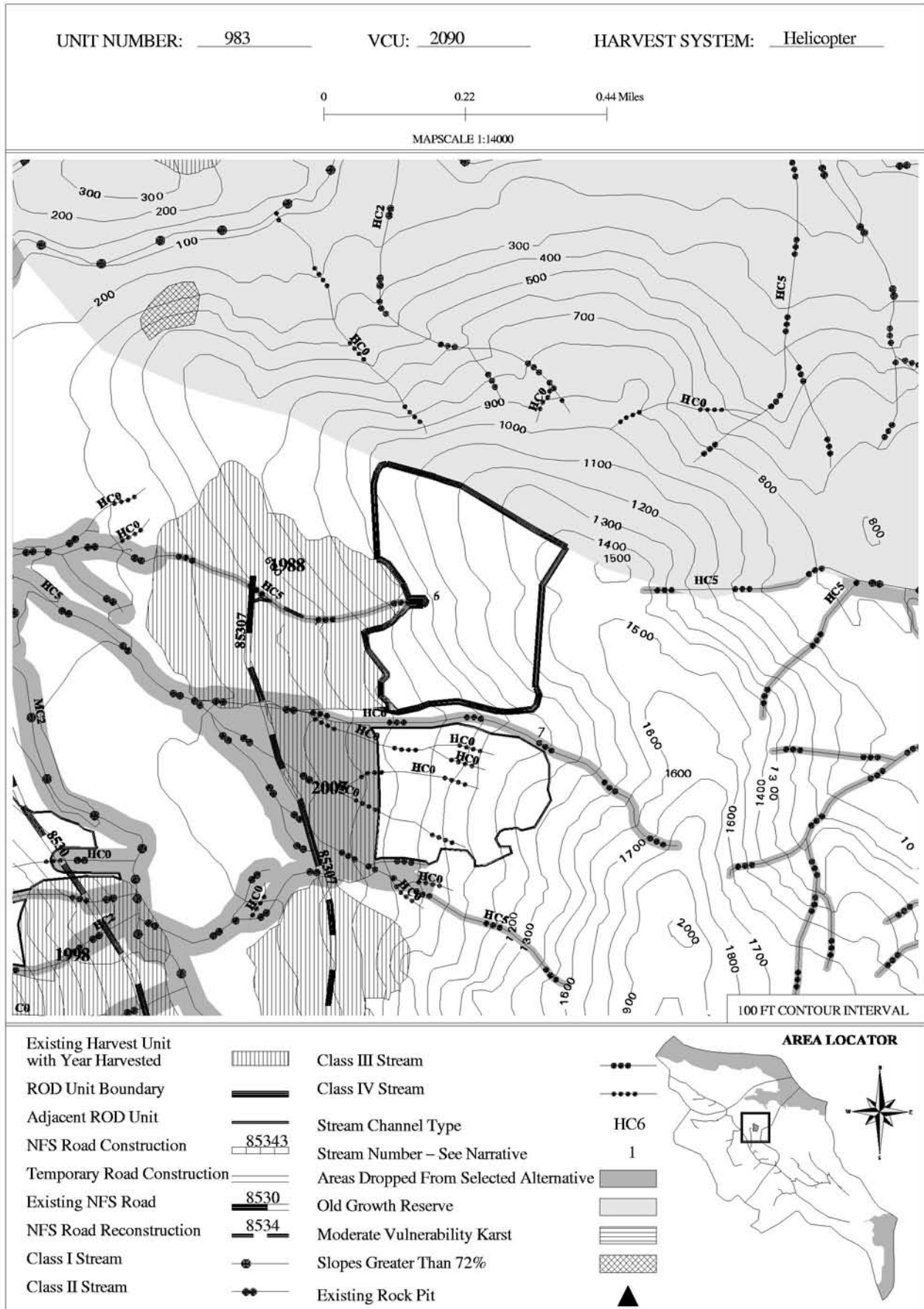
<p>HERITAGE RESOURCES: No concerns</p>

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

<p>SOILS/WETLANDS: Slopes range from 25-40% in Unit 982. 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 west of Unit 982 dropped for stability concerns (BMP 13.5).</p>

<p>WILDLIFE: 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.</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	983	Selected Alternative		Total Unit Acres:	53.7	Vol Strata Acres:	High: 0 Med: 53.4 Low: 0.3
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	433	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 9-39" DBH western hemlock (52% BA), 9-39" DBH mountain hemlock (38% BA) with some 28-36" DBH spruce (10% BA). There is a patch of moderate windthrow in the eastern part of the unit. Western/mountain hemlock advanced regeneration is moderately abundant with a minor amount of 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 requirements.

Silvicultural Prescription: Uneven-aged management – Single tree selection. Designate up to 25 percent of existing basal (211 sq.ft.per acre) area singly and/or in small clumps 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: Concern: Stream 7 is a Class III HC channel. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Do not locate patch cuts within windfirm zone 120 feet from v-notch. **Concern:** GIS-mapped stream 6 is a Class III HC channel. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Do not locate patch cuts within windfirm zone 120 feet from v-notch.

