

APPENDIX 7

PUBLIC PROCESS SUMMARY

The assessment began with outreach to the Gualala River Watershed Council's Watershed Coordinator. The GRWC's mission statement (Appendix) provided a framework to compare the goals of the program with the goals of landowners and interested public in the watershed. A short presentation of the NCWAP was done by Water Quality and Resources Agency on September 19, 2000, was followed by input from the audience, which provided direction on the process of assessment, especially regarding interactions with the Council and landowners. Numerous small meetings with the Coordinator and others ensued as details were discussed regarding access, data sharing, and the assessment process. Individual agencies presented their approaches to the assessment, and the Project Lead provided occasional updates on the progress of the assessment to the GRWC. Interactions with private landowners as well as industrial timber landowners occurred on an as-needed basis.

The primary focus of the GRWC is "...to communicate about the ecology and land uses in the Gualala River watershed aimed at ..." promoting educational opportunities about watershed functions, encouraging stewardship of the natural resources, maintaining and improving watershed resource values, influencing land use decisions, and addressing the TMDL, while building upon existing sound resource management efforts and "maintaining the economic viability of landowners, resource management and recreational uses." The full mission statement is reproduced at the end of this summary.

The NCWAP thrust to assess conditions and provide recommendations for improvements, especially with respect to anadromous salmonids, is supportive of the GRWC's mission. Primary concerns expressed by the Council were related to:

1. Access – members asked that the agencies coordinate on requests for access to avoid asking a landowner for access many times, as well as multiple trips by agencies
2. Access – the Council suggested that NCWAP go through the Coordinator for access requests
3. Field presence – there was concern that agency staff would take enforcement actions if they observed a problem on private property
4. TMDL – most of the assessment would be after the development of the TMDL for the watershed and concern was expressed regarding coordination with the TMDL and timing
5. Involvement – the Council wanted to be involved in the assessment, but recognized the need for NCWAP to meet independently initially
6. Involvement – the Council also expressed a desire to assist in data collection and analysis, as well as have an opportunity to review the assessment in draft form

NCWAP enjoyed a healthy relationship with the GRWC and responded to those concerns as follows:

1. and 2. NCWAP agencies and programs coordinated on access requests to the extent possible. It was necessary for separate requests to be made in some instances due to the timing and areas that different agencies needed to access, e.g., DMG needed access first for groundtruthing maps of geologic and erosional features, DFG needed access to stream corridors throughout the entire watershed later in the summer. NCWAP was in close contact with the Coordinator during access requests, the Coordinator providing information on landowner willingness and contact. The DFG even contracted with a GRWC member to arrange access in the South Fork subwatershed. While the process had a few problems, they were minor and easily resolved.
3. Regulatory staff explained the discretion they have in taking enforcement, and that landowners providing

access would be contacted and given opportunity to resolve any blatant and/or obvious intentional violations first. Minor problems noted on a landowner's property would be brought to their attention, however no enforcement was contemplated. No enforcement actions were taken as a result of NCWAP field presence.

4. To the extent we were able, the TMDL Development Team of the NCWQCB and the NCWAP coordinated on data collection and analysis. A considerable amount of the analysis performed for the TMDL Technical Support Document was used in the assessment, and appears in this assessment report.
3. and 6. The NCWAP involved interested GRWC members in the data collection and assessment process, sharing equipment and expertise, and data products in draft form. GRWC members assisted in data collection, data analysis, and review of products, contributing a significant amount of information and analysis to the process.

The NCWAP expressed the desire to have contributors review the draft assessment to ensure their data were used appropriately and to provide additional input and analysis. The report production schedule was revised to allow the GRWC and other contributors the opportunity to review the draft assessment prior to internal agency review. This provided an opportunity for contributors to respond to the NCWAP on issues of data use and interpretation, and conclusions drawn from that. GRWC representatives were active in the ensuing interdisciplinary synthesis through the calendar year 2002.

• **GRWC Mission Statement – February 2001**

The Gualala River Watershed Council (GRWC) is a forum of Gualala River landowners, resource managers, agencies, and interested parties—a place to communicate about the ecology and land uses in the Gualala River watershed aimed at achieving the following goals:

- building upon existing efforts that support sound resource management,
- promoting educational opportunities about watershed functions,
- Maintain and improve watershed resource values,
- Encourage stewardship of the natural resources,
- Influence land use decisions in the watershed,
- Address the Clean Water Act Section 303 (d) "Water Quality Attainment Strategy" (TMDL), while maintaining the economic viability of landowners, resource management and recreational uses.

The GRWC will work towards attaining these goals by identifying and defining problems to address watershed assessment, developing an enhancement plan, and implementing solutions on a prioritized basis using sound science, common sense, and a cooperative, collaborative approach to maximize all the goals of all the parties to the extent possible.

The more widely attended meetings:

September 19, 2000 – initial rollout of the NCWAP assessment for the Gualala, including significant input from the GRWC

December 20, 2000 – meeting ant the Water Quality offices with large timber landowners about the upcoming TMDL and NCWAP assessment and data sharing and access for field work

January 16, 2001 – DMG and CDF presentations on their analysis and products for the NCWAP assessments

February 2, 2001 – NCWAP representatives and Gualala Technical Advisory Committee meeting in Ukiah

May 2, 2001 – NCWAP representatives met with watershed groups and environmental groups in Ukiah

May 10, 2001 – NCWAP representatives overall outreach in Fort Bragg

April 12, 2001 - NCWAP representatives met with California Forestry Association and timber industry representatives in Sacramento

October 16, 2001 – update on the NCWAP assessment process, including some analysis products

February, 2002 – update on the NCWAP assessment process, including more analysis products and release of the first public draft

March 9, 2002 – Public Workshop on the public draft.

