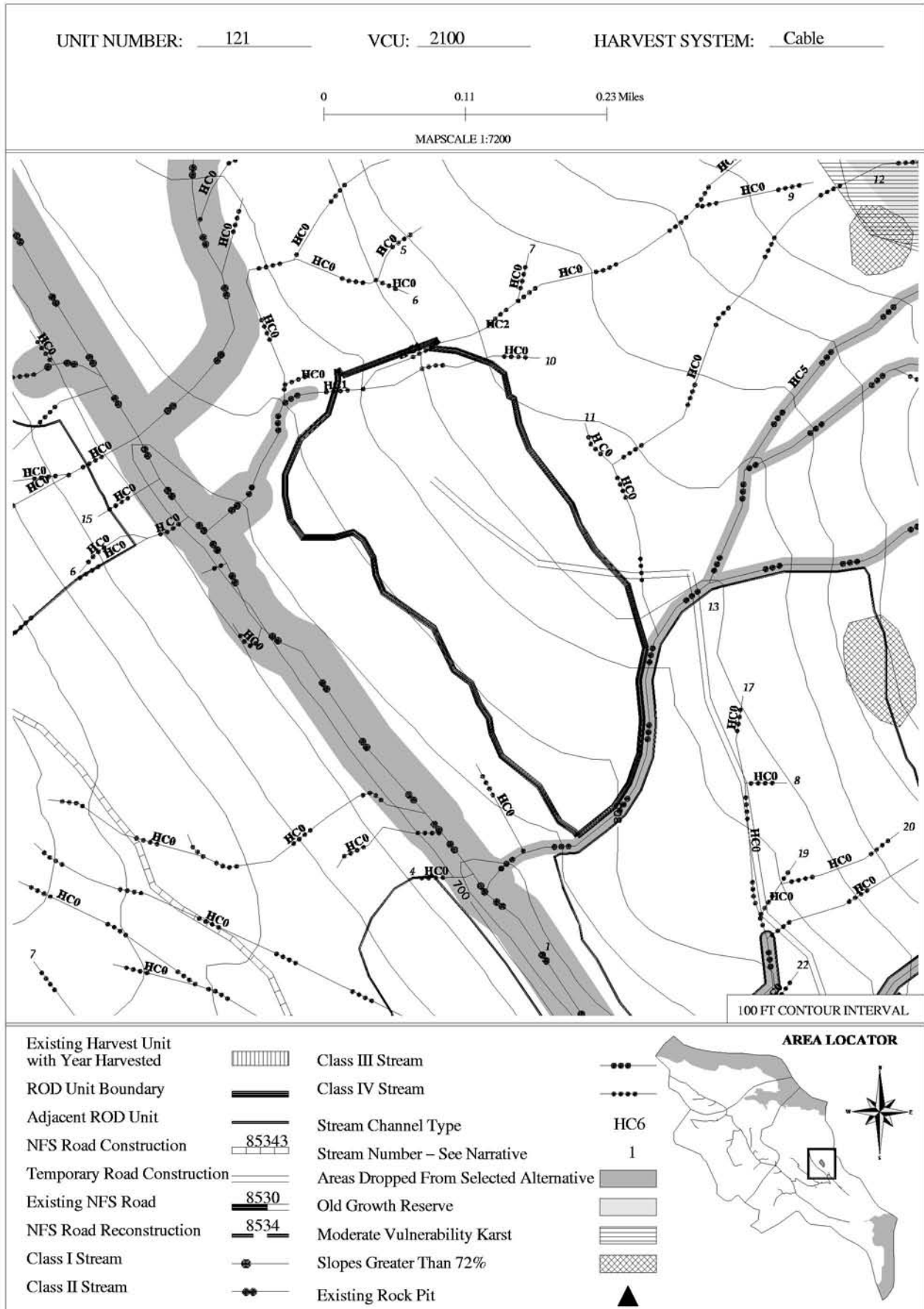


IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	121	Selected Alternative	Total Unit Acres:	37.1	Vol Strata Acres: High: 32.7 Med: 4.1 Low: 0.3
VCU Number:	2100	Harvest System:	Net Estimated Harvest Volume (MBF):	960	Prescription /Percent Retention: CC

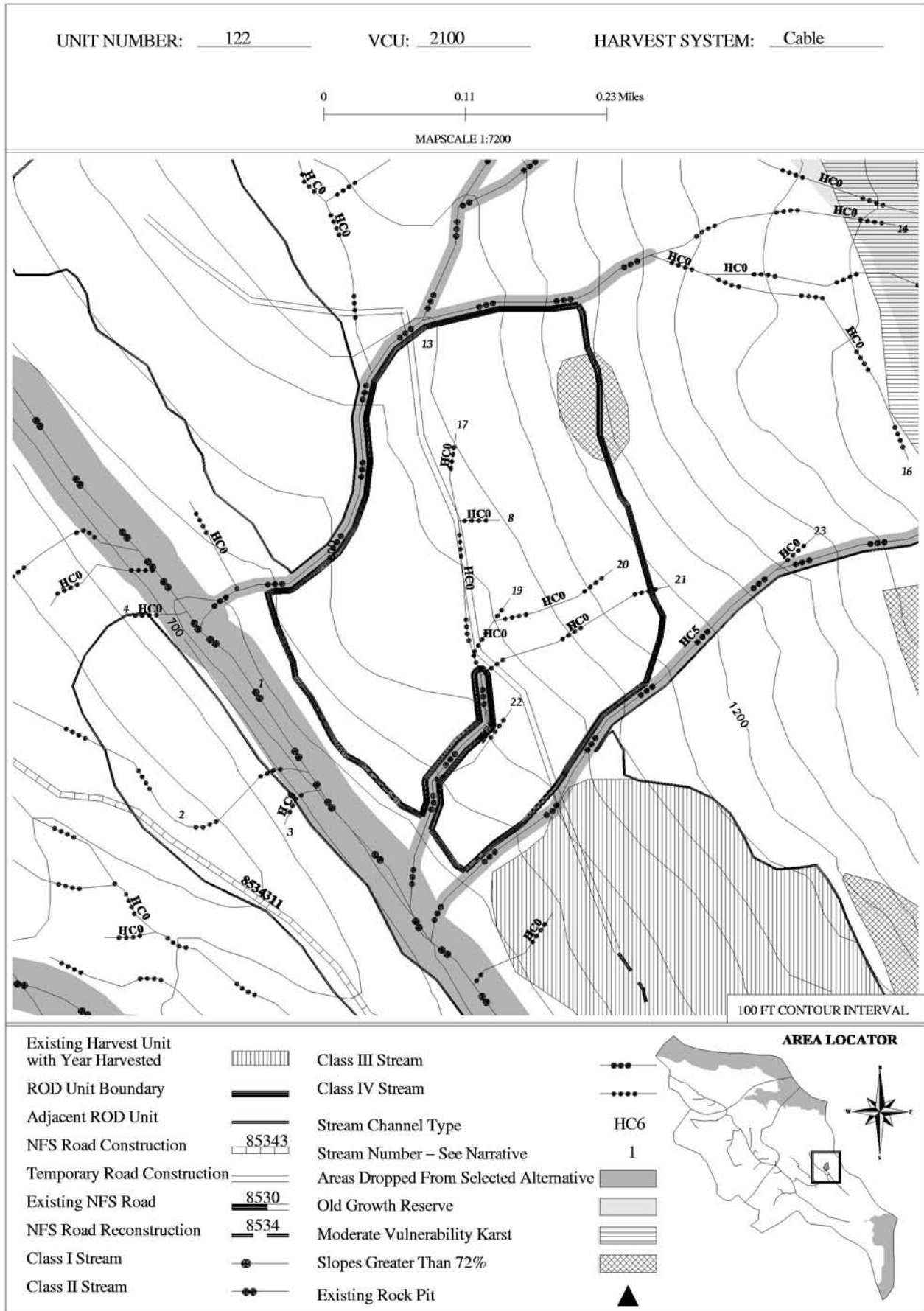
Summary of Concerns, Responses, BMPs and Mitigation	
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand is comprised of primarily even-aged 12-40" DBH spruce (31% BA) and 12-40 " DBH western hemlock (69% BA). This is mainly a wind generated stand with a high stem count and low defect. The majority of the trees are in 16-24" diameter classes. Well drained soils characterize the stand. Wind risk is high throughout unit. 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 contains a stream buffer along the southern boundary and splits units 121 and 122. The RAW zone will be included in Unit 122 (refer to fish/watershed section). In an effort to increase yellow cedar composition and establish yellow-cedar in areas judged to be suitable for long-term yellow-cedar survival, experimental planting of yellow-cedar is prescribed for this unit following harvest. Planting density will be 222 TPA (14x14 spacing) and should occur as soon as possible (within two growing seasons) following harvest.</p>	
<p>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. There are some limited shovel yarding opportunities near the road.</p>	
<p>ENGINEERING/ROADS: Temporary road 22 accesses unit from existing Road 8534 via planned temporary road 85344. New construction of 85344 begins after 0.19 miles of reconstruction. Road location will be flagged by USFS prior to construction.</p>	
<p>BOTANY RESOURCES: No concerns</p>	
<p>FISH/WATERSHED: Concern: Stream 8 is a Class IV HC channel with unstable side-slopes. Response: Category C protection (BMP 12.6, 13.14) with split yard or full suspension to protect v-notch. Concern: Stream 10 is a Class IV HC channel. Response: Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). Concern: Stream 13 is a Class III HC channel. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Manage for windfirmness 120 feet from v-notch (RIP III). Concern: Temporary road – stream crossings. Response: Log stringer bridge designated for Stream 13. 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 10-30% on benches and from 45-55% between benches in Unit 121. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9) Concern: Benchy terrain may limit road location. Response: Keep road on top of benches to avoid sidehilling and erosion.</p>	

Summary of Concerns, Responses, BMPs and Mitigation

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.

