

CALIFORNIA DEPARTMENT OF FISH AND GAME
STREAM INVENTORY REPORT

Mays Canyon Creek
Report Completed June, 9, 2006
Assessment Completed 1998

INTRODUCTION

A stream inventory was conducted during 7/22/1998 to 7/22/1998 on Mays Canyon Creek. The survey began at the confluence with Pocket Canyon Creek and extended upstream 1.7 miles.

The Mays Canyon Creek inventory was conducted in two parts: habitat inventory and biological inventory. The objective of the habitat inventory was to document the habitat available to anadromous salmonids in Mays Canyon Creek. The objective of the biological inventory was to document the presence and distribution of juvenile salmonid species.

The objective of this report is to document the current habitat conditions and recommend options for the potential enhancement of habitat for Chinook salmon, coho salmon, and steelhead trout. Recommendations for habitat improvement activities are based upon target habitat values suitable for salmonids in California's north coast streams.

WATERSHED OVERVIEW

Mays Canyon Creek is a tributary to Pocket Canyon Creek, is a tributary to Russian River, is a tributary to Pacific Ocean, located in Sonoma County, California (Appendix 1). Mays Canyon Creek's legal description at the confluence with Pocket Canyon Creek is T08N R10W S32 . Its location is 38°29'50.0" north latitude and 122°59'26.0" west longitude, LLID number 1229906384971. Mays Canyon Creek is a first order stream and has approximately 2.2 miles of blue line stream according to the USGS Camp Meeker 7.5 minute quadrangle. Mays Canyon Creek drains a watershed of approximately 1.4 square miles. Elevations range from about 20 feet at the mouth of the creek to 700 feet in the headwater areas. Mixed conifer forest dominates the watershed. The watershed is entirely privately owned and is managed for timber production. Vehicle access exists via Mays Canyon Road.

METHODS

The habitat inventory conducted in Mays Canyon Creek follows the methodology presented in the *California Salmonid Stream Habitat Restoration Manual* (Flosi et al, 1998). The California Conservation Corps (CCC) Technical Advisors and Watershed Stewards Project/AmeriCorps (WSP/AmeriCorps) Members that conducted the inventory were trained in standardized habitat inventory methods by the California Department of Fish and Game (DFG). This inventory was conducted by a two-person team.

SAMPLING STRATEGY

The inventory uses a method that samples approximately 10% of the habitat units within the survey reach. All habitat units included in the survey are classified according to habitat type and their lengths are measured. All pool units are measured for maximum depth, depth of pool tail

crest (measured in the thalweg), dominant substrate composing the pool tail crest, and embeddedness. Habitat unit types encountered for the first time are measured for all the parameters and characteristics on the field form. Additionally, from the ten habitat units on each field form page, one is randomly selected for complete measurement. All pools except step-pools are fully sampled.

HABITAT INVENTORY COMPONENTS

A standardized habitat inventory form has been developed for use in California stream surveys and can be found in the *California Salmonid Stream Habitat Restoration Manual*. This form was used in Mays Canyon Creek to record measurements and observations. There are eleven components to the inventory form.

1. Flow:

Flow is measured in cubic feet per second (cfs) near the bottom of the stream survey reach using a Marsh-McBirney Model 2000 flow meter.

2. Channel Type:

Channel typing is conducted according to the classification system developed and revised by David Rosgen (1994). This methodology is described in the *California Salmonid Stream Habitat Restoration Manual*. Channel typing is conducted simultaneously with habitat typing and follows a standard form to record measurements and observations. There are five measured parameters used to determine channel type: 1) water slope gradient, 2) entrenchment, 3) width/depth ratio, 4) substrate composition, and 5) sinuosity. Channel characteristics are measured using a clinometer, hand level, hip chain, tape measure, and a stadia rod.

3. Temperatures:

Both water and air temperatures are measured and recorded at every tenth habitat unit. The time of the measurement is also recorded. Both temperatures are taken in degrees Fahrenheit at the middle of the habitat unit and within one foot of the water surface.

4. Habitat Type:

Habitat typing uses the 24 habitat classification types defined by McCain and others (1990). Habitat units are numbered sequentially and assigned a type identification number selected from a standard list of 24 habitat types. Dewatered units are labeled "dry". Mays Canyon Creek habitat typing used standard basin level measurement criteria. These parameters require that the minimum length of a described habitat unit must be equal to or greater than the stream's mean wetted width. All measurements are in feet to the nearest tenth. Habitat characteristics are measured using a clinometer, hip chain, and stadia rod.

5. Embeddedness:

The depth of embeddedness of the cobbles in pool tail-out areas is measured by the percent of the cobble that is surrounded or buried by fine sediment. In Mays Canyon Creek, embeddedness was ocularly estimated. The values were recorded using the following ranges: 0 - 25% (value 1), 26 - 50% (value 2), 51 - 75% (value 3) and 76 - 100% (value 4). Additionally, a value of 5 was assigned to tail-outs deemed unsuited for spawning due to inappropriate substrate like bedrock, log sills, boulders or other considerations.

6. Shelter Rating:

Instream shelter is composed of those elements within a stream channel that provide juvenile salmonids protection from predation, reduce water velocities so fish can rest and conserve energy, and allow separation of territorial units to reduce density related competition for prey. The shelter rating is calculated for each fully-described habitat unit by multiplying shelter value and percent cover. Using an overhead view, a quantitative estimate of the percentage of the habitat unit covered is made. All cover is then classified according to a list of nine cover types. In Mays Canyon Creek, a standard qualitative shelter value of 0 (none), 1 (low), 2 (medium), or 3 (high) was assigned according to the complexity of the cover. Thus, shelter ratings can range from 0-300 and are expressed as mean values by habitat types within a stream.

7. Substrate Composition:

Substrate composition ranges from silt/clay sized particles to boulders and bedrock elements. In all fully-described habitat units, dominant and sub-dominant substrate elements were ocularly estimated using a list of seven size classes and recorded as a one and two, respectively. In addition, the dominant substrate composing the pool tail-outs is recorded for each pool.