Response to Comments – February 2002 Public Draft

Comments and responses received on the February 2002 public draft are listed below, with responses to the comments. The public draft was not complete, the North Fork Subbasin section constituting an example for the rest of the subbasins. The other subbasins were incomplete.

Comments received often related to pieces that were not yet completed. As we responded to the comments, we have attempted to reference the final document sections so that the commentors may more easily see how we addressed their comments.

Date of Comment: 5/12/2002 **ID: 319**
Commenter: Sierra Club
Type: NCWAP Process/Scope of Work

Comment: Content and Scope: Important issues are not addressed.

Response: The Public Review Draft was deficient in many ways, because it was released on a tight schedule before the assessment was complete. The Gualala Team has addressed the important issues of sediment sources, water temperatures, fish habitat, and land management to varying degrees on a subbasin basis in the final version. This is a result of more interdisciplinary synthesis of spatial information.

Date of Comment: 2/9/2002 **ID: 348**
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: Geology/Fluvial Geomorphology

Comment: Ground truthing of aerial photo identification of landslides and their cause was limited.

Response: Ground truthing of landslides identified in aerial photographs was very limited in order to meet the legislatively mandated schedule. If the schedule and budget allow and access is granted, more field checking of landslides and fluvial features will be done on future watersheds. Determination of cause of landslides was not within the NCWAP scope of work.

Date of Comment: 2/9/2002 **ID: 333**
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: Water Quality

Comment:

1. No sediment metric was measured consistently from 1992-2001.
2. Add macroinvertebrates and thalweg to D₅₀ sediment measurements.
3. No comparison made with D₅₀ data and streams less than 1%.
4. All references to Knopp should be in the appendices.

Response:

1. True, accordingly no definite conclusions were drawn from that data.
2. Macroinvertebrate data are discussed in the Watershed Profile section. Thalweg and D₅₀ data are in Appendix 4 and mentioned briefly in the subbasin sections.
3. The available data was insufficient to make comparisons with areas outside of the Gualala River watershed.
4. Knopp's (1993) methods and results are discussed briefly in the methods chapter (Section 2.1.4), along with an explanation as to why Gualala D₅₀ data were not compared to Knopp's data.

Date of Comment: 2/14/2002
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: Water Quality

ID: 342

Comment:

1. There is a relationship between water temp and watershed size.
2. Water temperatures may be at natural levels.
3. By limiting the hypothesis to the mainstem, the smaller tributary w/ suitable temperatures are not mentioned.
4. Warm water coming from upstream may be causing warm water temps.

Response:

1. Yes, that is generally the case, however, in the North Fork warmer temperatures were observed higher in the watershed (smaller watershed area) than downstream (larger watershed area), due to cool tributary input, coastal influence, and likely other factors.
2. Water temperatures may not be at natural levels--more investigation with a better network of data collection (more water temperatures, air temperatures, humidity, canopy) and modeling would provide a better answer.
3. The hypothesis was changed to reflect the suitability of the water temperatures for coho salmon in the tributaries for which data were recorded.
4. That is likely and was included as a possible factor in warm stream temperatures coming onto the upstream-most temperature sites.

Date of Comment: 2/24/2002
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: Land Use

ID: 343

Comment:

1. Lower alluvial areas were not cleared of vegetation between 1952 and 1968. The lower riparian stands are better characterized as mature 80-100 year old selectively cut stands.
2. Satellite imagery is not good enough to draw conclusions.
3. Digital elevation models are not accurate enough to identify unstable areas for risk assessment.
4. Simple road location as surrogate is suspect.

Response:

1. The final March 2003 Gualala Assessment Report states that riparian areas were cleared in the central to upper reaches of the North Fork in the mid-20th century.
- 2-4. Satellite imagery was used to map vegetative types. It was also used for land use analysis in the 1973 to 1990 period, supplemented by air photo interpretations. No conclusions have been derived from satellite imagery data in the final report, given the comparatively coarse data collection method used. Similarly, no implications to sediment sources are indicated by simple road locations alone. Primary sediment sources have been road debris slides activated during large storm events. These generally occurred as a function of slope steepness and proximity to streams, as observed during CDF and CGS mapping throughout the watershed.

Date of Comment: 2/24/2002
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: Fisheries

ID: 344

Comment:

1. Stream surveys are not comparable to habitat inventory survey.

2. Include downstream migrant trapping data (DMT).
3. EMDS filters habitat inventory data. Too much weight on EMDS.
4. What is the pool depth requirement for pool quality?
5. LWD data gaps; LNF has low LWD but good riparian condition.