This page left blank intentionally.

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
--

Unit Number:	122	Selected Alternative		Total Unit Acres:	55.4	Vol Strata Acres:	High: 29.5 Med: 25.9 Low: 0
VCU Number:	2100	Harvest System:	C	Net Estimated Harvest Volume (MBF):	1,357	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation
--

SILVICULTURE:

Existing Stand Condition/Vegetation: The western portion, near the footslope, consists primarily of even-aged 12-28" DBH western hemlock with scattered spruce. This is a wind generated stand with a high stem count and low defect. The eastern portion, along the backslope, is an older uneven-aged stand comprised of 20-45" DBH trees with a slightly higher spruce component. Wind risk is high throughout unit. There is an area of windthrow associated with previous harvest along the southeastern edge of unit.

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 contains stream buffers and RAW zones. For RAW zones 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 buffers. A high wind risk boundary may be created in the NW side of unit using the RAW zone criteria above. Review during layout to determine if windfirming is warranted.

TIMBER/LOGGING: This unit is comprised of three cable settings. The southern-most setting accesses the area south of stream #17, a class III stream that requires split yarding. The other two settings access the remaining area and are defined by a logical setting break based on topography and lateral yarding capabilities. There are some limited shovel yarding opportunities near the road.

ENGINEERING/ROADS: Temporary road 85344 accesses unit from existing Road 8534. New construction of 85344 begins after 0.19 miles of reconstruction. 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 13, 17 (lower) and 23 are Class III HC channels. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Manage for windfirmness 120 feet from buffer on south side of streams 13 and 17, or increase buffer width if selective harvest is not feasible. Manage for windfirmness 120 feet from buffer north of stream 23. **Concern:** Streams 17 (upper), 18, 19, 20, 21, and 22 are Class IV HC channels. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). **Concern:** The lower 100 feet of Stream 21 is a Class IV HC channel with unstable side-slopes. **Response:** Split yard this channel segment or fully suspend across channel. **Concern:** Temporary road – stream crossings. **Response:** Log stringer bridge designated for Stream 13. 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

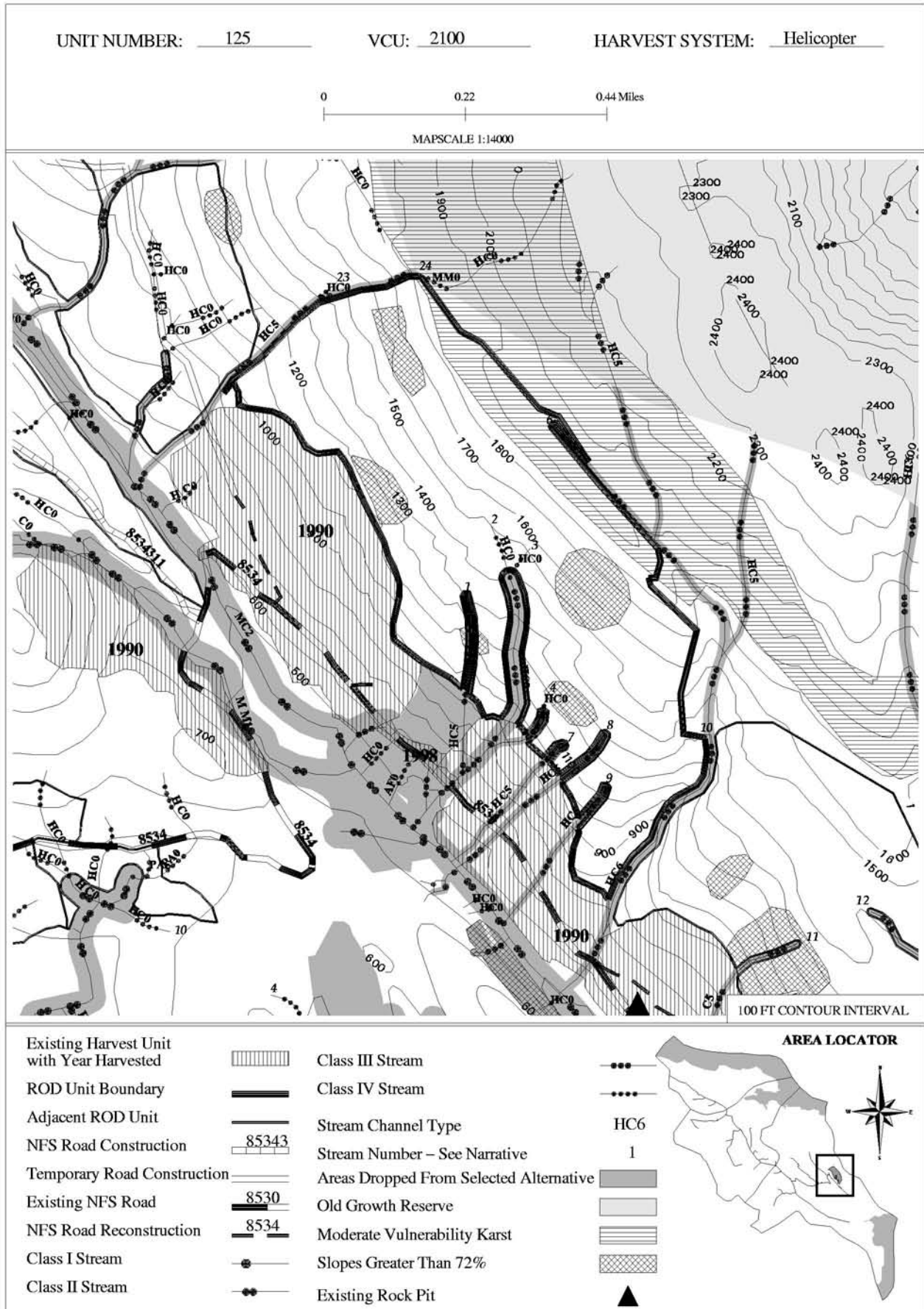
Summary of Concerns, Responses, BMPs and Mitigation

SOILS/WETLANDS: Slopes range from 10-30% on benches and from 45-65% between benches in Unit 122. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9) **Concern:** Proposed temporary road crosses about 100' 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:** 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.

This page left blank intentionally.

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	125	Selected Alternative	Total Unit Acres:	185.2	Vol Strata Acres: High: 80.5 Med: 104.7 Low: 0
VCU Number:	2100	Harvest System:	Net Estimated Harvest Volume (MBF):	1,687	Prescription /Percent Retention: ST25