8. Canopy:

Stream canopy density was estimated using modified handheld spherical densimeters as described in the *California Salmonid Stream Habitat Restoration Manual*. Canopy density relates to the amount of stream shaded from the sun. In Mays Canyon Creek, an estimate of the percentage of the habitat unit covered by canopy was made from the center of approximately every third unit in addition to every fully-described unit, giving an approximate 30% sub-sample. In addition, the area of canopy was estimated ocularly into percentages of coniferous or hardwood trees.

9. Bank Composition and Vegetation:

Bank composition elements range from bedrock to bare soil. However, the stream banks are usually covered with grass, brush, or trees. These factors influence the ability of stream banks to withstand winter flows. In Mays Canyon Creek, the dominant composition type and the dominant vegetation type of both the right and left banks for each fully-described unit were selected from the habitat inventory form. Additionally, the percent of each bank covered by vegetation (including downed trees, logs, and rootwads) was estimated and recorded.

10. Large Woody Debris Count:

Large woody debris (LWD) is an important component of fish habitat and an element in channel forming processes. In each habitat unit all pieces of LWD partially or entirely below the elevation of bankfull discharge are counted and recorded. The minimum size to be considered is twelve inches in diameter and six feet in length. The LWD count is presented by reach and is expressed as an average per 100 feet.

11. Average Bankfull Width:

Bankfull width can vary greatly in the course of a channel type stream reach. This is especially true in very long reaches. Bankfull width can be a factor in habitat components like canopy density, water temperature, and pool depths. Frequent measurements taken at riffle crests (velocity crossovers) are needed to accurately describe reach widths. At the first appropriate velocity crossover that occurs after the beginning of a new stream survey page (ten habitat units), bankfull width is measured and recorded in the appropriate header block of the page. These widths are presented as an average for the channel type reach.

BIOLOGICAL INVENTORY

Biological sampling during the stream inventory is used to determine fish species and their distribution in the stream. Fish presence was observed from the stream banks in Mays Canyon Creek.

DATA ANALYSIS

Data from the habitat inventory form are entered into Stream Habitat 2.0.16, a Visual Basic data entry program developed by Karen Wilson, Pacific States Marine Fisheries Commission in conjunction with the California Department of Fish and Game. This program processes and summarizes the data, and produces the following ten tables:

- Riffle, Flatwater, and Pool Habitat Types
- Habitat Types and Measured Parameters
- Pool Types
- Maximum Residual Pool Depths by Habitat Types
- Mean Percent Cover by Habitat Type
- Dominant Substrates by Habitat Type
- Mean Percent Vegetative Cover for Entire Stream
- Fish Habitat Inventory Data Summary by Stream Reach (Table 8)
- Mean Percent Dominant Substrate / Dominant Vegetation Type for Entire Stream
- Mean Percent Shelter Cover Types for Entire Stream

Graphics are produced from the tables using Microsoft Excel. Graphics developed for Mays Canyon Creek include:

- Riffle, Flatwater, Pool Habitat Types by Percent Occurrence
- Riffle, Flatwater, Pool Habitat Types by Total Length
- Total Habitat Types by Percent Occurrence
- Pool Types by Percent Occurrence
- Maximum Residual Depth in Pools
- Percent Embeddedness
- Mean Percent Cover Types in Pools
- Substrate Composition in Pool Tail-outs
- Mean Percent Canopy
- Dominant Bank Composition by Composition Type
- Dominant Bank Vegetation by Vegetation Type

HABITAT INVENTORY RESULTS

* ALL TABLES AND GRAPHS ARE LOCATED AT THE END OF THE REPORT *

The habitat inventory of 7/22/1998 to 7/22/1998, was conducted by M. Miller, S.L. Watts, (WSP). The total length of the stream surveyed was 8,806 feet.

Stream flow was not measured on Mays Canyon Creek.

Mays Canyon Creek is a C6 channel type for 8,806 feet of the stream surveyed (Reach 1).

C4 channels are meandering point-bar riffle/pool alluvial channels with broad well defined floodplain on low gradients and gravel dominant substrates.

Water temperatures taken during the survey period were 57 degrees Fahrenheit. Air temperatures were 60 degrees Fahrenheit.

Table 1 summarizes the Level II riffle, flatwater, and pool habitat types. Based on frequency of occurrence there were 33% flatwater units, 11% riffle units, 22% no survey – marsh units, and 11% pool units, 11% culvert units, 11% dry units, (Graph 1). Based on total length of Level II habitat types there were 11% flatwater units, 0% riffle units, 20% no survey - marsh units, and 68% dry units, (Graph 2).

Five Level IV habitat types were identified (Table 2). The most frequent habitat types by percent occurrence were 11% Glide units, 22% Run units, 11% Low Gradient Riffle units, 22% Not Surveyed due to a marsh units, 11% Dammed Pool units, 11% Culvert units, 11% Dry units, (Graph 3). Based on percent total length, 7% Glide units, 4% Run units, 20% Not Surveyed due to a marsh units, and 68% Dry units.

A total of one pool was identified (Table 3). Backwater pools were the most frequently encountered, at 100%, and comprised 100% of the total length of all pools (Graph 4).

Table 4 is a summary of maximum residual pool depths by pool habitat types. Pool quality for salmonids increases with depth. All of the pools (100%) had a residual depth of two feet or greater (Graph 5).

The depth of cobble embeddedness was estimated at pool tail-outs. Of the one pool tail-out measured, one had a value of 5 (100%); (Graph 6). On this scale, a value of 1 indicates the best spawning conditions and a value of 4 the worst. Additionally, a value of 5 was assigned to tail-outs deemed unsuited for spawning due to inappropriate substrate like bedrock, log sills, boulders.

A shelter rating was calculated for each habitat unit and expressed as a mean value for each habitat type within the survey using a scale of 0-300. Riffle habitat types had a mean shelter rating of 10, flatwater habitat types had a mean shelter rating of 45, and pool habitats had a mean shelter rating of 150 (Table 1). Of the pool types, the Backwater pools had a mean shelter rating of 150, (Table 3).