Response:

1. No direct comparison was made. The results of the historic stream surveys are not quantitative and can't be used in comparative analyses with current habitat inventories. The data from these stream surveys provide a snapshot of the conditions at the time of the survey and as such should only be used to look at broad trends.
2. DFG has the DMT date, location and findings listed. Since no other DMT trapping data was available analysis could not be conducted. The data are listed in the CDFG Gualala Appendix.
3. EMDS was one of three tools used to analyze limiting factors and identify refugia, the other two include habitat inventory data and local and expert opinion.
4. Pool depth was set at > or < 2 ft for EMDS. For habitat inventory target values, see Flosi et al, 1998.
5. The Aquatic/Riparian Conditions section now include the LWD data provided by Gualala Redwoods, Inc. and the Gualala River Watershed Council.

Date of Comment: 2/24/2002

ID: 345

Commenter: Henry Alden

Representing: Gualala Redwoods, Inc.

Type: Grammar

Comment:

1. Executive Summary is negative.
2. Hypotheses are assumed to be supported and presented with a negative bias. The watershed system would have to be perfect to find most of these hypotheses to be false.

Response:

The Executive summary was revised with public input (including input from Mr. Alden).

The Gualala Team reviewed and revised the hypotheses. With input from the GRWC and Mr. Alden, we made changes to reduce the negative tone, make them more relevant, and improve on the presentation of findings.

Date of Comment: 2/24/2002

ID: 346

Commenter: Henry Alden

Representing: Gualala Redwoods, Inc.

Type: Vegetation

Comment: Synthesis should include macroinvertebrates; GRI/GRWC canopy values, DFG canopy; and comparison to old growth streams and temperatures in Humboldt Redwoods SP.

Response:

Macroinvertebrate data were analyzed by CDFG and presented in the Watershed Profile (Section 3.5.1) of the March 2003 final report. Canopy data were included and discussed in the Fish Habitat Relationship sections: 3.6, 5.1.6, 5.2.8, 5.3.8, 5.4.8, 5.5.8, and 5.6.8. A more detailed analysis of macroinvertebrate data; GRI/GRWC canopy; and DFG canopy is provided in the CDFG Gualala Appendix.

The Gualala data were intergrated with NCWAP mapping of 1936 and 1942 canopy conditions under predominantly old growth canopy cover conditions derived from aerial photos for the Gualala River Watershed itself (Section 3.4). This showed long term stream exposure in larger order downstream portions of the stream as a function of watershed size. These results are similar to the Humboldt Redwoods State Park study.

Date of Comment: 2/24/2002 **ID:** 347
Commenter: Henry Alden
Representing: Gualala Redwoods, Inc.
Type: EMDS

Comment: EMDS and the supporting data and relationships are not well supported.

Response:

A full explanation of the EMDS model parameters, relationships, and usage is provided in the interdisciplinary synthesis chapter under Section 4.1.

Date of Comment: 2/24/2002 **ID:** 295
Commenter: Thomas Cochrane
Representing: himself/ geologist
Type: Report Layout

Comment:

1. A lot of work, congratulations!
2. Not easy to use.
3. Identify author and agency.
4. Invaluable baseline for future studies. Thanks.
5. Mainstem to North Fork information on geology, gradient, sediment, and fishery missing.

Response:

1. Thank you!
2. We have reorganized and rewritten the report to improve its useability.
3. The various sections in the subbasin sections were written primarily by the Team member for that discipline, e.g., geology written by the CGS Team member. However, Team members collaborated on sections, especially the watershed profile, synthesis and hypothesis sections, so that no single author is responsible for those sections. Authors are identified in the acknowledgements section. Each Agency's team member analyzed the data available for their subject expertise and authored an Appendix of their data, which is separate from the Assessment Report, but available to the public.
4. Our hope is that this will serve as a baseline and a guide to build upon. The Gualala River Watershed Council, landowners, and other groups have our support in making that a reality. Thank you for your support; Public input such as yours is invaluable to the process.
5. That omission was corrected in the final report.

Date of Comment: 4/19/2002 **ID:** 355
Commenter: George Ice
Representing: Peer Review Committee
Type: Synthesis

Comment: Situational sentence syntax should be used in the hypotheses to more clearly state the linkages, timeframe, and locations.

Response: We were unable to revise the hypotheses to fit the exact syntax, but to the extent we were able, we incorporated those elements into the hypotheses and findings.

Date of Comment: 4/19/2002 **ID:** 360
Commenter: George Ice
Representing: Peer Review Committee
Type: Land Use

Comment: The synthesis report does a poor job of defining how current forest management is affecting the trajectory of this watershed's condition and the opportunities for control and mitigation practices.

Response: Trends of shade canopy and stream channel conditions are provided in Appendix 3, "Land Use History of the Gualala Watershed". This indicates how modern day practices have interfaced with ongoing trends and conditions in the watershed. CDFG used the historic stream reports and the habitat inventory surveys to identify trends in canopy recovery where data from 1964 and 2001 were available. However, the analysis is not of fine enough scale to discern recent changes that may have occurred.

Date of Comment: 4/19/2002 **ID:** 359
Commenter: George Ice
Representing: Peer Review Committee
Type: Water Quality

Comment: There seems to be an assumption that water temperature patterns are determined entirely by the riparian cover and this may not be true.

Response: That was not the intent and those statements have been revised. Water temperatures on the eastern side of the watershed may be largely determined by the lack of riparian cover and warmer air temperatures. Other conditions potentially affecting water temperature, such as hot springs, watershed size, and coastal influences are also discussed.