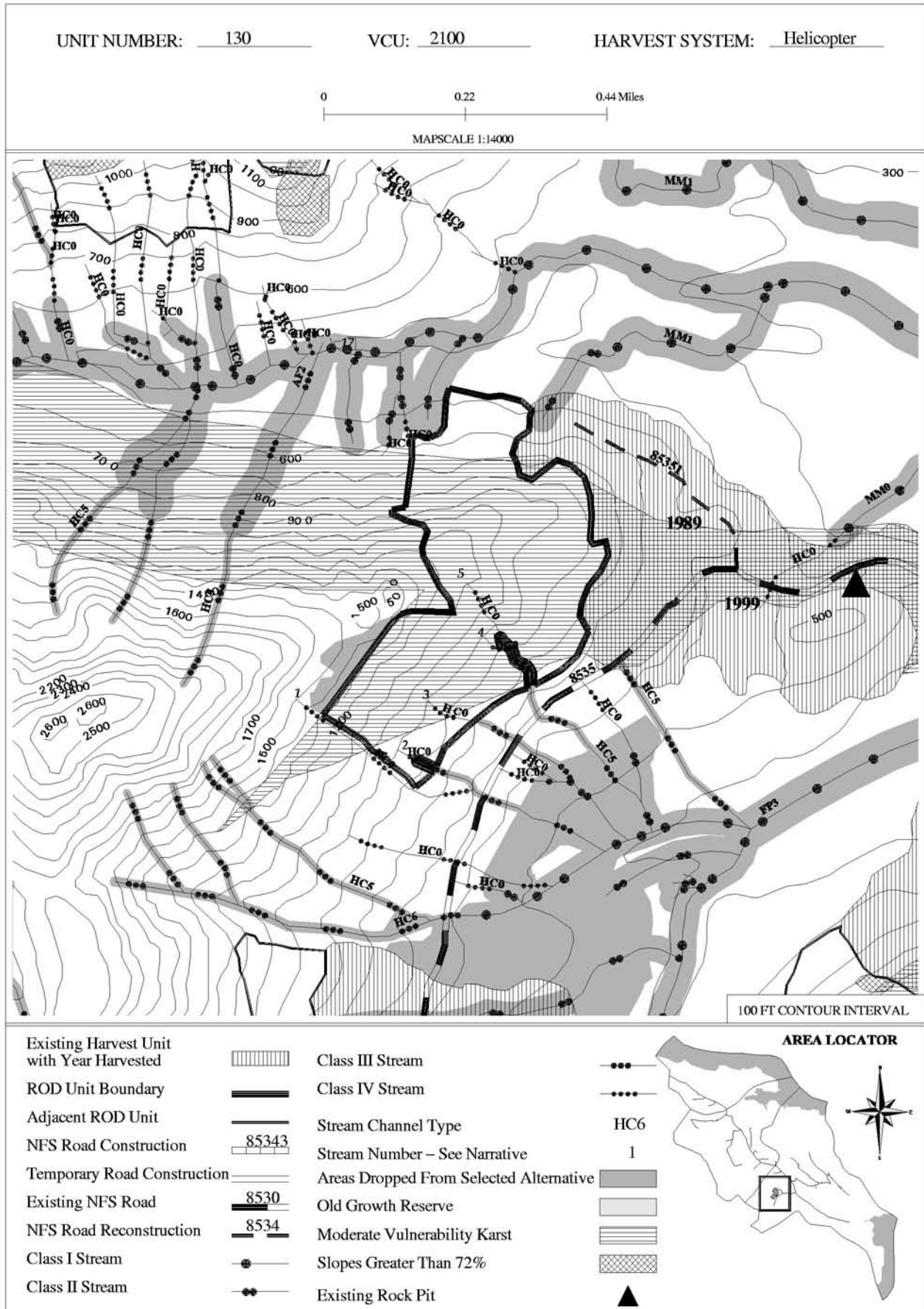
Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE:</p> <p>Existing Stand Condition/Vegetation: Stand consists of 12-36" DBH mountain hemlock (39% BA), 9-30" DBH western hemlock (26% BA) and 16-40" DBH spruce (35% BA). The eastern side of the unit is at higher elevation and contains several avalanche chutes on steeper slopes. The western side of the unit supports higher volume, especially spruce. Wind risk is high throughout unit.</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 25 percent of existing basal (319 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. 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.</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: 24, 1, 2 (lower), 4, 6,7,8, 9 and 10 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Manage for windfirmness 120 feet beyond no-cut buffer along southeasterly edge of v-notches. Concern: Streams 2 (upper) and 3 are Class IV HC channels. Response: Category C protection (BMP 12.6, 13.14).</p>
<p>GEOLOGY/KARST: Concern: There are about 19 acres of moderate vulnerability karst along the eastern boundary of Unit 125. 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 30-100% with 65% being the median gradient. Slopes frequently exceed 72% slope in Unit 125. There are about 17 acres of slopes over 72%. These slopes are well-drained, steep and benchy with several exposed rock outcrops. Brush slopes are common at these elevations (above 1500 feet). There are no signs of instability on slopes below 1500 feet elevation. Concern: Some landslides may initiate on the slopes greater than 72% and enter streams or waterbodies. Response: Do not harvest any slopes greater than 72% within the RAW zone. Slopes up to 80% may be harvested with the proposed helicopter prescription. Avoid slopes greater than 80% in Unit 185. Concern: Harvest on slopes greater than 72% adjacent to brush slopes may cause landslides in timbered areas. Response: Do not harvest slopes over 72% on elevations above 1500 feet elevation. (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).</p>

Summary of Concerns, Responses, BMPs and Mitigation

WILDLIFE: Concern: High deer use was observed in the south end of the unit. **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 help to maintain deer habitat. **Concern:** Red-tailed hawk and sharp-shinned hawk were observed in or 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.

This page left blank intentionally.

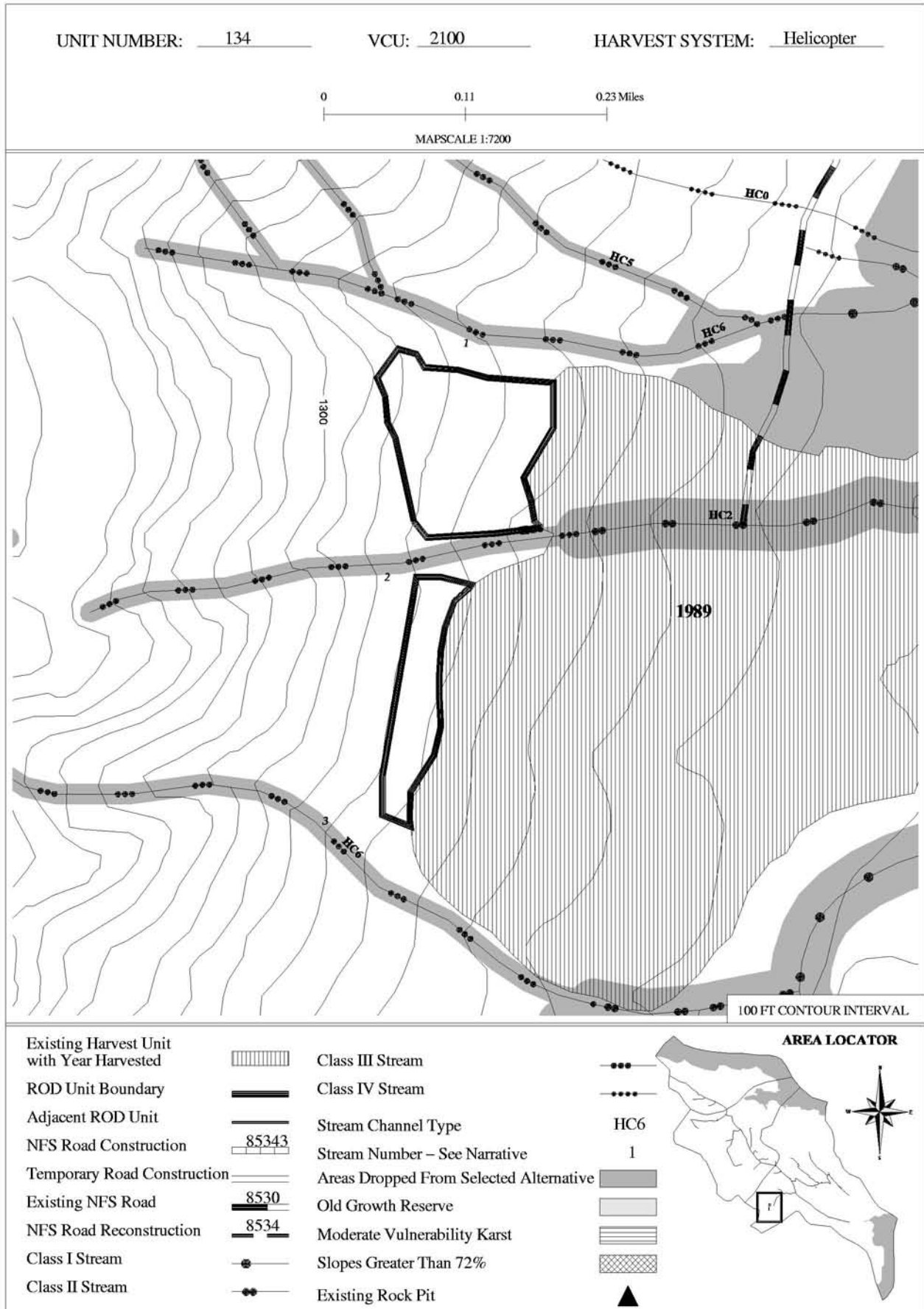
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	130	Selected Alternative	Total Unit Acres:	86.3	Vol Strata Acres: High: 9.0 Med:72.6 Low: 4.7
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	707 Prescription /Percent Retention: ST25

Summary of Concerns, Responses, BMPs and Mitigation	
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand consists of 12-36" DBH mountain hemlock (39% BA), 12-43" DBH western hemlock (23% BA), 16-40" DBH spruce (22% BA), and 12-40" DBH yellow-cedar (16% BA). The yellow-cedar is concentrated primarily in the eastern portion of the unit and is of exceptional quality. Many trees are 90'+ and 30"+ DBH with minimal defect. The ridge top contains many large hemlock 30-40" DBH with low defect. unit also contain several brush fields/openings. Hemlock advanced regeneration is abundant with yellow-cedar regeneration also present. Wind risk is low throughout unit. 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 (145 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 (upper), 3, 4, and 5 (upper) are class IV HC channels. Response: Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). Concern: Streams 2 (lower) and 5 (lower) 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 4 acres of high vulnerability and 72 acres of moderate vulnerability karst in Unit 130. Response: The high vulnerability area in the western portion of Unit 130 is excluded from the proposed helicopter harvest to protect the features in this area and a minimum of partial suspension is require to meet karst resource objectives in the moderate vulnerability area. (BMP 13.2)</p>	
<p>HERITAGE RESOURCES: No concerns</p>	
<p>SCENERY/RECREATION: No concerns</p>	
<p>SOILS/WETLANDS: Slopes range from 50-100%. Concern: About 3 acres greater than 72% slope exist in this unit. Response: These slopes are unsuitable for Timber harvest. Do not mark trees for cutting in this unit. The rest of the unit is suitable for the proposed helicopter yarding. (BMP 13.5, 13.9)</p>	
<p>WILDLIFE: Concern: High deer use was observed in the north portion of the unit. 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 help to maintain deer habitat. Concern: Pluck post identified in the unit. Surveys did not identify a goshawk or sharp-shinned hawk nest site. Response: 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. Maintain a 600-foot no-harvest buffer that is windfirm around other active raptor nests if identified and restrict harvest and road building activities from March 1 to July 31 within the buffer. Concern: Bear den located just above the 1200 foot contour in the upper NE portion of the unit. Response: Maintain a 200-foot forested buffer around den sites.</p>	

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
--

Unit Number:	134	Selected Alternative		Total Unit Acres:	13.7	Vol Strata Acres:	High: 0 Med: 13.7 Low: 0
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	111	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
--

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists 16-48" DBH western hemlock (46% BA) and 16-55" DBH spruce (54% BA). There is a considerable number of 40-50" DBH low defect spruce and hemlock in this unit (5-7/acre). There are also pockets of abundant advanced regeneration throughout the unit. Wind risk is low throughout unit.