Table 5 summarizes mean percent cover by habitat type. Terrestrial Vegetation is the dominant cover types in Mays Canyon Creek. Graph 7 describes the pool cover in Mays Canyon Creek. Terrestrial Vegetation is the dominant pool cover type followed by small woody debris.

Table 6 summarizes the dominant substrate by habitat type. Graph 8 depicts the dominant substrate observed in pool tail-outs. A silt/clay substrate type was observed in 100% of pool tail-outs.

The mean percent canopy density for the surveyed length of Mays Canyon Creek was 82%. The mean percentages of hardwood and coniferous trees were 58% and 42%, respectively. Eighteen percent of the canopy was open. Graph 9 describes the mean percent canopy in Mays Canyon Creek.

For the stream reach surveyed, the mean percent right bank vegetated was 100%. The mean percent left bank vegetated was 84%. The dominant elements composing the structure of the stream banks consisted of 100% sand/silt/clay, (Graph 10). Grass was the dominant vegetation type observed in 75% of the units surveyed, (Graph 11).

DISCUSSION

Mays Canyon Creek is a C6 channel type for 8,806 feet of the stream surveyed (Reach 1).

The suitability of C6 channel types for fish habitat improvement structures is as follows: C6 channel types are good for bank-placed boulders and log cover and fair for low-stage weirs.

The water temperatures recorded on the survey days 7/22/1998 to 7/22/1998, ranged from 57 to 57 degrees Fahrenheit. Air temperatures were 60 degrees Fahrenheit. To make any further conclusions, temperatures would need to be monitored throughout the warm summer months, and more extensive biological sampling would need to be conducted.

Flatwater habitat types comprised 11% of the total length of this survey. The creek is relatively shallow, with only one pool having a maximum residual depth greater than 2 feet. In general, pool enhancement projects are considered when primary pools comprise less than 40% of the length of total stream habitat. In first and second order streams, a primary pool is defined to have a maximum residual depth of at least two feet, occupy at least half the width of the low flow channel, and be as long as the low flow channel width. Installing structures that will increase or deepen pool habitat is recommended for locations where their installation will not be threatened by high stream energy, or where their installation will not conflict with the modification of the numerous log debris accumulations (LDA's) in the stream.

None of the pool tail-outs measured had embeddedness ratings of 1 or 2. None of the pool tail-outs had embeddedness ratings of 3 or 4. One of the pool tail-outs had a rating of 5, which is considered unsuitable for spawning. Cobble embeddedness measured to be 25% or less, a rating of 1, is considered to indicate good quality spawning substrate for salmon and steelhead. Sediment sources in Mays Canyon Creek should be mapped and rated according to their potential sediment yields, and control measures should be taken.

One of the one pool tail-outs had silt, sand, large cobble, boulders or bedrock as the dominant substrate. This is generally considered unsuitable for spawning salmonids.

The mean shelter rating for pools was 150. The shelter rating in the flatwater habitats was 45. A pool shelter rating of approximately 100 is desirable. The amount of cover that now exists is being provided primarily by Terrestrial Vegetation in Mays Canyon Creek. Terrestrial Vegetation is the dominant cover type in pools followed by small woody debris. Log and root wad cover structures in the pool and flatwater habitats would enhance both summer and winter salmonid habitat. Log cover structure provides rearing fry with protection from predation, rest from water velocity, and also divides territorial units to reduce density related competition.

The mean percent canopy density for the stream was 82%. Reach 1 had a canopy density of 81.6%. In general, revegetation projects are considered when canopy density is less than 80%.

The percentage of right and left bank covered with vegetation was high at 100% and 84%, respectively. In areas of stream bank erosion or where bank vegetation is sparse, planting endemic species of coniferous and hardwood trees, in conjunction with bank stabilization, is recommended.

GENERAL MANAGEMENT RECOMMENDATIONS

Mays Canyon should be managed as an anadromous, natural production stream.

Winter storms often bring down large trees and other woody debris into the stream, which increases the number and quality of pools. This woody debris, if left undisturbed, will provide fish shelter and rearing habitat, and offset channel incision. Landowners should be sensitive about the natural and positive role woody debris plays in the system, and encouraged not to remove woody debris from the stream, except under extreme buildup and only under guidance by a fishery professional.

RECOMMENDATIONS

- 1) Active and potential sediment sources related to the road system need to be identified, mapped, and treated according to their potential for sediment yield to the stream and its tributaries.
- 2) Inventory and map sources of stream bank erosion and prioritize them according to present and potential sediment yield. Identified sites should then be treated to reduce the amount of fine sediments entering the stream.
- 3) Where feasible, design and engineer pool enhancement structures to increase the number of pools. This must be done where the banks are stable or in conjunction with stream bank armor to prevent erosion.
- 4) Not all of Mays Canyon was assessed in 1998. It is recommended that Mays Canyon be re-assessed in its entirety from the mouth to the headwaters.

Comments and Landmarks for Mays Canyon

Habitat Unit	Distance from mouth (feet)	Comment
001	634	Many salmonids present at mouth. Coho? High siltation
002	893	
003	921	Highly sedimented
004	1029	
005	1416	not surveyed due to thick brush
006	1454	Only pool in survey. Created by LWD
007	1474	dry
008	2807	not surveyed due to brush
009	8807	Dry. End of survey. No water for 6000 feet.

REFERENCES

Flosi, G., Downie, S., Hopelain, J., Bird, M., Coey, R., and Collins, B. 1998. *California Salmonid Stream Habitat Restoration Manual*, 3rd edition. California Department of Fish and Game, Sacramento, California.

McCain, M., D. Fuller, L. Decker and K. Overton. 1990. Stream habitat classification and inventory procedures for northern California. FHC Currents. No.1. U.S. Department of Agriculture. Forest Service, Pacific Southwest Region.