Date of Comment: 4/19/2002 **ID:** 356
Commenter: George Ice
Representing: Peer Review Committee
Type: Recommendations

Comment: Potential recommendations seem too simplistic.

Response: Recommendations were extensively rewritten to be more specific.

Date of Comment: 4/19/2002 **ID:** 354
Commenter: George Ice
Representing: Peer Review Committee
Type: Miscellaneous

Comment: The tone of the report was too casual without adequate documentation of statements.

Response: Significant revision has occurred to address referencing issues as well as grammar and style.

Date of Comment: 4/19/2002 **ID:** 357
Commenter: George Ice
Representing: Peer Review Committee
Type: Fisheries

Comment: There is a lack of discussion about the connection between fish productivity and food availability, and lack of discussion about introduced species.

Response: No food availability or fish productivity data exist that are specific to the Gualala River Watershed. The only macroinvertebrate data was provided by Gualala Redwoods, Inc. CDFG analyzed the data which showed that all four of the sites sampled indicated a “good biotic condition”. More data on the available food both in freshwater and the estuary are recommended. As far as fish species introduced, DFG personnel observed sailfin mollies in Flat Ridge Creek, and heard stories of perch in the Wheatfield Fork.

Date of Comment: 4/19/2002 **ID:** 358
Commenter: George Ice
Representing: Peer Review Committee
Type: Water Quality

Comment: The statement about small streambed particles making a more unstable streambed is not entirely true.

Response: The statement was made in reference to the energy required to move the streambed and in the context of the Gualala streams, largely deficient in channel structure. It has been revised.

Date of Comment: 5/13/2002 **ID:** 310
Commenter: Michael Lane
Type: NCWAP Process/Scope of Work

Comment: Too short of a period for public comments after workshop.

Response: The Gualala Team agrees! Unfortunately, the timeframe was rather tight. We did extend the comment period beyond the original date in an attempt to facilitate the return of public comments.

Date of Comment: 5/13/2002 **ID:** 311
Commenter: Michael Lane
Type: Report Layout

Comment: Portions of the report are difficult to read due to small font and/or poor reproduction.

Response: The Gualala Team apologizes for that. The Public Draft was quite rough and many revisions were made to improve the readability and reproduction quality.

Date of Comment: 5/13/2002 **ID:** 313
Commenter: Michael Lane
Type: Maps

Comment: Include map with landowners identified.

Response: In balancing the desire of readers to identify the various landowners against the sensitivity of landowners to providing that information, landowners are not identified on a map.

Date of Comment: 5/13/2002 **ID:** 318
Commenter: Michael Lane
Type: Miscellaneous

Comment: Michael Lane is volunteering to provide geothermal information and survey assistance.

Response: Thank you for your offer. The Gualala Team will pass that on to the Gualala River Watershed Council for future consideration. Further investigation into geothermal activity is a recommendation in the final report.

Date of Comment: 5/13/2002 **ID:** 314
Commenter: Michael Lane
Type: Maps

Comment: Include a map for each subbasin where access was granted.

Response: See response to comment # 313. However, Plate 3 and Table 3-8 in the March 2003 Assessment Report shows the tributaries that were habitat inventory surveyed (access was provided for that purpose).

Date of Comment: 5/13/2002 **ID:** 315
Commenter: Michael Lane
Type: EMDS

Comment: EMDS section inconsistent w/workshop.

Response: The EMDS presented in the public report was an earlier version than that presented at the workshop. A new peer reviewed version was incorporated into the March 2003 Assessment Report . We are sorry for the confusion.

Date of Comment: 5/13/2002 **ID:** 317
Commenter: Michael Lane
Type: Report Layout

Comment: Executive summary needs a concluding paragraph.

Response: The executive summary was rewritten extensively for the March 2003 Assessment Report

Date of Comment: 5/13/2002 **ID:** 312
Commenter: Michael Lane
Type: Report Layout

Comment: Table of Contents is not complete.

Response: The March 2003 Assessment Report includes a complete Table of Contents.

Date of Comment: 5/13/2002 **ID:** 316
Commenter: Michael Lane
Type: Miscellaneous

Comment: Provide summary of GIS data available to public.

Response: The data available are listed in the data catalog (Appendix 6d) and in the metadata for the digital data.

Date of Comment: 4/9/2002 **ID:** 294
Commenter: James Lecky
Representing: NOAA NMFS
Type: EMDS

Comment: Peer Review EMDS/LFA by NPS, USFS, USGS, NMFS and others.

Response: The Peer Review Committee consisted of NMFS, CDF, CDFG, CGS and others.

Date of Comment: 4/9/2002
Commenter: James Lecky
Representing: NOAA NMFS
Type: Fisheries

ID: 293

Comment:

1. Include characterization of freshwater habitat types and conditions.
2. Identify locations of habitat in relatively intact condition.
3. Identify the primary factors that have impaired habitat.
4. Review "Factors of decline: A supplement to the notice of determination for West Coast Steelhead Under the ESA" (NMFS 1996).
6. Include and utilize Spence et al 1996.

