

OBJECTIVES AND PRELIMINARY FINDINGS

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April 5, 1989

The following report was prepared by Jack Monschke, Contractor/Consultant, Watershed Management, for R&J Timber Company. Part I of this report states the consultant's objectives and presents a summary of his conclusions. Part II presents a brief account of field work performed from March 12 to March 30, 1989, accompanied by preliminary findings based on the data collected to date. Part III sets forth recommendations intended to improve operations in the future.

I. Objectives and Summary of Conclusions

The consultant's objectives in conducting this study were as follows:

A. To evaluate the various measures already being implemented by R&J to alleviate adverse effects of past timber harvest and to suggest new techniques where appropriate.

B. To identify the primary source points of erosion on R&J holdings.

C. To study timber harvest sites currently under consideration to determine impact of harvest on the streams.

D. To prepare a long range watershed management plan for R&J that will combine timber harvest and watershed restoration. Public funding will be actively pursued to help with the cost of implementing restoration work.

To accomplish these objectives, the consultant will draw on his own research and experience (15 years as

a forest lands rehabilitation contractor), and, in addition, to the extent necessary to complete this work, the consultant will seek the advice and expertise of other specialists in the field.

The conclusions that can be drawn from the observations made to date are as follows:

A. The various measures already implemented and those proposed for future implementation by R&J to alleviate adverse effects of timber harvest are appropriate to the problems they are intended to address.

B. In those instances where the company's erosion control measures failed, the failure was largely due to lack of proper supervision in the field.

C. There is convincing evidence that the primary source points of erosion on R&J's holdings are from past logging problems and not the result of current logging operations. Streams in the company's most recent logging area were observed to be running clear while streams in areas where no logging has occurred were running murky. This evidence is convincing, and I believe additional field observations will further verify my conclusions.

II. Field Work and Findings to Date

The following is a brief summary of field work performed to date and preliminary findings:

A. March 12, 13, 14: This review of timber harvest sites began two days after a major storm system had moved through the area,

and there were still scattered hard showers on the first day in the field (March 12). Specific harvest sites reviewed were on Stewart Creek, on Inman Creek, as well as where winter logging is currently under way.

Observations: All water flowing through and out of the timber harvest sites observed was running clear. The Gualala and the Garcia Rivers were both running muddy. On a winter harvest site near the Zini Ranch there was some muddy water on roads from recent showers, but small streams near the ridge top logging were running clear.

I also observed that in some areas hand road maintenance has not been carried out (although R&J has contracted to provide these services).

After these three days of field review, I decided that the best way to evaluate the overall impact of R&J's harvest practices at this time would be to fly over the entire property in an effort to identify the watercourses currently contributing sediment to drainage systems. The effectiveness of this plan depended on making the flight immediately following a major storm.

B. March 19, 1989: A helicopter flight took place on this date following a storm which occurred on March 17 and March 18 and which was one of the heaviest storms of the season. My flight notes keyed to maps of the R&J property are included as an appendix to this report.

Observations: From the air, it appeared that on March 19, 1989, a much higher percentage of sediment was being introduced into the drainage systems from poor logging practices by past owners than from the current harvest plans. This observation must be qualified by the following points:

1. The helicopter used for these flight observations, a Jet Ranger Three helicopter, enabled the observer to follow even

the smallest water courses to their sources and actually observe, in nearly all instances, the degree of clarity, or lack of it, in the water. In addition, it's Lorenz navigational equipment permitted identification of sights accurate to within 10 feet on the ground. However, in one three-hour flight, it was obviously not possible to observe everything.

2. This flight took place at the end of winter. The initial flush from summer harvest sites after the first major storms in the fall would need to be observed to assess accurately the overall sedimentation occurring.

3. Sediment from sandy soils settles out very rapidly and therefore field observations need to be made during storms to confirm my flight observations.

I recommend at least one more over-flight after a storm (weather permitting) to further identify source points of erosion. Further, it is my objective to follow up observations made in the air by on-the-ground investigation.

I observed from the air that many of the muddiest streams flowed from adjacent ranch and subdivision lands which have had no recent timber harvest. Some possible causes are: serpentine clay soils, disturbance by wild pigs, overgrazing on ranch lands, and new roads on recent subdivisions.

C. March 22t A pre-harvest inspection was made to a site on Buckeye Creek with Steve Smith, CDF, Tom Spittler, geologist, and R&J foresters.

Observations: A major source of sediment to Buckeye Creek from previous logging was observed. The Timber Harvest Plan properly identified and proposed effective measures to eliminate this problem.

