

R& J MONIT

California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. _____

For

R & J TIMBER COMPANY
Mendocino County

INTRODUCTION

This Monitoring Program has been developed to meet, in part, the commitment entered into by R & J Timber Company on April 11, 1989, as a condition to the approval of THP 1-89-105 MEN, to implement a water monitoring program on the North Fork Garcia River. In accordance with the agreement this monitoring program has been developed by the North Coast Regional Water Quality Control Board, the Department of Fish and Game and R & J Timber Company. The Department of Forestry and Fire Protection agreed to accept the monitoring program developed by the above mentioned parties and issued as a monitoring and reporting program by the Regional Board as satisfying that condition of THP 1-89-105 MEN.

MONITORING

Watershed

Monitoring under this program will be carried out on streams draining lands owned or operated on within the North Fork Garcia River watershed, Mendocino County, (hereinafter watershed) as shown on Figure 1.

Monitoring Points

The monitoring points to be sampled under this program are as shown on Figure 1. The monitoring points are divided into two classes based on the amount of sampling to be carried out at that point. Five (5) "primary" monitoring points are located on the main stem of the North Fork Garcia River. Up to fifteen (15) additional "secondary" monitoring points are located on streams tributary to the North Fork.

SAMPLING

Two separate sampling surveys will be carried out under this monitoring and reporting program. Synoptic Surveys will require the sampling of all monitoring points and will be conducted by R & J Timber Company during the "rainy season". Yearly Stream Surveys will require the sampling of the five monitoring points located on the main stem of the North Fork Garcia River. R & J Timber Company will be assisted by Regional Board and Dept. of Fish and Game staff during these surveys.

SYNOPTIC SURVEYS

Sampling Procedures

The following samples shall be collected at each monitoring point at the frequencies specified in this section of the program.

1. Photograph -- -- -- -- -- A photo-point shall be established in order that the identical area can be photographed at each separate sampling. A 35 mm color slide taken at the same point with the same focal length lens shall serve as the sample.
2. Turbidity -- -- -- -- -- A 100 ml sample of stream water shall be collected in a plastic container for analysis within 48 hours.
3. Total Suspended Matter -- A one liter (1L) sample of steam water shall be collected in a plastic bottle and submitted to an accredited laboratory within 48 hours for analysis.
4. Settleable Matter -- -- A one liter (1L) sample of stream water shall be collected in a plastic bottle for analysis within 48 hours.
5. Substrate Score -- -- -- Visual quantitative surface analysis of stream substrate composition and embeddedness (Crouse, et. al., 1981, attached). Five transects will be scored at each station with three samples per transect; one at the thalweg and one half way to the bank on each side.

(Note: Samples for procedures 2, 3 and 4 above shall not be collected if the stream is not flowing. It may not be possible to determine the Substrate Score if the water is too turbid or the water level is too high.)

Baseline Sampling

Each sampling procedure shall be carried out at each monitoring point prior to the "first storm event" of the year to establish baseline conditions for comparison with storm event samples.

Storm Event Sampling

Each sampling procedure shall be carried out at each monitoring point for each storm event according to the following schedule:

1. Each of the first five distinct storm events of the rainy season shall be monitored.

2. The first storm event of each month thereafter shall be monitored.

Definitions:

a. Storm Event - rainfall sufficient to produce surface runoff resulting in rising stream hydrographs and/or consistently elevated turbidity compared to prestorm stream conditions.

b. Distinct Storm Event - In order to isolate one storm event from another for the purpose of monitoring, the following criteria must apply:

(1) the flow of the stream must recede to near the level preceding the storm or to a level significantly below the maximum flow reached during the storm thus defining a discrete hydrograph, and

(2) at least three days without runoff producing rainfall must separate the storm events.

ANNUAL STREAM SURVEY

A stream survey of the five primary monitoring points will be conducted annually between the end of the rainy season in the spring and before the start of rain in the autumn to determine the general health and condition of the stream with respect to water quality, streambed conditions, fishery resources and upslope disturbances. In addition, an inventory of the entire stream reach within R & J Timber Company lands will be conducted with the assistance of Regional Board and Dept. of Fish and Game staff.

Yearly Streambed Monitoring

The following activities will be performed:

1. Channel profiles - - - - Channel profiles shall be obtained at each pool segment to determine pool configuration, size, residual volume and thalweg profile.
2. Substrate Scores - - - - Surface scores (Crouse, et. al., 1981) shall be obtained in the riffle segment of each station, at least 100 per riffle segment.
3. Substrate composition - - Substrate core samples shall be obtained from each riffle after substrate scores have been measured. Core samples shall be collected with the McNeil sampler and wet sieved per McNeil and Ahnell (1969); at least 10 cores per riffle segment. Substrate scores shall be recorded for each sample.

CONFIRMATION

When during the course of a sampling survey, either baseline or storm event, the sampler observes stream, water or upslope conditions that are not as expected (e.g., excessively turbid water, excessive overland flow, deposition of fine material in the streambed, gullying in roads or skid trails, etc.) the sampler shall make a reasonable effort to determine the cause of the unusual conditions. A brief report including a map shall be prepared. Photographs are also appropriate and encouraged.