Response:

1. EMDS related literature parameters to habitat types and conditions as linked to suitability for coho salmon and steelhead trout , which is set against the criteria of target values set forth in the literature.
2. See EMDS Reach Model outputs and restoration matrix in the Executive Summary in the March 2003 Assessment Report
3. See EMDS Reach Model outputs and restoration matrix in the Executive Summary in the March 2003 Assessment Report
4. "Factors of decline" was reviewed, and appropriate discussion and reference included in the final report.
5. Spence et al 1996 was reviewed and incorporated into the DFG Appendix.

Date of Comment: 4/9/2002
Commenter: James Lecky
Representing: NOAA NMFS
Type: Land Use

ID: 292

Comment: Impacts to species would recognize both chronic and episodic impacts.

Response: While species distribution and abundance are the integration of a host of factors, those relating to a specific episode are difficult to sort out. The Gualala Team performed interdisciplinary analysis using spatial data to gain perspective on conditions relative to various factors and events in the watershed. The results of those analyses are presented in the final report.

Date of Comment: 4/9/2002
Commenter: James Lecky
Representing: NOAA NMFS
Type: Synthesis

ID: 291

Comment:

1. Poor job of synthesis and limiting factors analysis
2. Failure to include relevant data sets and information available.
3. Incorporation of additional up-to-date available data sets.
4. Synthesis of how human and natural disturbance have affected the inputs of water, wood, sediment, heat energy and nutrients linked with salmonid habitat and productivity.

Response:

1. The March 2003 Assessment Report contains an updated synthesis and limiting factor analysis section.
2. All available data were determined for quality. Data collected using incorrect methodology was not used.
3. New data were incorporated until late September 2002.
4. This is beyond the scope of the program. The main goal of NCWAP was to gather all existing data, collect new data to fill gaps where available, and to analyze it to determine the limiting factors for salmonid health and productivity, while drawing any linkages that were apparent from the analysis.

Date of Comment: 4/9/2002

ID: 290

Commenter: James Lecky

Representing: NOAA/NMFS

Type: NCWAP Process/Scope of Work

Comment:

1. NMFS supports goals/objectives; believes them to be sound.
2. May not be useful to landowners, watersheds groups, or agencies with respect to addressing limiting factors for salmonids.
3. Develop a clear set of desired conditions for salmonid habitat in each watershed.

Response:

1. Thank you
2. Limiting factors and restoration priorities on a by-stream basis are included in the the March 2003 Assessment Report. More specific details are contained in the CDFG Gualala Appendix.
3. The EMDS Reach Model criteria and Target Values described by Flosi et al 1998 are the desired conditions to which the habitat inventory data were evaluated. This is more clearly stated in the March 2003 Assessment Report. More specific details are contained in the CDFG Gualala Appendix.

Date of Comment: 3/15/2002

ID: 281

Commenter: Gaylon Lee

Representing: SWRCB

Type: EMDS

Comment:

1. Road design and soil erodibility do not appear to have been considered in the model's roads and land use components.
2. Mines and agriculture do not appear to have been considered in the model's roads and land use components.
3. Agricultural methods appear to be treated equally with other land uses.
4. Multi vs. single storied stand and temperature influence was not addressed.

Response:

With the exception of a couple of displays, only the reach EMDS model was used with this report. The upslope model has undergone significant revision, but is not fully validated.

Date of Comment: 3/15/2002

ID: 283

Commenter: Gaylon Lee

Representing: SWRCB

Type: Hydrology

Comment:

Several hydrologic analyses were not done:

1. amount of reach total flow in surface flow vs. underflow
2. whether a reach is losing or gaining flow
3. relationship between the above and thermal refugia

Response:

The Gualala Team agrees these relationships are important, especially with regard to water temperatures, but they are beyond the scope of the current NCWAP. We will recommend such investigations for future assessments.

Date of Comment: 3/15/2002

ID: 282

Commenter: Gaylon Lee
Representing: SWRCB
Type: EMDS

Comment:

Several comments relating to the Reach EMDS model:

1. Passage Barriers – a mere calculation is not a useful metric for determining preferred management practices.
2. Suspended sediment and turbidity are not considered.
3. Thermal refugia are not included. [Commenter incorrectly believes that water temperature is included]
4. Species and size of LWD not considered.
5. Bank composition in regard to stability is not considered.

Response:

The Gualala Team agrees that the EMDS model and its inputs could be refined, and will strive for more detail future assessments. However, the model is data limited in regards to most of these parameters.

Thermal refugia, LWD, and bank stability were addressed to varying degrees in the March 2003 Assessment Report, outside of the EMDS model:

- thermal refugia were identified using the 2001 MWAT data where available.
- LWD data was incorporated where available, and is contained in the CDFG Appendix 5.
- The Restoration Priority Map in Section 4.4 of the March 2003 Assessment Report addresses sediment sources, including bank failures to the extent they are an element of sediment sources.

Date of Comment: 3/15/2002

ID: 215

Commenter: Gaylon Lee
Representing: SWRCB
Type: EMDS

Comment: Public policy should not be set by implication, rather it should be made clear and explicit so it can be publicly debated and formal decisions can be made by appropriate public bodies.

Response: Implications of policy setting have been removed from the March 2003 Assessment Report.

Date of Comment: 4/8/2002

ID: 327

Commenter: Alan Levine
Representing: Coast Action Group
Type: Maps

Comment:

1. Mapping at the planning watershed level should accurately portray geomorphic features, wetlands, wet areas, critical sites, etc.
2. The report does not include existing information from CGS landslide and geomorphic mapping.
3. Has the PWA paper (May 1996) been considered in mass wasting analysis?
4. What is the history of mass wasting events in specific areas?
5. How is stream bank erosion, all types of earth movement and soil types addressed? Has this information been used in the predictive assumptions and assessment?