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 (213 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:** 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).

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

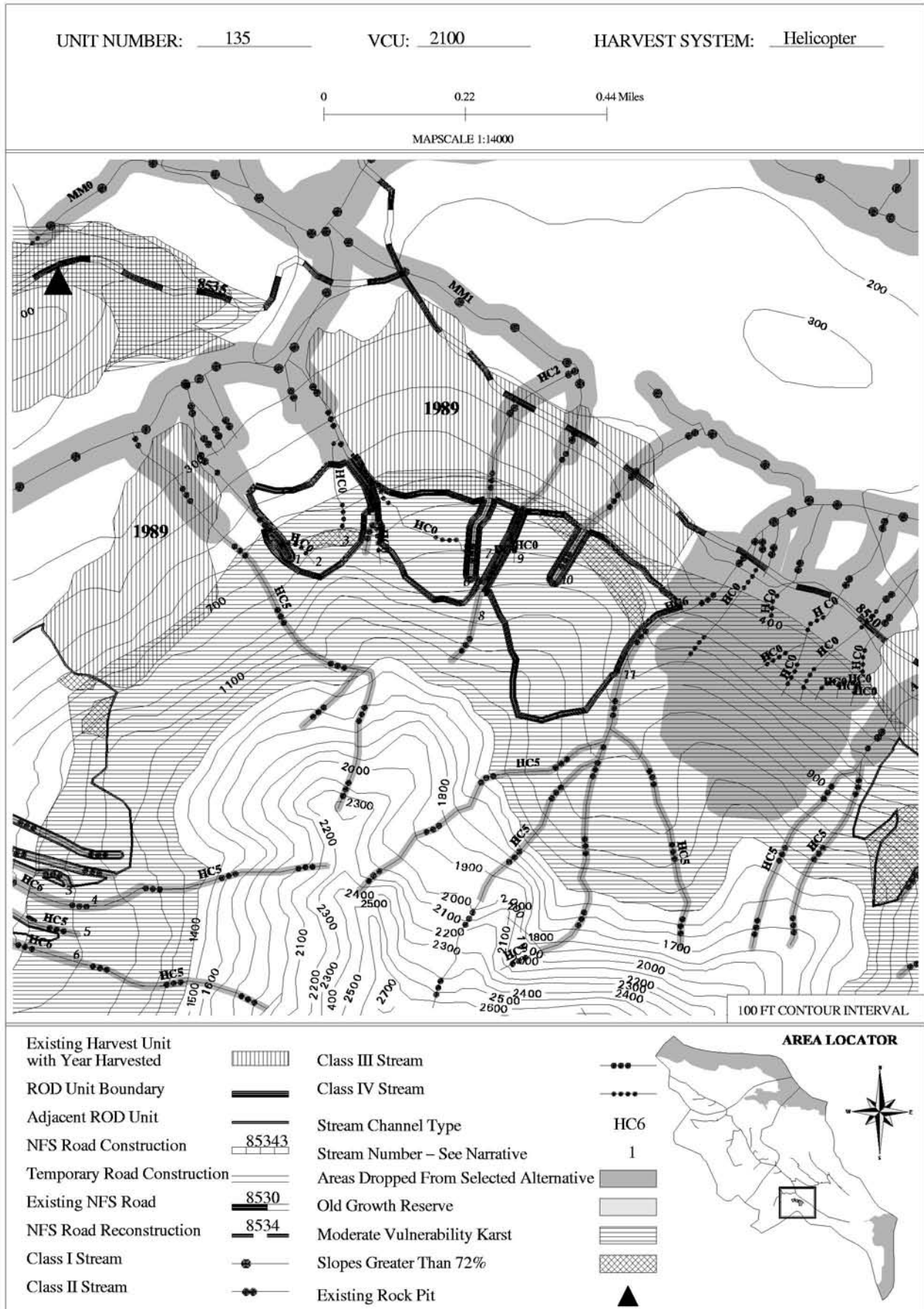
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 30-60% in Unit 134. **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 the north, west and south of Unit 134 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:	135	Selected Alternative		Total Unit Acres:	64.7	Vol Strata Acres:	High: 62.3 Med: 1.8 Low: 0.6
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	657	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists of 12-40" DBH western hemlock (68% BA), 20-36" DBH spruce (19% BA), 16-40" DBH mountain hemlock and 9-24" DBH yellow-cedar (11% BA). There are cliffs in the lower elevations of the units, just above the existing managed stand. The area above the cliffs is the most productive. Hemlock advanced regeneration is abundant with yellow-cedar regeneration also present. Wind risk is low throughout unit.

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 (186 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:** Streams 1, 4, 6, 8, 10, and 11 are Class III HC channels. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). **Concern:** Streams 2, 3, 5, 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).

GEOLOGY/KARST: **Concern:** There are about 60 acres of moderate vulnerability karst in Unit 135. **Response:** A minimum of partial suspension is required to meet karst resource objectives (BMP 13.9).

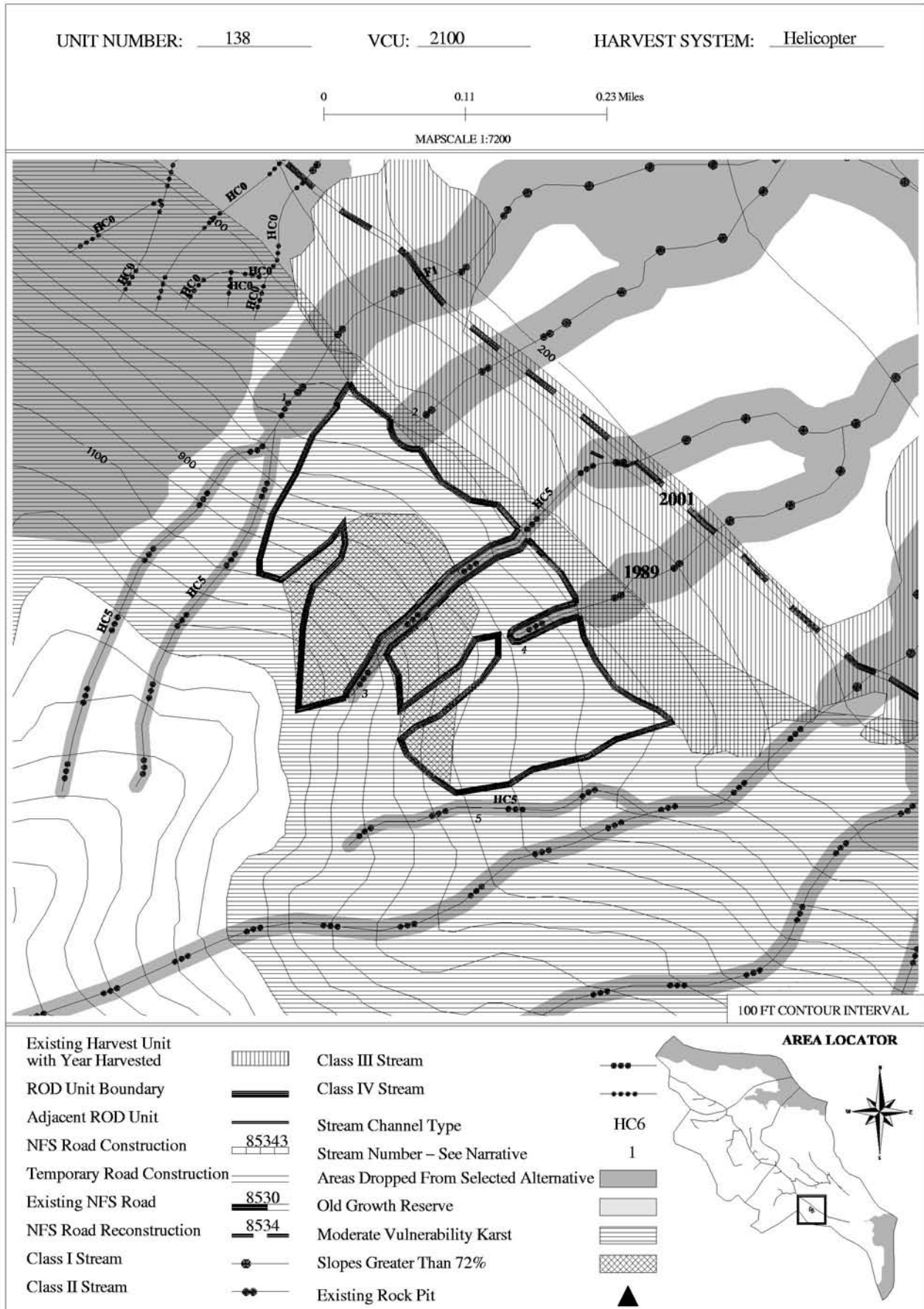
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 55-120% in Unit 135. There are about 7 acres of slopes greater than 72% in Unit 135. About 6 of those acres are in the cliffs along the northeastern boundary of the unit above the backline of the clearcut. **Concern:** Timber harvest may accelerate landsliding on slopes over 72% gradient. **Response:** Avoid the slopes over 72% during layout as they are unsuitable for harvest (BMP 13.5). **Concern:** A minimum of partial suspension is required to meet soil quality standards in the rest of the unit (BMP 13.9). **Response:** Unit is proposed as full suspension, which exceeds partial suspension requirements. Areas to the west and south of Unit 135 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: No concerns