REPORTING

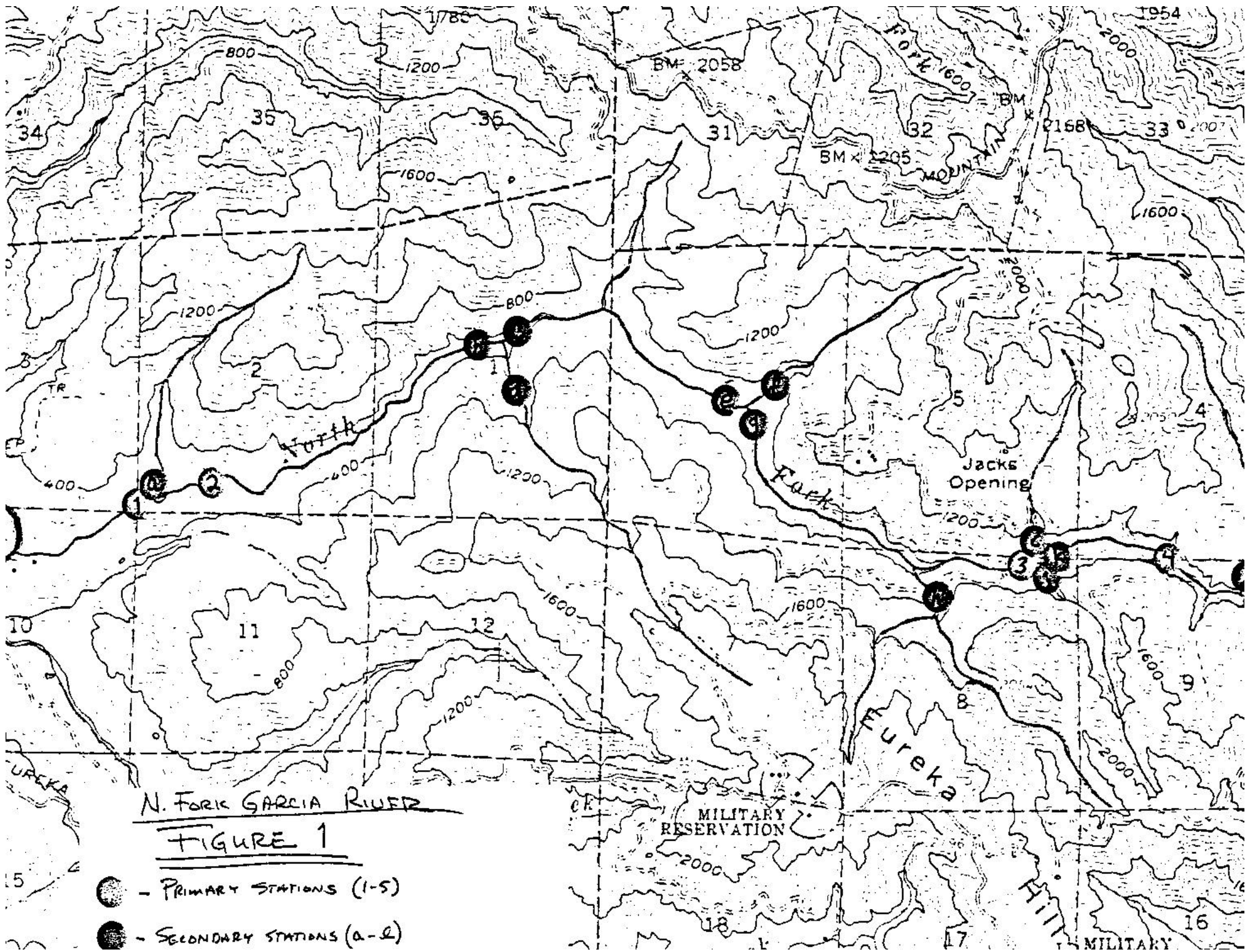
Reports for each sampling survey shall be submitted as timely as possible, but in no case more than forty five (45) days after the completion of a sampling survey. The Regional Board shall be notified immediately of any circumstance that will interfere with complying with this time schedule. Reports shall include the following for each station sampled:

1. A photographic 35 mm slide taken at the photo point. Photographs shall be labeled with station number, date and time the photo was taken.
2. An orderly tabulation of the results from the turbidity, suspended matter, settleable material and Substrate Score determinations. Copies of all private laboratory results shall also be included.
3. Reports of "confirmations" with accompanying maps and photographs. Each confirmation report shall be given a unique identifying code that shall also be placed on the map and photographic slides.
4. Any other pertinent observations or materials.

GENERAL PROVISIONS FOR SAMPLING AND ANALYSIS

Unless otherwise noted, all sampling, sample preservation and analysis shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).

R & J Timber Company shall calibrate and perform maintenance procedures on all monitoring instruments and equipment that they use under this program to ensure accuracy of measurements.



N. Fork Garcia River

FIGURE 1

- - PRIMARY STATIONS (1-5)
- - SECONDARY STATIONS (a-e)