Response:

1. Some of those attributes are discernable at the planning watershed level, others are more appropriate at the reach level. NCWAP data are available at appropriate levels for geomorphic and geologic features, as well as fish habitat. Wetlands, wet areas, and critical sites were not mapped by the NCWAP.
2. The March 2003 Assessment Report contains those data.
3. Two PWA reports produced in 1997 were among 75 references that were considered in the CGS landslide

and geomorphic mapping. All references used by CGS in the assessment are listed in Appendix 2.

4. Temporal trends in sedimentation and mass wasting vary across the watershed. These are discussed in the CGS appendix.
5. Those factors were used by CGS in the development of an estimate of sediment yield. The methodology used by CGS for that estimate is outlined in Appendix C of the CGS Appendix 2.

Date of Comment: 4/8/2002 **ID:** 331
Commenter: Alan Levine
Representing: Coast Action Group
Type: Land Use

Comment: Roads discussion is lacking in the report. Roads were not sufficiently addressed in the assessment, conclusion, nor recommendation sections for management.

Response:

Separate roads sections were added to the subbasin sections, and roads recommendations are included in the March 2003 Assessment Report.

Date of Comment: 4/8/2002 **ID:** 330
Commenter: Alan Levine
Representing: Coast Action Group
Type: Synthesis

Comment:

1. How do average slope and loss of vegetative cover relate to water yield?
2. How do areas of soil compaction and percent of watershed harvested relate to water yield?
3. What are the hydrological impacts from land use activities? Regulation of water use should be encouraged by the report.
4. Why weren't Class 3 watercourses considered for potential sediment delivery and temperature impact problems?
5. Were planning level EHR estimates contemplated?
6. How is land slide potential linked with historic sediment loading and transport?

Response:

- 1 & 2 . These factors are beyond the scope of NCWAP at this time.
3. The hydrology Appendix 1 provides some perspective on land use and water use relationships. Additional regulation of water use is not encouraged in the report because the data are not available to document that need, but considerations of water use and conservation are addressed in the March 2003 Assessment Report.
4. CGS generated a calibrated drainage network that expanded the blue line stream network found on topographic maps. For comparison, the expanded network consisted of 6,900 kilometers of stream versus the 1,188 kilometers of streams that appear on the USGS topographic maps. Although Class 2 and Class 3 designations were not made, the expansion likely included the majority of such channels.
5. The investigation of erosion was restricted to large-scale mass wasting features, and road failures in the form of debris slides and debris torrent slides tracked by air photo interpretations. EHRs were not applicable at that scale. An estimate of sediment yield and a description of the methodology can be found in the CGS and CDF appendices.
6. Seventy two percent of the mapped channel characteristics indicative of excess sediment lie within 10 meters of areas mapped with the highest two ratings for Landslide Potential.

Date of Comment: 4/8/2002
Commenter: Alan Levine
Representing: Coast Action Group
Type: Synthesis

ID: 329

Comment:

1. If the Gualala system is plugged with sediment, can we make the finding that the sediment bed load movement is in disequilibrium? This would support the finding of continuing impacts and support more prudent controls, protections, from current land use.
2. There needs to be more sufficient baseline data for determinations. This data should be collected before new harvest entry commences.

Response:

1. NCWAP has documented areas of excess accumulations of sediment, however the broad statement of comment 1 is unsupported. The CDF database in Appendix 3 documents pre 1973 impacts exceeding modern day practices. That is a factor in the improvement of channel conditions as observed in aerial photos from 1984 to 1999/2000 (appendices 2 and 3). Data for the Gualala River Watershed are insufficient to support the level of hydrologic modeling and sediment transport analysis that would be needed to answer the question.
2. This is a policy issue that is beyond the scope and ability of NCWAP to implement.

Date of Comment: 4/8/2002
Commenter: Alan Levine
Representing: Coast Action Group
Type: Vegetation

ID: 328

Comment:

1. There is conflicting information on riparian closure and conifer occupancy figures between DFG and information from the group.
2. What protocols are being used to determine crown closure? Are the protocols acceptable?

Response:

1. The CDFG data is similar to CDF aerial photo analysis, though they were collected with different methods. In addition to its own data collected during habitat inventories, CDFG incorporated stream reach data from Gualala Redwoods, Inc. and the Gualala River Watershed Council in the March 2003 Assessment Report and CDFG Appendix 5.
2. Actual canopy density measurements were taken from the center of the tributary with a densiometer in four quarters. The percent closure and dominant canopy type [deciduous or coniferous] was recorded. The protocols were peer reviewed. CDF performed aerial photo analysis to determine extent of bank-to-bank canopy closure. Those trends from 1942 to 1968 to 2000 are presented in the March Assessment Report.

Date of Comment: 4/8/2002
Commenter: Alan Levine
Representing: Coast Action Group
Type: NCWAP Process/Scope of Work

ID: 323

Comment:

1. How does the NCWAP analysis relate to assessment of effectiveness and relationship (or linkage/integration with) of ongoing regulatory programs?
2. Planning watershed and/or assessment area should not be larger than approximately 8,000 acres.
3. Information and assessment from NCWAP should be used for watershed relative risk assessment or should lead to a limiting factors assessment relative to each planning watershed.
4. Peer review: is this report ready for peer review? Should or did individual agencies provide peer review?