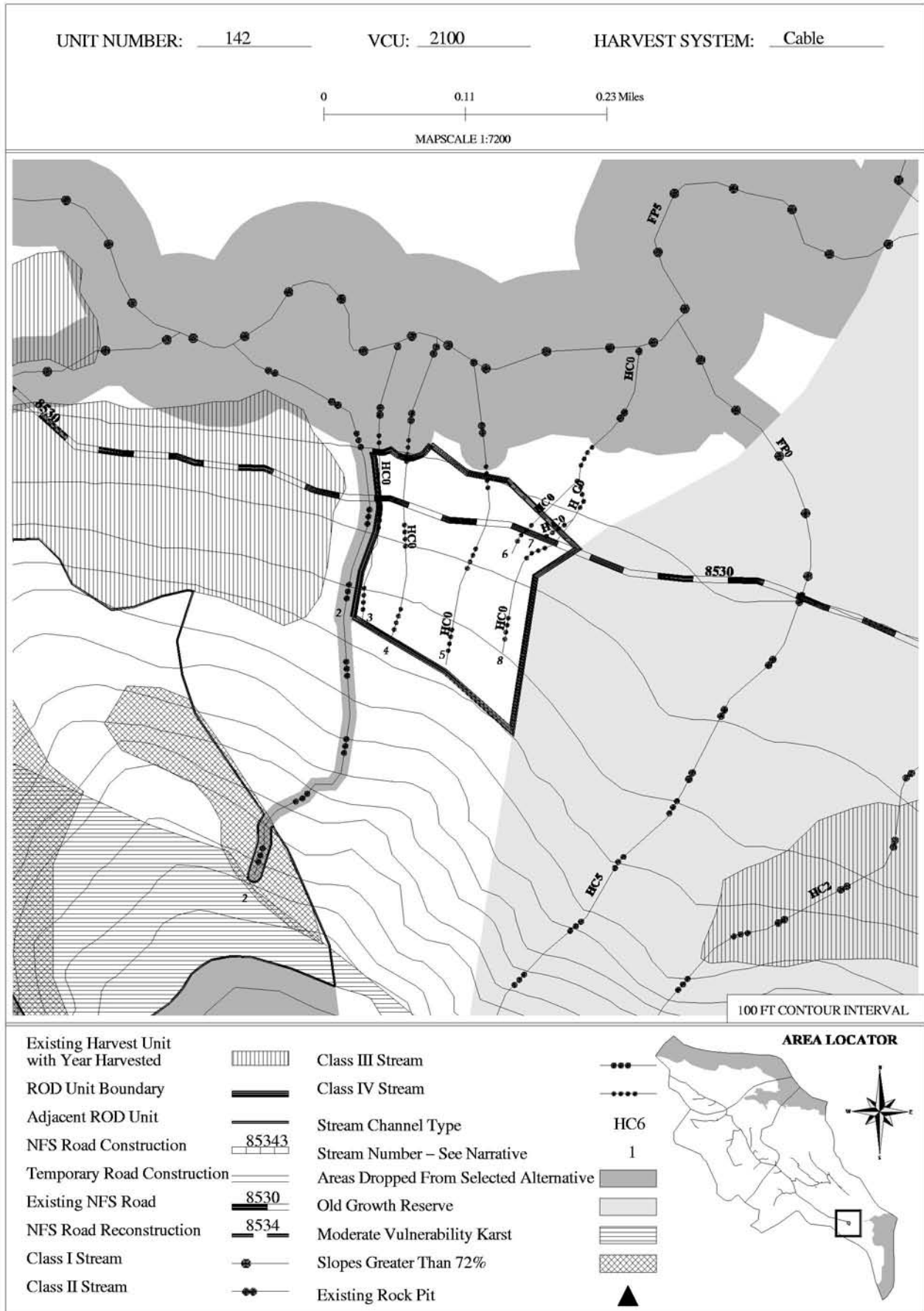
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative					
Unit Number:	138	Selected Alternative	Total Unit Acres:	30.1	Vol Strata Acres: High: 20.3 Med: 0 Low: 9.8
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	248
				Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE: Existing Stand Condition/Vegetation: Stand consists 12-40" DBH mountain hemlock (39% BA), 16-50" DBH spruce (33% BA), 12-28" DBH western hemlock (17% BA) and 20-28" DBH yellow-cedar (13% BA). The area just above the existing managed stand is the most productive. Hemlock advanced regeneration is abundant with yellow-cedar regeneration also present. 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 25 percent of existing basal (184 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding. 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. 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 (upper), 3, 4 (upper) and 5 are Class III HC channels. Response: Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III). Concern: Stream 1 (lower) is a Class II AF channel. Response: Category A protection (BMP 12.6, 13.14). No harvest within 140 feet of channel or on active portion of fan (RIP III). Concern: Streams 2 and 4 (lower) are Class II HC channels. Response: Locate unit above blue and white flagged channels if feasible. Category A protection (BMP 12.6, 13.14). No harvest within 100 feet and side-slope break (RIP III). Concern: Windthrow risk is high. Response: Manage for windfirmness 120 feet beyond no-cut buffers.</p>
<p>GEOLOGY/KARST: Concern: All of Unit 138 is moderate vulnerability karst. 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 65-120% in Unit 138 There are about 13 acres of slopes greater than 72% in Unit 138. There is evidence of past landslides and current slumping. These are highly unstable areas. Concern: Timber harvest may accelerate landsliding on slopes over 72% gradient. Response: Avoid the slopes over 72% during layout as they are unsuitable for harvest (BMP 13.5). The rest of the unit is suitable for the proposed helicopter with a minimum of partial suspension to meet soil quality standards. (BMP 13.9) Area to the southeast of Unit 138 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: No concerns</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	142	Selected Alternative		Total Unit Acres:	14.6	Vol Strata Acres:	High: 14.0 Med: 0.6 Low: 0
VCU Number:	2100	Harvest System:	C	Net Estimated Harvest Volume (MBF):	382	Prescription /Percent Retention:	CC

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consists 12-28" DBH western hemlock (54% BA) and 16-36" DBH spruce (46% BA). There is a large area of older windthrow adjacent to the existing road which is likely non-salvageable. The upslope portion of the stand is intact and has good volume. Wind risk is high throughout unit.

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 a class III stream buffer on the northwestern boundary 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 buffer to minimize windthrow in buffers.

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

ENGINEERING/ROADS: N/A

BOTANY RESOURCES: No concerns

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). Manage for windfirmness within 120 feet of v-notch on eastern side. **Concern:** Streams 3-8 are Class IV HC0 channels within the unit that run into Class II HC channels below unit. **Response:** Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16). Locate unit boundary above blue and white flagged channels.