D. March 24: A field trip was made to the North Fork of the Garcia River with Jim Purcel, Mark Jackson, and Mike McKay, all of CDF, Dick Moore together with 2 other Fish and Game representatives, and R&J foresters.

Observations:

1. On the drive in, I observed two streams running clear out of Section 11, where extensive harvesting had taken place during the summer of 1988.

2. The Fish and Game representatives were unable to obtain gravel samples from the river due to high flow, but they did set up stations to measure future bedload movement.

3. Jim Purcel, Mark Jackson and myself walked up the north fork of the Garcia to observe its condition. We made the following observations:

a. We sighted a small fresh alluvial fan on the flood plain of the river. We tracked the sediment trail upslope and determined that the source was a recently constructed switchback/landing that had been pointed out to me during a February inspection of the area by R&J management. Perched fill at this location had failed since my February inspection. Luckily, the failed material was deposited on the flood plain and thus has not had a significant impact on the river. During the next harvest season it is important that the remaining perched fill be removed and that proper drainage be established at this sight. Based on the information provided me and based on my own observations, I believe this failure was due to inadequate supervision in the field.

b. Further up the Garcia watershed,

we saw a small watercourse which increased in turbidity as we watched. Following this watercourse, we discovered the source of the disturbance: a stream had been diverted out of its original course by a skid trail constructed during previous logging. A gully had been created that is still migrating upslope and actively eroding at this date.

E. March 30. 1989: Field trip with Jim Purcel, CDF, Dick Moore of Fish and Game and Don MacKenzie of R&J to the north fork of the Garcia via "Jack's Opening". The purpose of this trip was also to obtain data on the current condition of the river at this location and to evaluate the effects of current (winter) and past logging. We walked approximately one-half mile downstream on the river and obtained gravel samples from two sites.

Observations:

1. We observed a small watercourse running directly out of a current winter harvest area. Although some sediment was observed, it was minimal.

2. We observed a slide precipitated by past logging operations which was depositing a large volume of sediment directly in the river. A large slug of perched slide material remains poised, precariously, on the North bank of the river and will enter the system unless corrected. R&J's timber harvest plan for the area correctly identifies this problem and proposes that water draining the area be redirected away from this unstable condition. I feel additional protection at the toe of the slide is also necessary.

It will take additional work in the field to further verify the accuracy of my observations from the air. However, my observations and findings on the ground as set forth above do substantiate my observations from the helicopter.

III. Recommendations

Based on observations made to date, the Company is urged to adopt the following recommendations:

A. Eliminate winter logging in the North Fork of the Garcia. With winter logging, no matter how carefully conducted, there is always a risk of contributing sediment to streams should the logger fail to implement waterbarring and other erosion control devices before the onset of a significant storm. Over 75% of the Garcia's North fork is or will be under harvest plan during the next logging season and every effort should be made to minimize the risk of contributing sediment to it.

B. Develop a training program for R&J foresters and loggers to increase awareness of the "Big Picture" of proper land management and of the importance of identifying erosion problem areas by seeking long-term solutions that deal with specific maintenance problems as they arise, throughout the R&J holdings.

C. Employ an erosion control specialist to conduct field inspections: (1) to determine, prior to the onset of winter rains, whether the erosion control measures contained in the applicable harvest plan have been properly implemented and are appropriate to the specific problems on the ground; (2) to observe the erosion control methods during winter storms so they can be evaluated and improved.

D. Implement an improved winter maintenance program by the winter of 1989-1990. This winter maintenance program would include road maintenance, reinspection of identified problem sites and handwork where necessary to address problems as they arise.

Respectfully Submitted:

Date: _____

Jack Monschke

Appendix A
Flight Notes and Maps

FLIGHT NOTES ~ MARCH 19, 1989

(Keyed to accompanying maps)

- 1 -- Headwaters Main Garcia. Current R&J winter harvest operation. Streams out of logging area clear, Garcia muddy. Notice an undersized culvert where water was running over on higher flows. This would have muddied the stream on the harvest area. Section 6, T12N, R14W
- 2 -- No. Fork Garcia starting to show color in Section 4, T12N, R15W upstream from Jack's opening. No R&J harvest here. Main tribs running clear and I don't spot any definite source point causing this color.
- 3 -- 38° 55.02'N/123°34.60'W Murky on non-logged area – dirtier than anything coming off logged area. Followed it up to its erosion source point.
- 4 -- About same color as North Fork Garcia. No R&J harvest here but some chance that initial work by R&J to open up future haul road may have contributed some sediment.
- 5 -- Deer Creek -- lots of R&J harvest here on Section 11, but Deer Creek running real clear.
- 6 -- Drainage heavily logged by R&J on both sides, but running clear.
- 7 -- 38° 51.97' N/123° 29' W -- Side drainage on north off Signal Creek. No R&J harvest here but running murky.
- 8 -- Gualala River trib on west side (38° 49.22'N/123° 25.97'W) running murky. No R&J harvest here.
- 9 -- upper fork of small Gualala trib on east side (38° 48.94'N/123° 23.92' W) Lots of R&J harvest here but fairly clear.