Rosgen, D.L., 1994. A Classification of Natural Rivers. *Catena*, Vol 22: 169-199, Elsevier Science, B. V. Amsterdam.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MAY'S CANYON CREEK

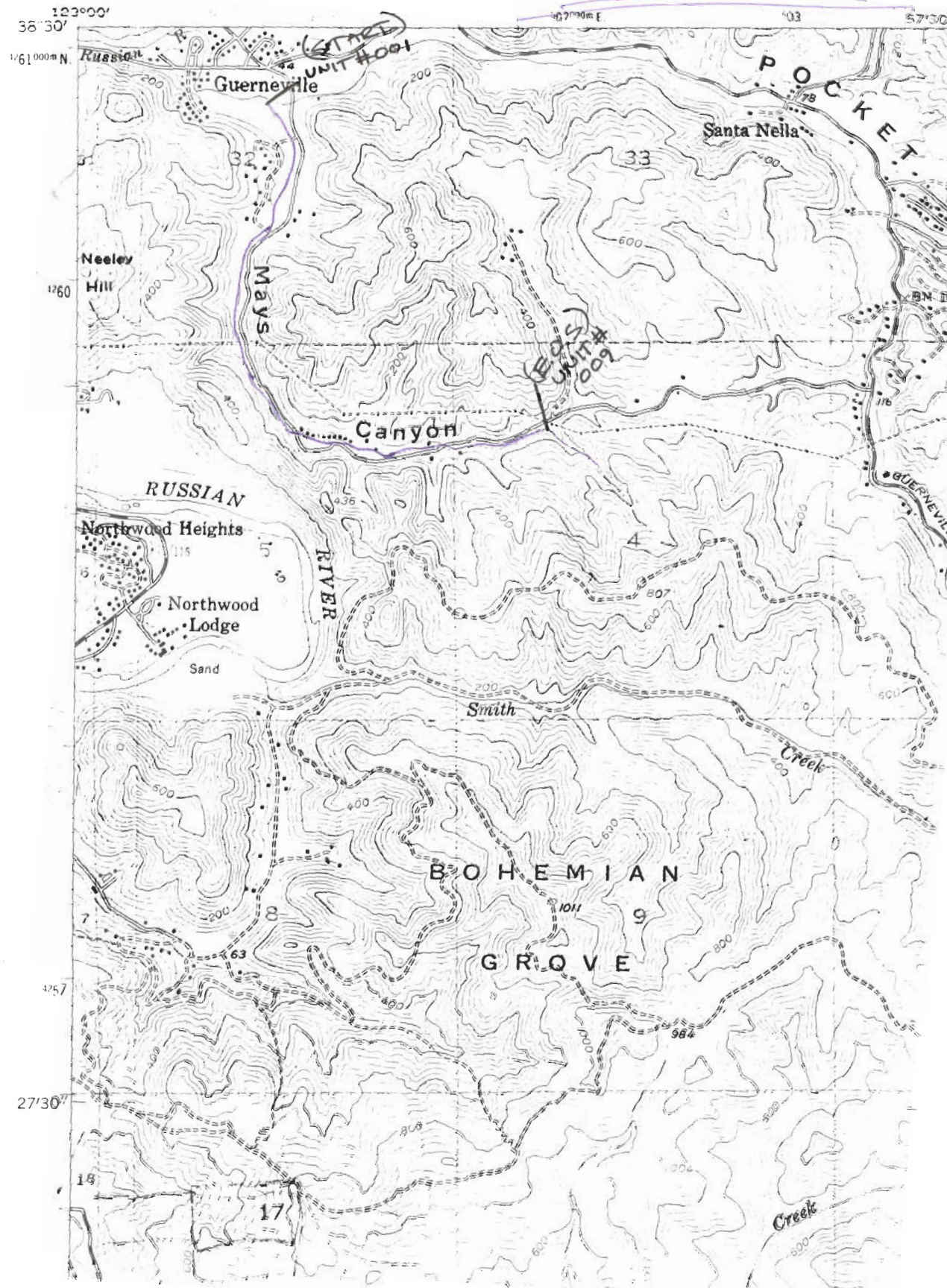


Table 1 - Summary of Riffle, Flatwater, and Pool Habitat Types

Stream Name: Mays Canyon Creek

LLID: 1229906384971 Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER Legal Description: T08NR10WS32 Latitude: 38:29:50.0N Longitude: 122:59:26.0W

Habitat Units	Units Fully Measured	Habitat Type	Habitat Occurrence (%)	Mean Length (ft.)	Total Length (ft.)	Total Length (%)	Mean Width (ft.)	Mean Depth (ft.)	Mean Max Depth (ft.)	Mean Area (sq.ft.)	Estimated Total Area (sq.ft.)	Mean Volume (cu.ft.)	Estimated Total Volume (cu.ft.)	Mean Residual Pool Vol (cu.ft.)	Mean Shelter Rating
1	0	CULVERT	11.1	20	20	0.2									
1	0	DRY	11.1	6000	6000	68.1									
3	2	FLATWATER	33.3	334	1001	11.4	7.5	0.6	1.3	3630	10890	2801	8402		45
2	0	NOSURVEY_	22.2	860	1719	19.5									
1	1	POOL	11.1	38	38	0.4	16.0	2.3	3.8	608	608	1520	1520	1398	150
1	1	RIFFLE	11.1	28	28	0.3	6.0	0.1	0.2	160	160	16	16		10
Total Units	Total Units Fully Measured			Total Length (ft.)						Total Area (sq.ft.)		Total Volume (cu.ft.)			
9	4			8806						11658		9938			

Table 2 - Summary of Habitat Types and Measured Parameters

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Habitat Units	Units Fully Measured	Habitat Type	Habitat Occurrence (%)	Mean Length (ft.)	Total Length (ft.)	Total Length (%)	Mean Width (ft.)	Mean Depth (ft.)	Max Depth (ft.)	Mean Area (sq.ft.)	Estimated Total Area (sq.ft.)	Mean Volume (cu.ft.)	Estimated Total Volume (cu.ft.)	Mean Residual Pool Vol (cu.ft.)	Mean Shelter Rating	Mean Canopy (%)
1	1	LGR	11.1	28	28	0.3	6	0.1	0.2	160	160	16	16		10	100
1	1	GLD	11.1	634	634	7.2	9	0.9	1.9	5706	5706	5135	5135		45	95
2	1	RUN	22.2	184	367	4.2	6	0.3	0.6	1554	3108	466	932			95
1	1	DPL	11.1	38	38	0.4	16	2.3	3.8	608	608	1520	1520	1398	150	35
1	0	DRY	11.1	6000	6000	68.1										
1	0	CUL	11.1	20	20	0.2										70
2	0	MAR	22.2	860	1719	19.5										