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

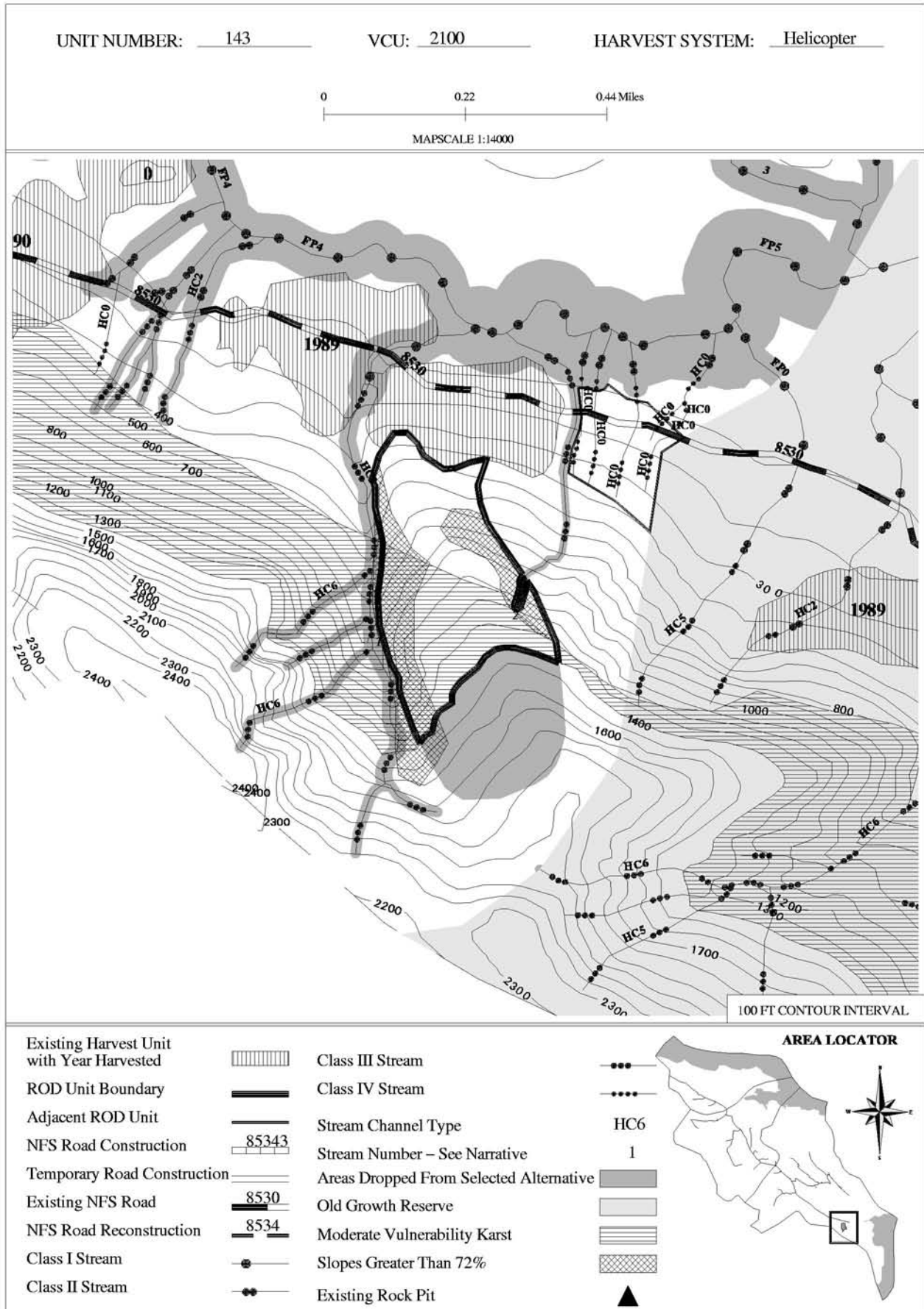
HERITAGE RESOURCES: No concerns

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 25-55% in Unit 142. A minimum of partial suspension is required to meet soil quality standards. (BMP 13.9) Area to the south of Unit 142 dropped for stability concerns (BMP 13.5)

WILDLIFE: 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 SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	143	Selected Alternative		Total Unit Acres:	47.8	Vol Strata Acres:	High: 25.1 Med: 17.3 Low: 5.4
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	434	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

Existing Stand Condition/Vegetation: Stand consist 12-43" DBH western hemlock (37% BA), 9-30" mountain hemlock (37% BA), 9-30" DBH yellow-cedar (14% BA - NW corner) and 24-43" DBH spruce (12% BA). There are several areas of exposed rock and cliffs and slides are present on the steeper slopes. Western hemlock and yellow-cedar advanced regeneration present but not abundant. Wind risk is moderate throughout unit.

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 (205 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 2 are class III HC channels. **Response:** Category B protection (BMP 12.6, 13.14). No harvest within v-notch (RIP III).

GEOLOGY/KARST: **Concern:** There are about 25 acres of high vulnerability and 25 acres of moderate vulnerability karst in unit 980. **Response:** The high vulnerability area to the south of the unit is excluded from the proposed helicopter harvest to protect the features in this area and a minimum of partial suspension is require to meet karst resource objectives in the moderate vulnerability area. (BMP 13.2 and 13.9)

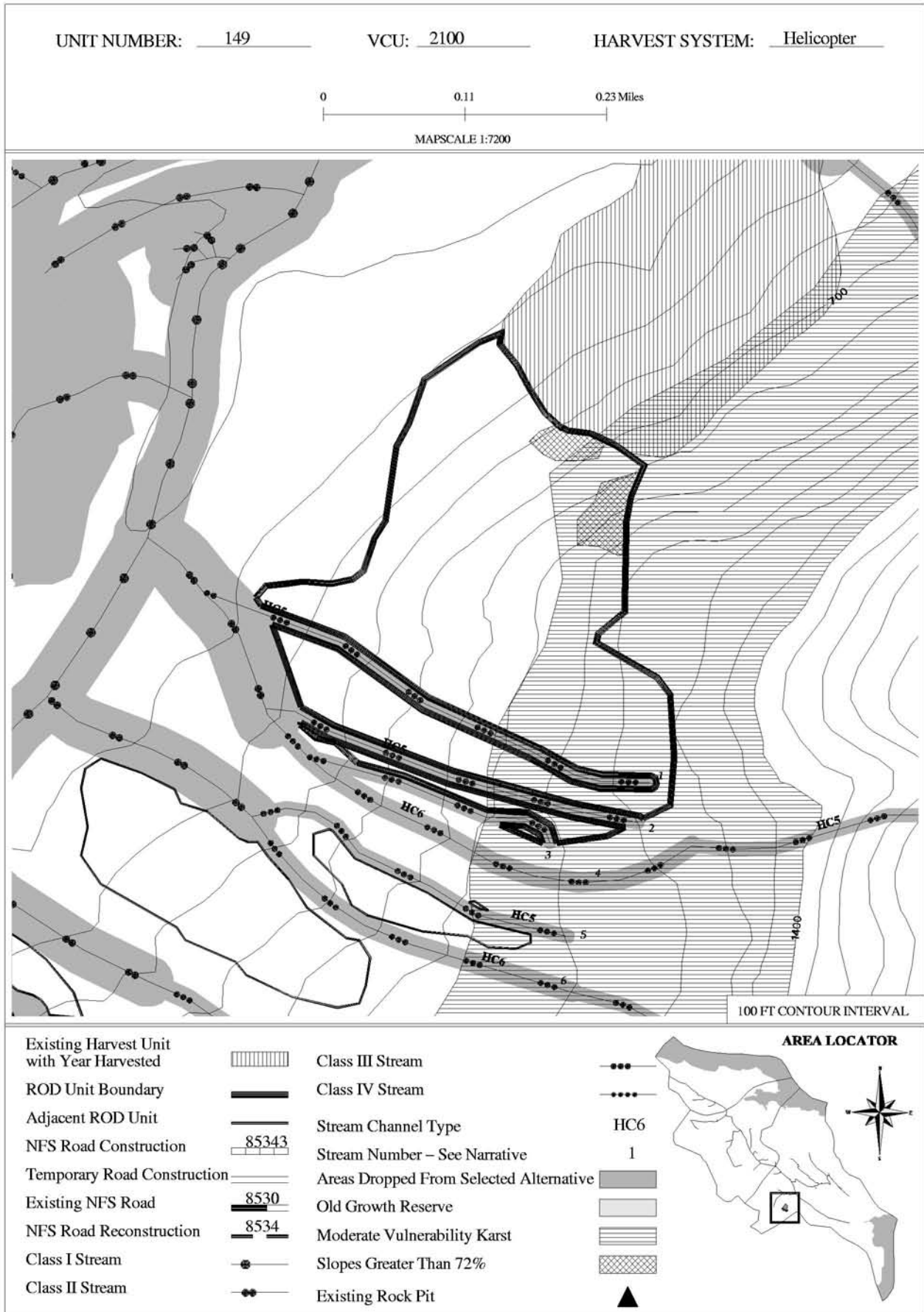
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

SOILS/WETLANDS: Slopes range from 55-120% in Unit 143. There are about 23 acres of slopes greater than 72% in Unit 143. There is evidence of past landslides in the unit. **Concern:** Timber harvest may accelerate landsliding on slopes over 72% gradient. **Response:** Avoid the slopes over 72% during layout as they are unsuitable for harvest (BMP 13.5). **Concern:** A minimum of partial suspension is required to meet soil quality standards in the rest of the unit (BMP 13.9). **Response:** Unit is proposed as full suspension, which exceeds partial suspension requirements. Areas to the east and west of Unit 143 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: No concerns

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative

Unit Number:	149	Selected Alternative		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):	378	Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation

SILVICULTURE:

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.

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 (143 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, 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).

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).