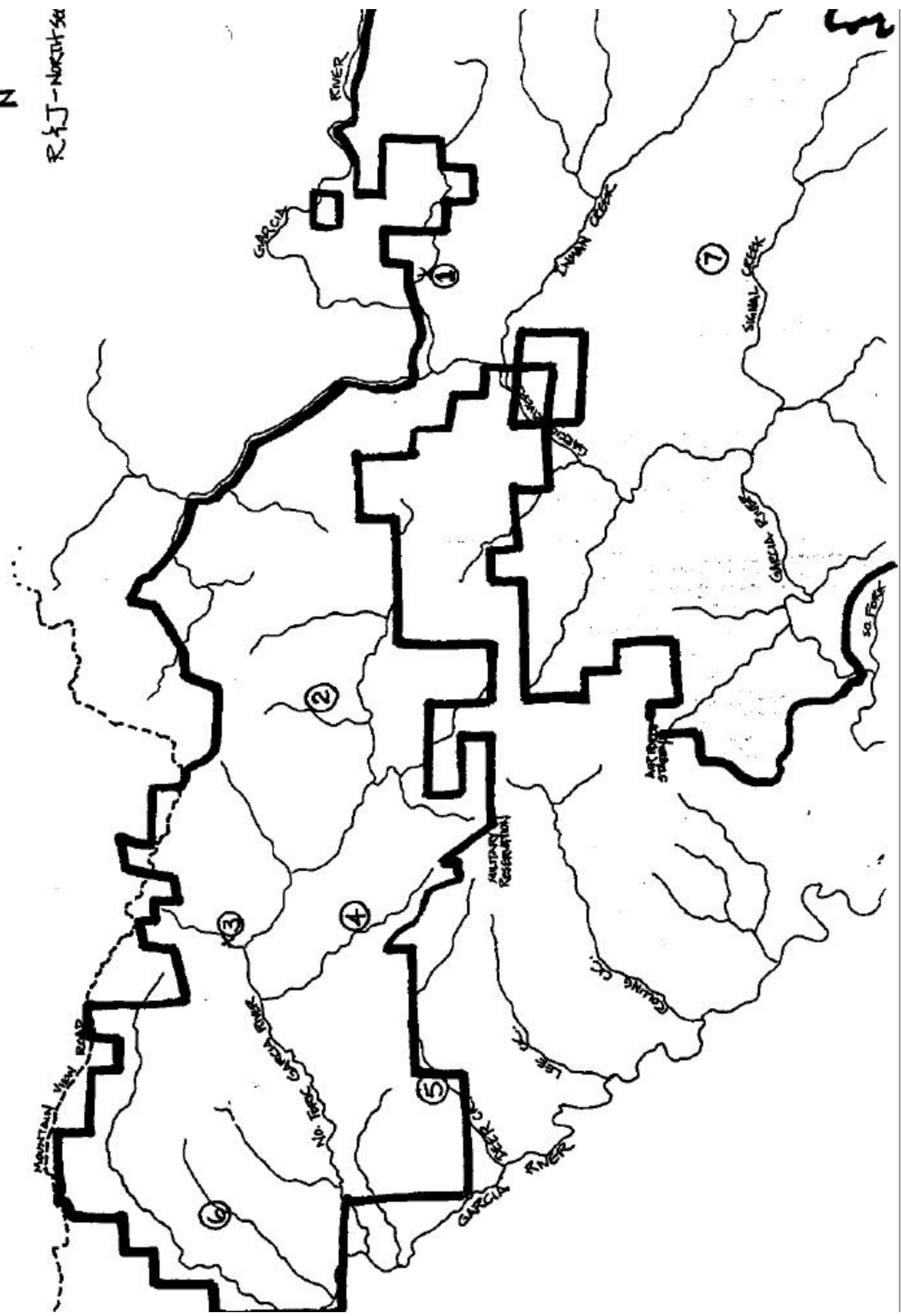
- 10 -- Stewart Creek is running murky. Harvest here by R & J. Failure on creek just below road at point where water bar drains road (well-vegetated spot). Also muddy water running down road parallel to Stewart Creek -- Hand work needed.
- 11 -- Rockpile running muddy - No R&J harvest here.
- 12 -- Horsethief running real dirty -- No R&J harvest here.
- 13 -- Old Red Rock place - dirtiest side creek so far. No R&J harvest here.