Total Units
9

Total Units Fully Measured
4

Total Length (ft.)
8806

Total Area (sq.ft.)
9582

Total Volume (cu.ft.)
7604

Table 3 - Summary of Pool Types

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Habitat Units	Units Fully Measured	Habitat Type	Habitat Occurrence (%)	Mean Length (ft.)	Total Length (ft.)	Total Length (%)	Mean Width (ft.)	Mean Residual Depth (ft.)	Mean Area (sq.ft.)	Estimated Total Area (sq.ft.)	Mean Residual Pool Vol (cu.ft.)	Estimated Total Resid.Vol. (cu.ft.)	Mean Shelter Rating
1	1	BACKWATER	100	38	38	100	16.0	2.3	608	608	1398	1398	150

Total Units	Total Units Fully Measured	Total Length (ft.)	Total Area (sq.ft.)	Total Volume (cu.ft.)
1	1	38	608	1398

Table 4 - Summary of Maximum Residual Pool Depths By Pool Habitat Types

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Habitat Units	Habitat Type	Habitat Occurrence (%)	< 1 Foot Maximum Residual Depth	< 1 Foot Percent Occurrence	1 < 2 Feet Maximum Residual Depth	1 < 2 Feet Percent Occurrence	2 < 3 Feet Maximum Residual Depth	2 < 3 Feet Percent Occurrence	3 < 4 Feet Maximum Residual Depth	3 < 4 Feet Percent Occurrence	>= 4 Feet Maximum Residual Depth	>= 4 Feet Percent Occurrence
1	DPL	100	0	0	0	0	0	0	1	100	0	0

Total Units	Total < 1 Foot Max Resid. Depth	Total < 1 Foot % Occurrence	Total 1< 2 Foot Max Resid. Depth	Total 1< 2 Foot % Occurrence	Total 2< 3 Foot Max Resid. Depth	Total 2< 3 Foot % Occurrence	Total 3< 4 Foot Max Resid. Depth	Total 3< 4 Foot % Occurrence	Total >= 4 Foot Max Resid. Depth	Total >= 4 Foot % Occurrence
1	0	0	0	0	0	0	1	100	0	0

Mean Maximum Residual Pool Depth (ft.): 3.8

Table 5 - Summary of Mean Percent Cover By Habitat Type

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Dry Units: 1

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Habitat Units	Units Fully Measured	Habitat Type	Mean % Undercut Banks	Mean % SWD	Mean % LWD	Mean % Root Mass	Mean % Terr. Vegetation	Mean % Aquatic Vegetation	Mean % White Water	Mean % Boulders	Mean % Bedrock Ledges
1	1	LGR	0	0	0	0	100	0	0	0	0
1	1	TOTAL RIFFLE	0	0	0	0	100	0	0	0	0
1	1	GLD	0	20	10	0	70	0	0	0	0
2	0	RUN									
3	1	TOTAL FLAT	0	20	10	0	70	0	0	0	0
1	1	DPL	0	40	20	0	40	0	0	0	0
1	1	TOTAL POOL	0	40	20	0	40	0	0	0	0
1	0	CUL									
2	0	MAR									
9	3	TOTAL	0	20	10	0	70	0	0	0	0

Table 6 - Summary of Dominant Substrates By Habitat Type

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Dry Units: 1

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Habitat Units	Units Fully Measured	Habitat Type	% Total Silt/Clay Dominant	% Total Sand Dominant	% Total Gravel Dominant	% Total Small Cobble Dominant	% Total Large Cobble Dominant	% Total Boulder Dominant	% Total Bedrock Dominant
1	1	LGR	100	0	0	0	0	0	0
1	1	GLD	100	0	0	0	0	0	0
2	1	RUN	100	0	0	0	0	0	0
1	1	DPL	100	0	0	0	0	0	0

Table 7 - Summary of Mean Percent Canopy for Entire Stream

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Mean Percent Canopy	Mean Percent Conifer	Mean Percent Hardwood	Mean Percent Open Units	Mean Right Bank % Cover	Mean Left Bank % Cover
82	42	58	0	100	84

Note: Mean percent conifer and hardwood for the entire reach are means of canopy components from units with canopy values greater than zero.

Open units represent habitat units with zero canopy cover.

Table 9 - Mean Percentage of Dominant Substrate and Vegetation

Stream Name: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

Mean Percentage of Dominant Stream Bank Substrate

Dominant Class of Substrate	Number of Units Right Bank	Number of Units Left Bank	Total Mean Percent (%)
Bedrock	0	0	0.0
Boulder	0	0	0.0
Cobble / Gravel	0	0	0.0
Sand / Silt / Clay	4	4	100.0

Mean Percentage of Dominant Stream Bank Vegetation

Dominant Class of Vegetation	Number of Units Right Bank	Number of Units Left Bank	Total Mean Percent (%)
Grass	3	3	75.0
Brush	1	1	25.0
Hardwood Trees	0	0	0.0
Coniferous Trees	0	0	0.0
No Vegetation	0	0	0.0

Total Stream Cobble Embeddedness Values:

5

Table 10 - Mean Percent of Shelter Cover Types For Entire Stream

StreamName: Mays Canyon Creek

LLID: 1229906384971

Drainage: Russian River - Lower

Survey Dates: 7/22/1998 to 7/22/1998

Confluence Location: Quad: CAMP MEEKER

Legal Description: T08NR10WS32

Latitude: 38:29:50.0N

Longitude: 122:59:26.0W

	Riffles	Flatwater	Pools
UNDERCUT BANKS (%)	0	0	0
SMALL WOODY DEBRIS (%)	0	20	40
LARGE WOODY DEBRIS (%)	0	10	20
ROOT MASS (%)	0	0	0
TERRESTRIAL VEGETATION (%)	100	70	40
AQUATIC VEGETATION (%)	0	0	0
WHITEWATER (%)	0	0	0
BOULDERS (%)	0	0	0
BEDROCK LEDGES (%)	0	0	0