5. NCWAP does not have a statement or expression of desired future watershed condition. What are the management goals?
6. The Gualala NCWAP report does not fit a model for successful integration with the TMDL program.
7. How will monitoring and reporting be encouraged and incorporated into future reports by NCWAP. How will the assessment change with more data?

Response:

1. The NCWAP assessment observed improvement in many watershed characteristics on a subbasin scale from 1984 to 2001. Improvements in regulatory programs likely are one factor, however defining the extent to which regulatory actions caused improvements was beyond the stated scope of NCWAP.
2. NCWAP used the CalWater planning watersheds, which range from 3,000 to 10,000 acres in area.
3. Habitat inventories, limiting factors analysis, and restoration priorities provided a limiting factors analysis and recommendations for improvements in conditions. The fluvial geomorphic analyses were added to the limiting factors and other data to provide a map of potential restoration sites that incorporates a risk concept on a planning watershed level where data were available (Section 4.4). As for land management practices and relative risk, recommendations in the March 2003 Assessment Report address those concerns.
4. The Team released the draft report on a tight schedule, and it was not in a form for full public, nor peer review. The report improved substantially by continued contact with peer reviewers and others during the revision and completion process.
5. The EMDS Reach Model criteria and Target Values described by Flosi et al 1998 are the desired conditions to which the habitat inventory data were evaluated. This is more clearly stated in the March 2003 Assessment Report. More specific details are contained in the CDFG Gualala Appendix. Desired future conditions for upslope conditions are still being revised as part of the EMDS upslope model.
6. That is correct. Unfortunately, the NCWAP assessment did not get started in time to provide data on the timeline mandated for the Gualala TMDL in a court-ordered consent decree. However, the NCWAP assessment provides substantial recommendations for improvements that can be incorporated into the implementation plan for the Gualala River Watershed. Future assessments, to the extent they are funded, will attempt to precede the development of TMDLs (e.g., NCWAP information developed in the Scott River Watershed will be used in the Scott River TMDL).
7. Monitoring is encouraged through subbasin recommendations in the March 2003 Assessment Report, as well as outreach to the Gualala River Watershed Council (GRWC) and others. The report also is useful in identifying data gaps and prioritizing future work in the watershed. New data will be incorporated into watershed assessments as resources allow (e.g., the NCRWQCB has committed to including new information from the GRWC's estuary study into an addendum to the March 2003 Assessment Report).

Date of Comment: 4/8/2002

ID: 324

Commenter: Alan Levine

Representing: Coast Action Group

Type: Report Layout

Comment:

1. Data contained in the report are coarse.
2. Data are hard to find, you have to "read between the lines" to make use of the data.

Response:

1. Some of the data are coarse by nature, and we have been cautious to analyze data at scales appropriate to its coarseness or fineness. The final report includes existing data as well new data developed under NCWAP.
2. The final report provides the data clearly in tables, figures, and maps. Those data also are included and presented in more detail in the individual agency appendices, as well as in electronic format.

Date of Comment: 4/8/2002
Commenter: Alan Levine
Representing: Coast Action Group
Type: Fisheries

ID: 325

Comment:

1. Current habitat conditions are said to be "getting better" or "improving" with no assessment of percent properly or not properly functioning and without a limiting factors discussion.
2. How do current pool depth and frequency conditions relate to desired instream conditions for salmonid production?
3. Does the information we have show that canopy values meet standards for acceptable levels of properly functioning conditions regarding canopy closure or species composition in the near stream zone?
4. Habitat assessment must be made on a site specific basis and include discussion of existing and historic conditions.

Response:

1. Limiting factors for salmonid health and productivity are presented in the March 2003 Assessment Report in terms of suitability regarding the EMDS Reach Model criteria and the target value criteria presented in Flosi et al (1998). Little or no baseline data exist on which to definitively say whether or not the instream habitat conditions have improved. Methodology between historic stream surveys and current habitat inventory surveys are not directly comparable. However, NCWAP presents the likely trends from those older coarse observations compared to today's conditions. In addition, CDF documented from multiple years of aerial photos a decrease in canopy conditions from 1942 to the late 1960s, and improvements since the late 1960s. n increase in canopy closure. The canopy density shows trends of recovery on some tributaries based on changes from 1964 and 2001. These trends are presented in the Land Use and Fish Habitat Relationship sections in the subbasin sections of the Assessment Report, as well as in the CDFG Appendix.
2. Pool depth and pool quality also are expressed in terms of suitability and target values in those sections.
3. The canopy density taken as part of the habitat inventory survey is expressed as a percent of canopy closure. CDFG recommends canopy closure of >80%. Some tributaries near the coastal side of the watershed exceeded this, while others in the eastern areas did not and are composed of grasslands/ oak woodlands and may have naturally occurring low canopy density.
4. Historic stream surveys are summarized in a table in the Gualala Basin Profile, Fish Habitat Relationship section and in the subbasin sections. Condensed habitat inventory surveys are located in the CDFG Gualala Appendix 5, Attachment F.