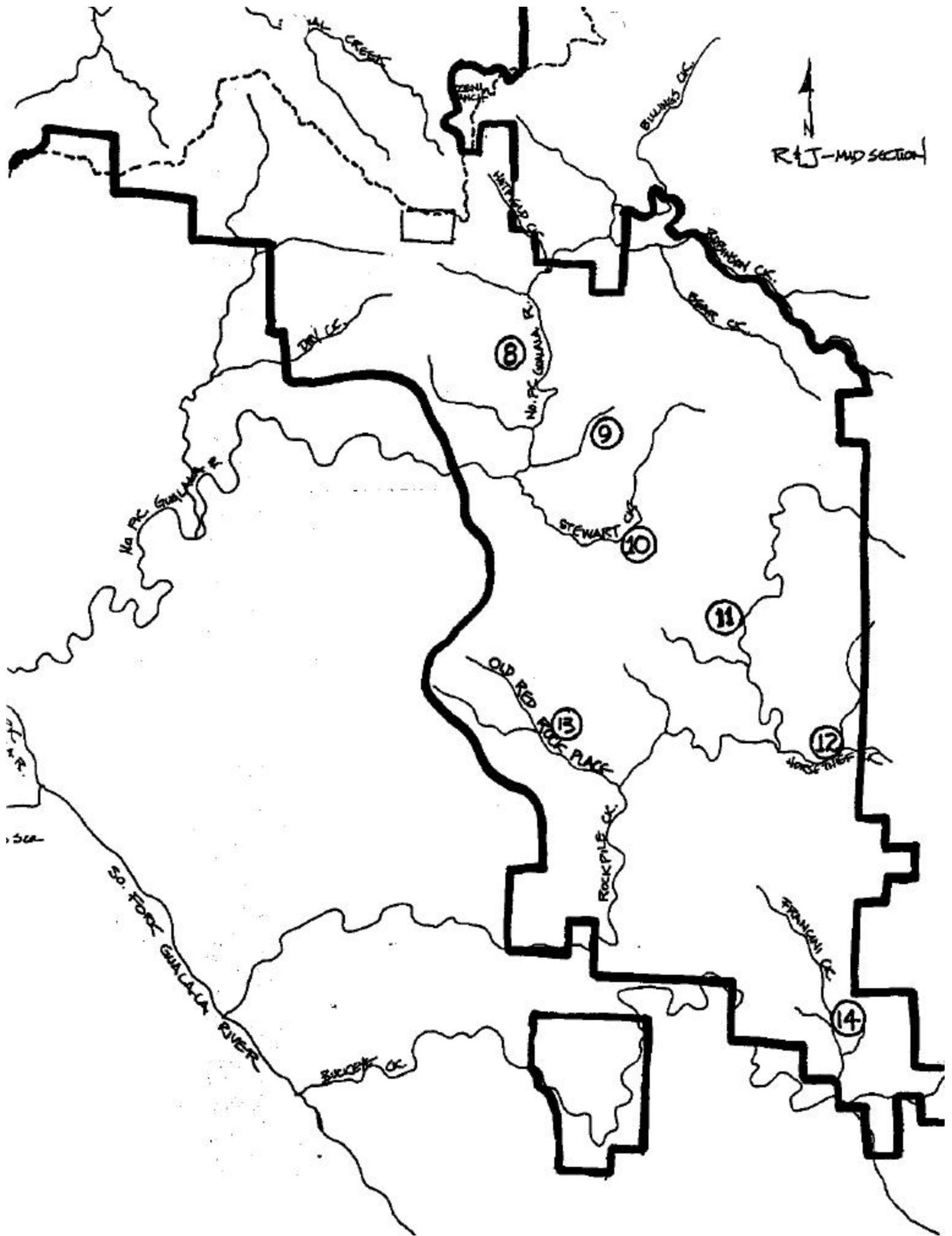
Running low on fuel and pass over this southern section much faster.....

- 14 -- Francini Creek murky -- No R&J harvest here.
- 15 -- Both forks of Soda dirty. R&J harvest summer 1988. I need to identify source on ground.
- 16 -- Fuller Creek two upper forks murky. Main fork really dirty. No R&J harvest here. (38° 41.84 N/123° 16.90'W)
- 17 -- Wheatfield Fork of Gualala muddy. No R&J harvest here.

4 N

R4J-NORTH SA





Appendix B

Jack Monschke Resume