APPENIDX C

Table 8 - Fish Habitat Inventory Data Summary

Stream Name: Mays Canyon Creek LLID: 1229906384971 Drainage: Russian River -
Survey Dates: 7/22/1998 to 7/22/1998 Survey Length (ft.): 8806 Main Channel (ft.): 8806 Side Channel (ft.): 0
Confluence Location: Quad: CAMP MEEKER Legal Description: T08NR10WS32 Latitude: 38:29:50.0N Longitude: 122:59:26.0W

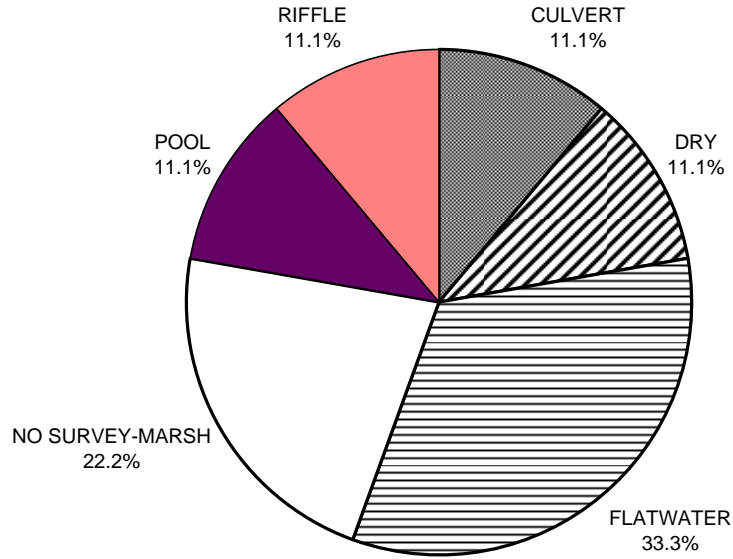
Summary of Fish Habitat Elements By Stream Reach

STREAM REACH: 1

Channel Type: C6	Canopy Density (%): 81.7	Pools by Stream Length (%): 0.4
Reach Length (ft.): 8806	Coniferous Component (%): 41.7	Pool Frequency (%): 11.1
Riffle/Flatwater Mean Width (ft.): 7.0	Hardwood Component (%): 58.3	Residual Pool Depth (%):
BFW:	Dominant Bank Vegetation: Grass	< 2 Feet Deep: 0.0
Range (ft.): to	Vegetative Cover (%): 91.9	2 to 2.9 Feet Deep: 0.0
Mean (ft.):	Dominant Shelter: Terrestrial Veg.	3 to 3.9 Feet Deep: 100.0
Std. Dev.:	Dominant Bank Substrate Type: Sand/Silt/Clay	>= 4 Feet Deep: 0.0
Base Flow (cfs): 0	Occurrence of LWD (%): 12.5	Mean Max Residual Pool Depth (ft.): 3.8
Water (F): 57 - 57 Air (F): 60 - 60	LWD per 100 ft.:	Mean Pool Shelter Rating: 150
Dry Channel (ft.): 6000	Riffles:	
	Pools:	
	Flat:	
Pool Tail Substrate (%): Silt/Clay: 100. Sand: 0.0 Gravel: 0.0 Sm Cobble: 0.0 Lg Cobble: 0.0 Boulder: 0.0 Bedrock: 0.0		
Embeddedness Values (%): 1. 0.0 2. 0.0 3. 0.0 4. 0.0 5. 100.0		