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

HERITAGE RESOURCES: No concerns

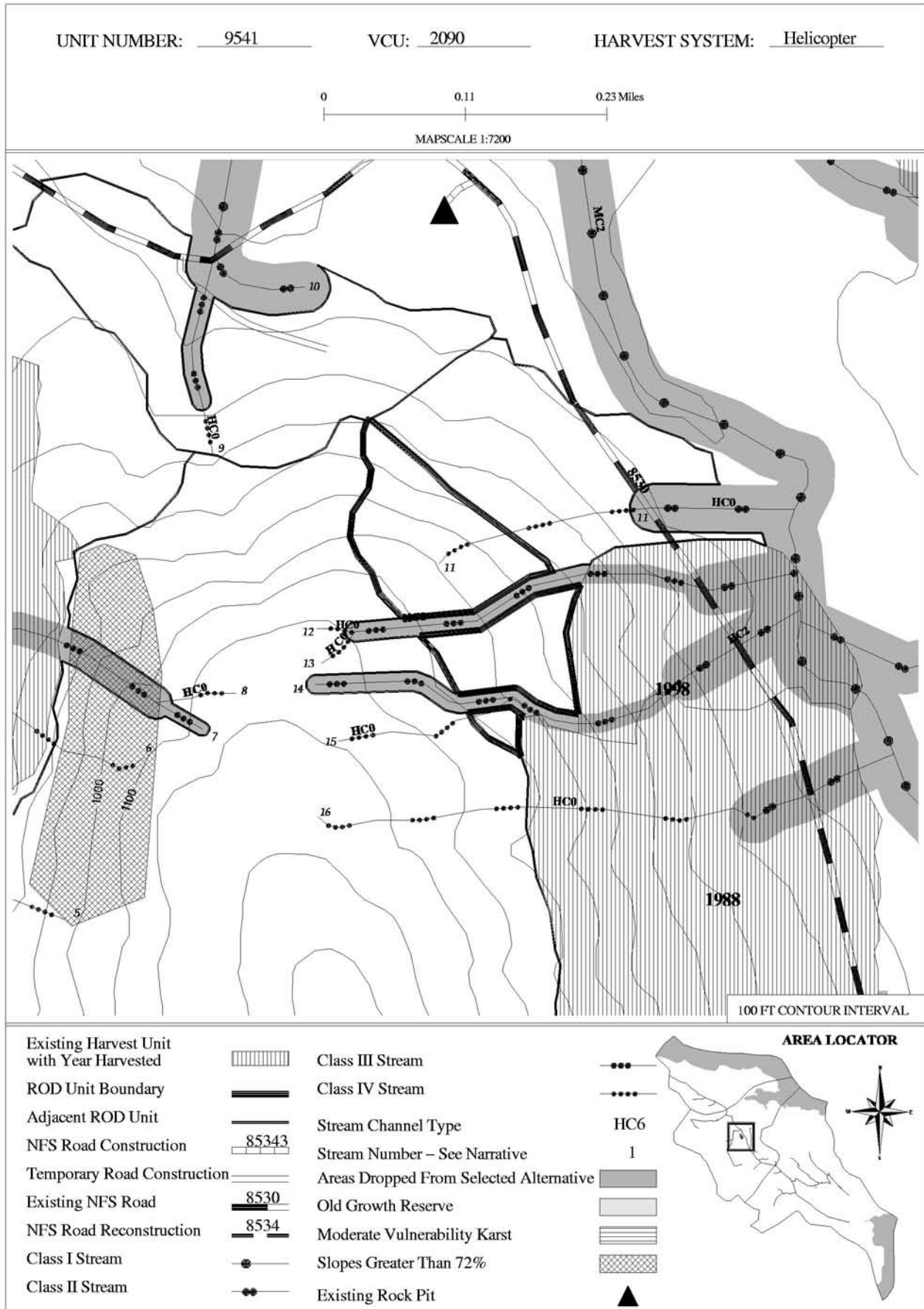
SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 20-60% in Unit 983. Unit is suitable for proposed helicopter harvest. (BMP 13.9) Area to the north of Unit 983 dropped for stability concerns (BMP 13.5).

WILDLIFE: Concern: Northern boundary adjacent to old growth LUD. **Response:** Ensure unit boundary does not enter old growth LUD. **Concern:** Bear dens located in unit. Location was not recorded.

Response: Maintain a 200-foot forested buffer around den sites.

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
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Unit Number:	9541	Selected Alternative		Total Unit Acres:	13.7	Vol Strata Acres:	High: 13.6 Med: 0.1 Low: 0
VCU Number:	2090	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	135	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
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SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists primarily of 12-40" DBH western hemlock (86% BA) and 24-44" DBH spruce (14% BA). There is an area of moderate windthrow in the center of the unit. Advanced hemlock regeneration is moderate with a minor amount of spruce. 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 25 percent of existing basal (267 sq.ft.per acre) area singly and/or in small clumps 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.

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

FISH/WATERSHED: **Concern:** Stream 11 and 15 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). **Concern:** Streams 12, 13, 14 are Class III HC channels. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).

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 35-60% in Unit 9541. **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.

WILDLIFE: **Concern:** High deer use was observed in the west portion of the unit. Unit is located in a travel corridor that maintains connectivity from low to high elevation habitat. **Response:** Proposed timber management will not create openings greater than 2 acres in size within this habitat. Retention of 75% of the basal area will help to maintain connectivity and deer habitat.