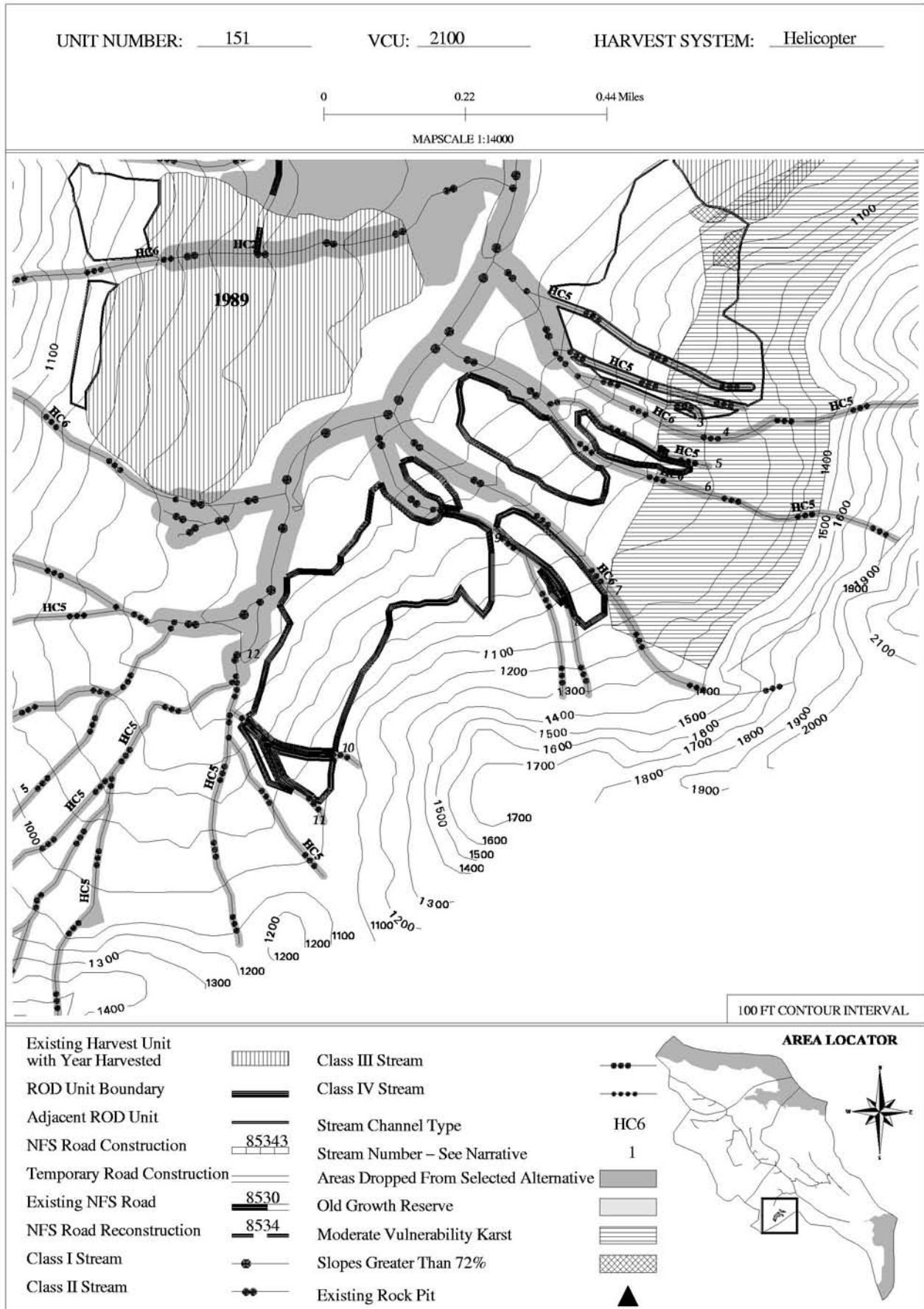
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

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 ST25 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).

WILDLIFE: Concern: Two bear dens located just below the 700 foot contour, north of the stream, in the lower portion of the unit. **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
--

Unit Number:	151	Selected Alternative		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):	864	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
--

SILVICULTURE:

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.

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 (190 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 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).

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).

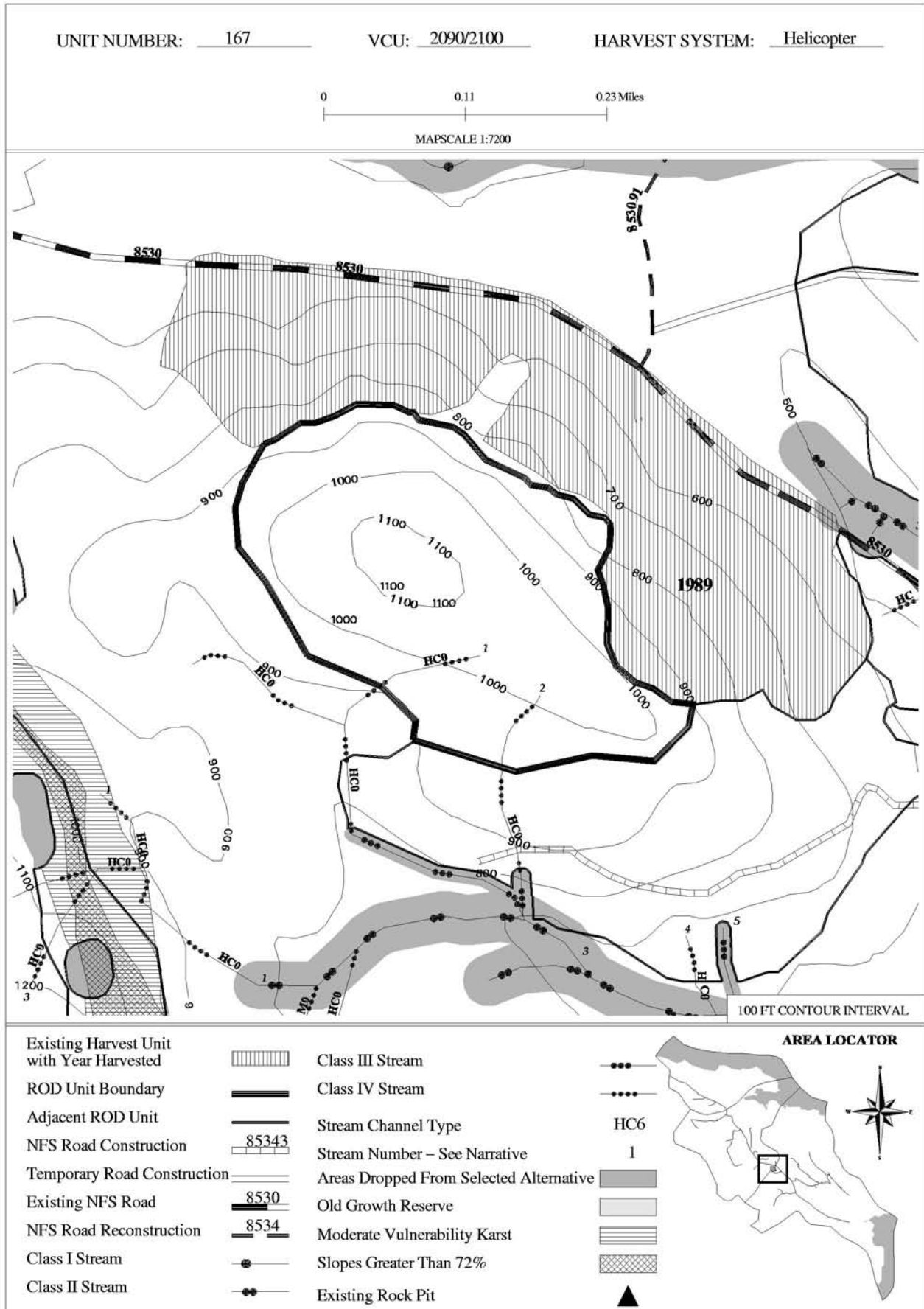
HERITAGE RESOURCES: No concerns

SCENERY/RECREATION: No concerns

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).