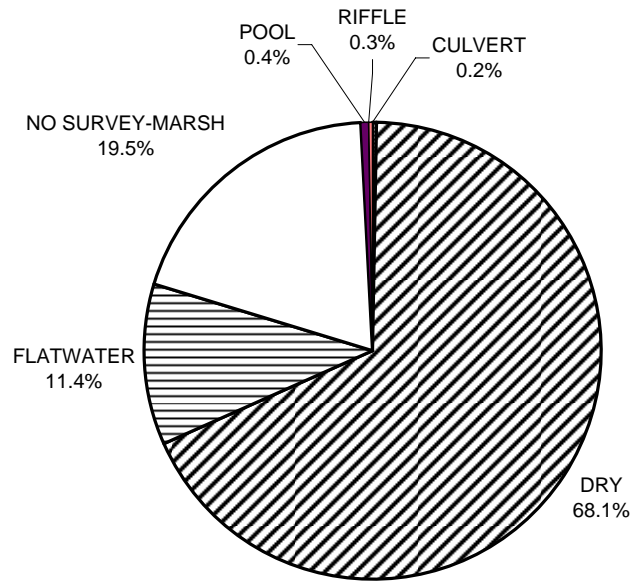
APPENDIX D: GRAPHS

**MAYS CANYON CREEK 1998
HABITAT TYPES BY PERCENT OCCURRENCE**



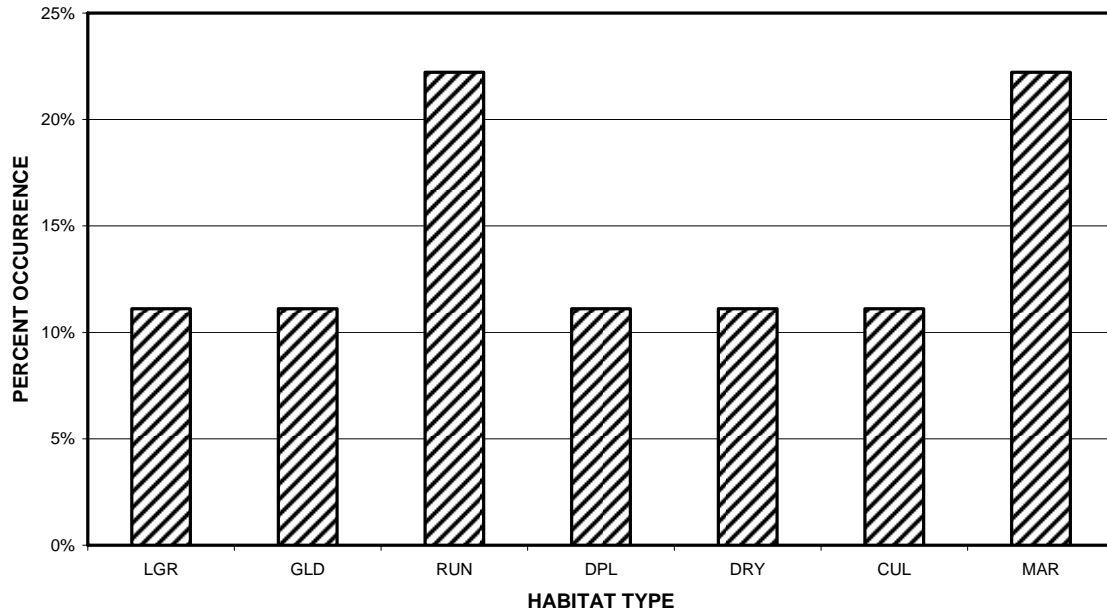
GRAPH 1: Level II habitat types by percent occurrence

**MAYS CANYON CREEK 1998
HABITAT TYPES BY PERCENT TOTAL LENGTH**



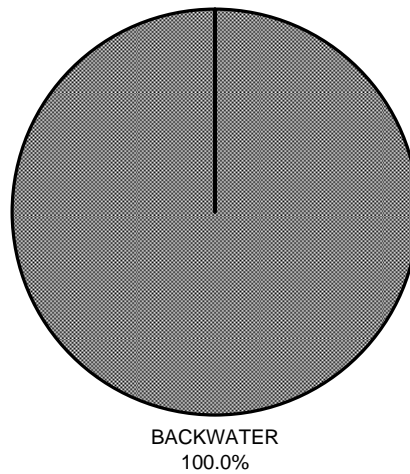
GRAPH 2: Level II habitat types by percent total length

**MAYS CANYON CREEK 1998
HABITAT TYPES BY PERCENT OCCURRENCE**



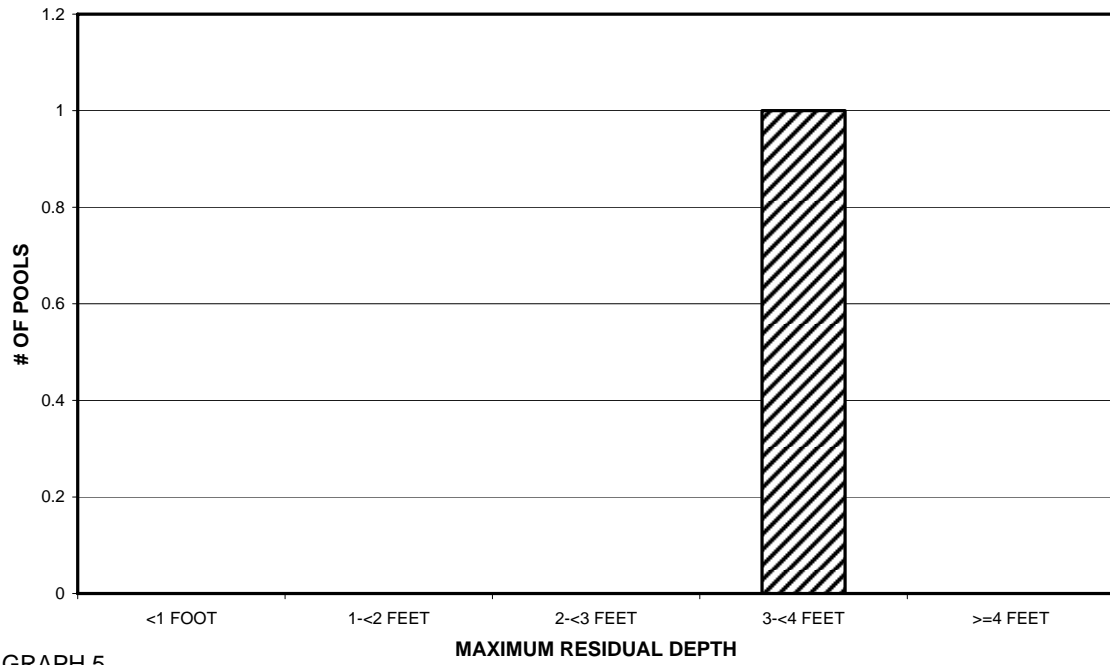
GRAPH 3: Level IV habitat types by percent occurrence

**MAYS CANYON CREEK 1998
POOL TYPES BY PERCENT OCCURRENCE**



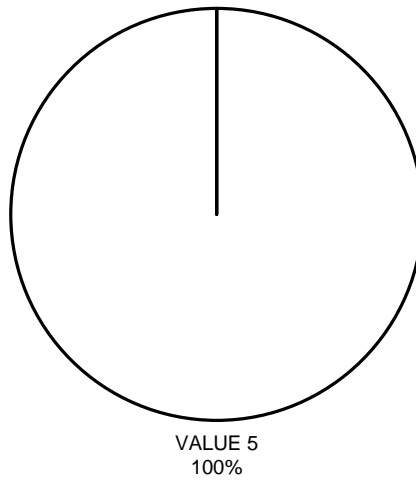
GRAPH 4: Level I pool types by percent occurrence

**MAYS CANYON CREEK 1998
MAXIMUM DEPTH IN POOLS**



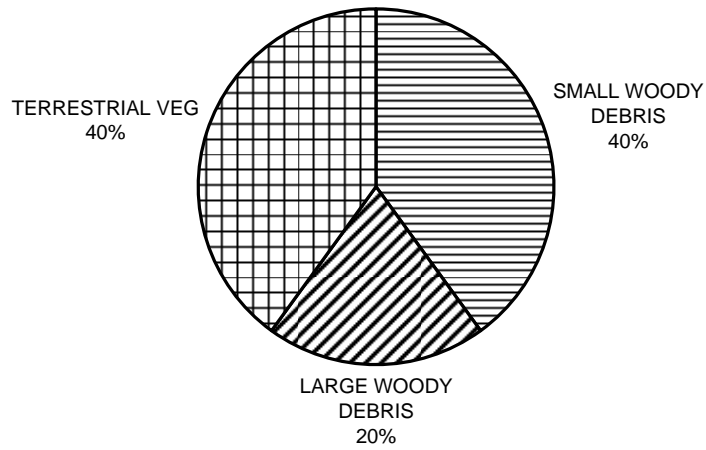
GRAPH 5

**MAYS CANYON CREEK 1998
PERCENT EMBEDDEDNESS**



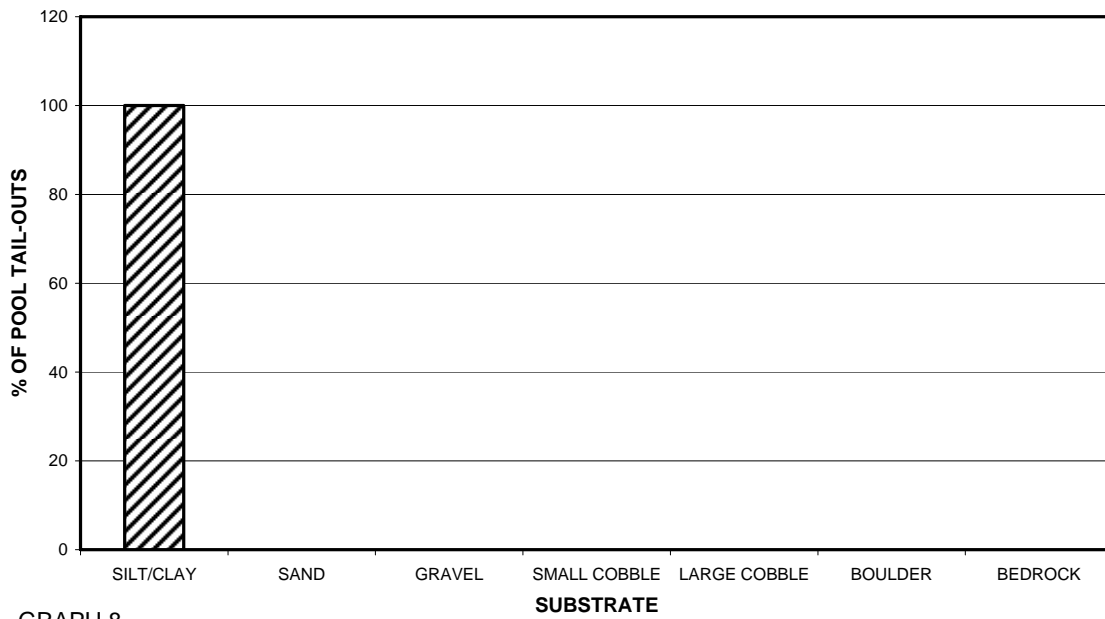
GRAPH 6

**MAYS CANYON CREEK 1998
MEAN PERCENT COVER TYPES IN POOLS**



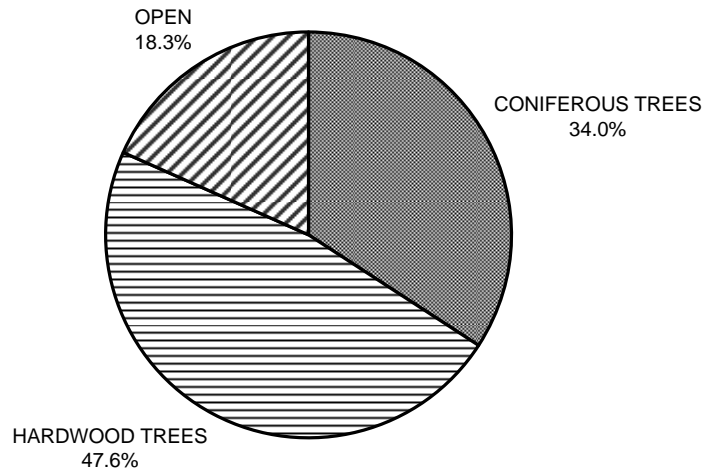
GRAPH 7

**MAYS CANYON CREEK 1998
SUBSTRATE COMPOSITION IN POOL TAIL-OUTS**



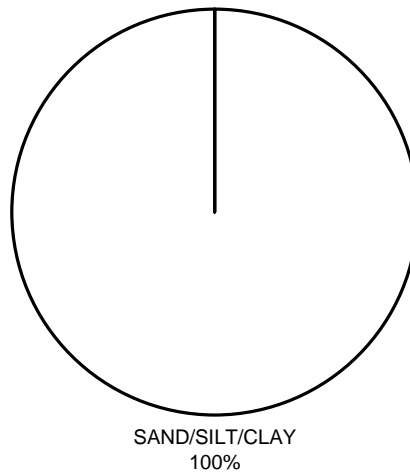
GRAPH 8

**MAYS CANYON CREEK 1998
MEAN PERCENT CANOPY**



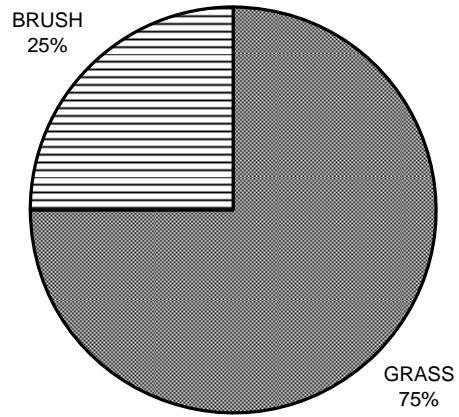
GRAPH 9

**MAYS CANYON CREEK 1998
DOMINANT BANK COMPOSITION IN SURVEY REACH**



GRAPH 10

**MAYS CANYON CREEK 1998
DOMINANT BANK VEGETATION IN SURVEY REACH**



GRAPH 11