WILDLIFE: No concerns

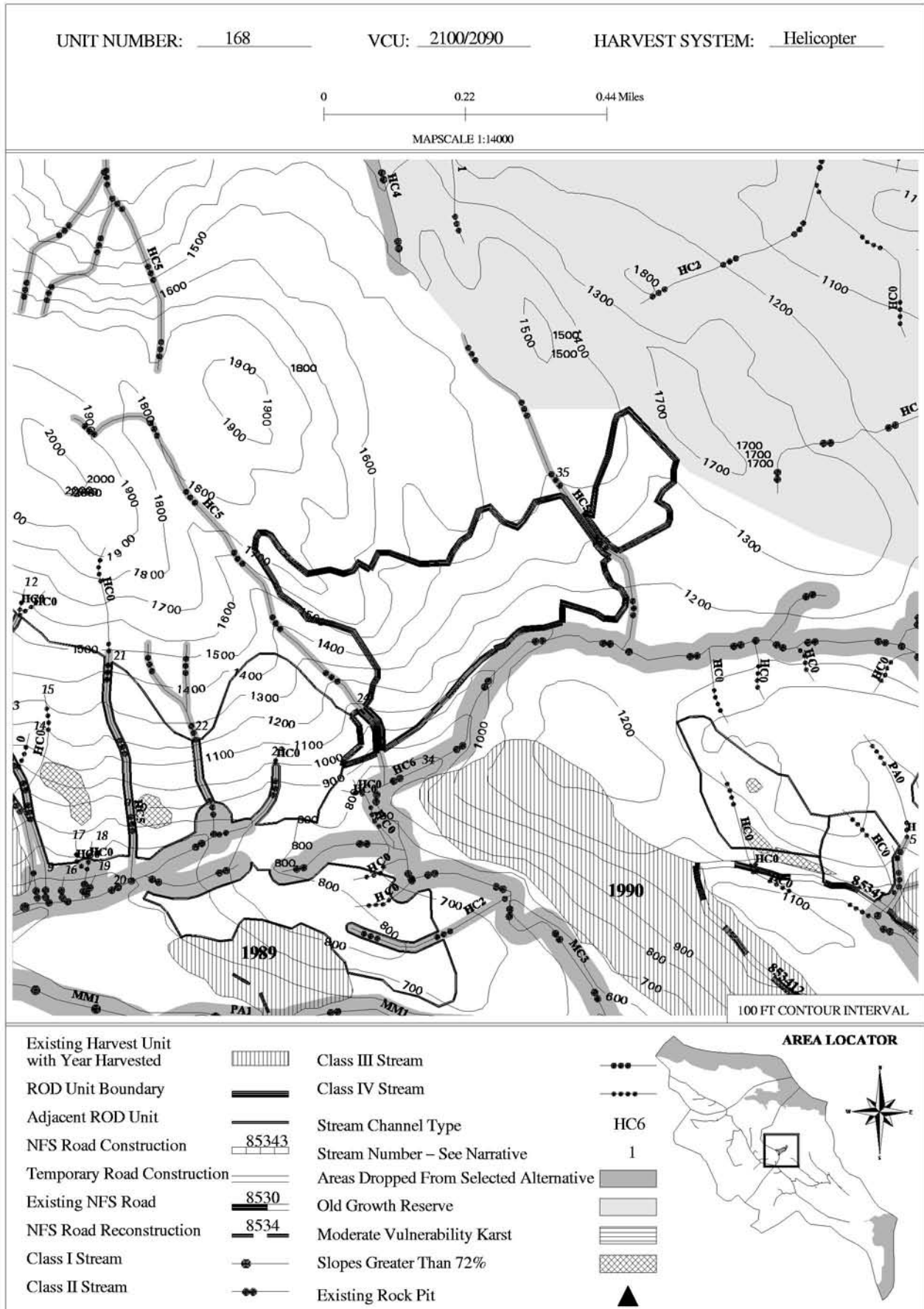
IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative						
Unit Number:	167	Selected Alternative	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):	544	Prescription /Percent Retention: ST40

Summary of Concerns, Responses, BMPs and Mitigation
<p>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 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 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 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.</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 and 2 are Class IV HC channels. Response: Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16)</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 20-80% 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)</p>
<p>WILDLIFE: 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.</p>

IYOUKTUG TIMBER SALES RECORD OF DECISION
HARVEST UNIT MAP



Unit Data Card – Iyouktug Timber Sales ROD - Selected Alternative
--

Unit Number:	168	Selected Alternative		Total Unit Acres:	72.0	Vol Strata Acres:	High: 0 Med: 66.4 Low: 5.6
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	825	Prescription /Percent Retention:	ST40

Summary of Concerns, Responses, BMPs and Mitigation
--

SILVICULTURE:

<p>Existing Stand Condition/Vegetation: Stand consists of 9-35" DBH mountain hemlock (39% BA), 9-35" DBH western hemlock (31% BA) and 9-42" DBH spruce (29% BA). The western and upper slopes of the eastern portion of the unit are the most productive. The lower slopes are scrubby with poorly drained hydric soils. Much of the hemlock throughout the unit is uniform in diameter and relatively even-aged. Western hemlock advanced regeneration is abundant with some spruce also present. Wind risk is low; however, this unit is on a side slope with S to E aspects.</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 (250 sq.ft.per acre) area singly and/or in small clumps to facilitate helicopter yarding except percent basal area removed should not exceed 30 percent if evaluation during layout warrants a higher wind risk rating. 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 24 and 35 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 34 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).</p>

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

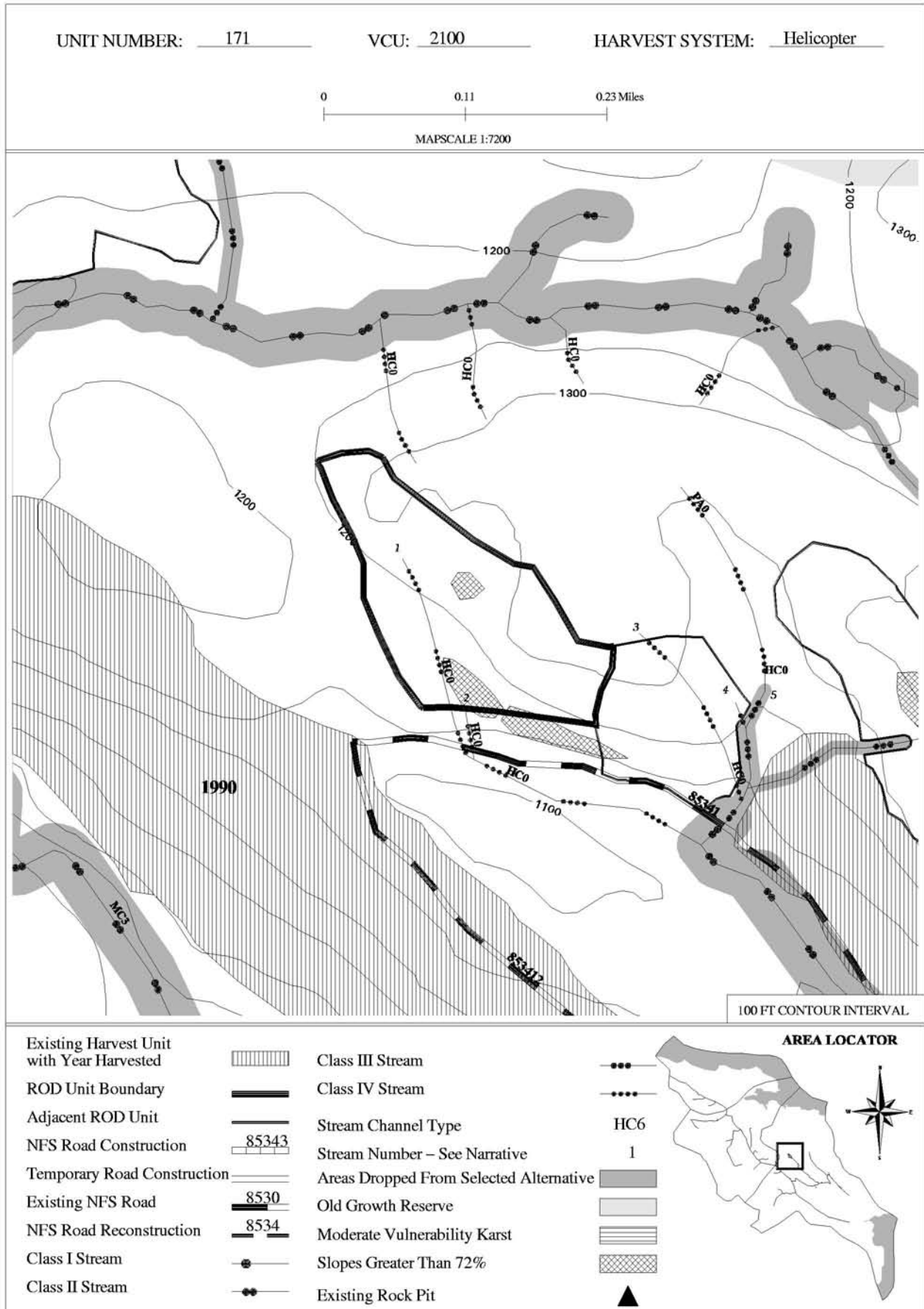
<p>HERITAGE RESOURCES: No concerns</p>

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

<p>SOILS/WETLANDS: Slopes range from 35-55% in Unit 168. 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 the southwest and southeast of unit 168 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					
Unit Number:	171	Selected Alternative	Total Unit Acres:	16.5	Vol Strata Acres: High: 0 Med: 13.1 Low: 3.4
VCU Number:	2100	Harvest System:	HE	Net Estimated Harvest Volume (MBF):	121
				Prescription /Percent Retention:	ST25

Summary of Concerns, Responses, BMPs and Mitigation
<p>SILVICULTURE:</p> <p>Existing Stand Condition/Vegetation: Stand consists of 9-35" DBH mountain hemlock (39% BA), 9-35" DBH western hemlock (31% BA) and 9-42" DBH spruce (29% BA). The western and upper slopes of the eastern portion of the unit are the most productive. The lower slopes are scrubby with poorly drained hydric soils. Much of the hemlock throughout the unit is uniform in diameter and relatively even-aged. Western hemlock advanced regeneration is abundant with some spruce also present. 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 25 percent of existing basal (260 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 and 2 are Class IV HC channels. Response: Category C protection (BMP 12.6, 13.14). Remove logging debris from channel (BMP 13.16)</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 35-75% in Unit 171. There is less than 1 acre of slopes over 72%. The soils are well drained in dense till. Concern: Timber harvest may accelerate landsliding on slopes over 72% gradient. Response: Avoid the steep area during layout (BMP 13.5). Concern: A minimum of partial suspension is required to meet soil quality standards in the rest of the unit (BMP 13.9). Response: Unit is proposed as full suspension, which exceeds partial suspension requirements. 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 is located in a potential travel corridor that may maintain connectivity to the OG LUD. Response: Proposed harvest system will retain 75% of the basal area. Retention will help to maintain connectivity. 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. 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.</p>