Date of Comment: 4/8/2002
Commenter: Alan Levine
Representing: Coast Action Group
Type: Synthesis

ID: 326

Comment:

1. Documents such as THPs and the Gualala TMDL should have been used to draw stronger conclusions. They are filled with coarse data and information.
2. Disturbance, road and riparian condition information present in THPs are absent from the Gualala assessment.
3. The report should have considered and disclosed THP information.
4. THPs contain enough data to support a "critical Sites" analysis or an erosion predictive model, but this was not discussed in the report.
5. This report should encourage more site specific THP assessments.

Response:

1. THPs and the Gualala Technical Support Document were used in the assessment and are referenced throughout the March 2003 report. Conclusions were drawn from all data, including those sources.
2. Those data are in the March 2003 assessment, especially visible in the current report as graphics of near-

stream roads and landings and in the land use discussions in each subbasin.

3. THP information was considered in the assessment and is included in the report.
4. While “critical sites analysis” on the scale to which the commentor refers and erosion prediction modeling were beyond the scope of the assessment, the assessment presents a map of potential restoration sites associated with erosion.
5. Recommendations include references to site-specific conditions.

Date of Comment: 4/8/2002 **ID:** 332
Commenter: Alan Levine
Representing: Coast Action Group
Type: Water Quality

Comment: Should we manage for lethal temperature thresholds or for improving trends to optimal MWATs?

Response: The NCWAP Team recommends managing for the suitable range of MWAT, as well as not exceeding the lethal maximum. In most cases, meeting the fully suitable MWAT range of 50-60 F will keep the seasonal maximum below 75 F.

Date of Comment: 5/13/2002 **ID:** 320
Commenter: Linda Perkins
Representing:
Type: Grammar

Comment:
Writing is poor.

Response:
The March 2003 Assessment Report has been edited numerous times to improve on the grammar and overall readability.

Date of Comment: 5/13/2002 **ID:** 321
Commenter: Linda Perkins
Representing:
Type: Synthesis

Comment:
CWE analysis was not done.

Response:
While the NCWAP assessment has many elements of a cumulative watershed effects analysis, a full CWE analysis is beyond the scope of the program. However, the assessment provides a framework and materials useful in a CWE analysis process. A discussion on “Cumulative Effects of Multiple Timber Harvest Plans” is provided in Appendix 3.

Date of Comment: 5/13/2002 **ID:** 322
Commenter: Linda Perkins
Representing:
Type: Synthesis

Comment:
Sediment analysis was not done.

Response:

The fluvial geomorphic evaluation included a preliminary GIS based assessment of spatial relationships between sediment, land use, and geologic conditions. Estimates of sediment from the background mass wasting component (e.g. landsliding) are included in the final report and the CGS appendix. Estimates of pre 1973 land use sediment releases have been enumerated in Appendix 3. How these depositions have likely been stored and expressed in present day channel conditions also are addressed in Appendix 3. Relative contributions of modern day sediment sources have been addressed in the new roads section discussions for each of the subbasins, and in Appendix 3.

Date of Comment: 5/13/2002 **ID:** 306
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Recommendations

Comment:

Baseline data for cumulative watershed effects should be collected before more timber harvesting is done.

Response:

This is a policy level issue that is beyond the scope of the NCWAP assessment.

Date of Comment: 5/13/2002 **ID:** 300
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Synthesis

Comment:

1. Conclusions must be based on available data and relationship w/TMDL data.
2. NCWAP must support TMDL.

Response:

1. Conclusions are based on available data, and the relationship to the TMDL data are explained in the Watershed Profile section, Section 3.5.
2. One of the NCWAP goals is to provide a stronger scientific foundation for the TMDLs. Unfortunately, NCWAP assessment came after a court-ordered TMDL schedule. The assumption that NCWAP must support the TMDL in entirety is unrealistic for the Gualala, when the TMDL was developed prior to the NCWAP assessment and without the benefit of the data developed by NCWAP. However, recommendations from NCWAP will be used in the development of the implementation plan for the TMDL.

Date of Comment: 5/13/2002 **ID:** 296
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Synthesis

Comment:

1. The report failed to make conclusions on relationships between erosion and sediment delivery.
2. The report failed to link erosion and managed programs, e.g., THPs & TMDLs.
3. Provide estimate of erosion or sediment from different sources and link to land use management.

Response:

1. Erosion and sediment delivery are major topics addressed in the March 2003 report and the Geology appendix.
2. Land use impacts are more clearly described in the March 2003 report and Appendix 3, "Land Use History of the Gualala Watershed".

3. Estimates of sediment delivery from mass wasting processes are included in the final report and the CGS Appendix. Discussion of the sediment contribution related to landuse is now presented in each of the Land Use subbasin sections and both the CDF and CGS appendices. Data limitations however limited quantitative estimates.

Date of Comment: 5/13/2002

ID: 302

Commenter: Chris Poehlmann

Representing: Coastal Forest Alliance

Type: Vegetation

Comment:

Properly functioning riparian conditions are not addressed.

Response:

The Land Use and Fish Habitat Relationship sections are improved and address current conditions with respect to previous conditions, the Flossi et al. (1998) targets, and the EMDS criteria. The recommendations were broadened to recognize the diversity and density of the riparian zone as important characteristics in addition to providing canopy coverage to the stream channel.

Date of Comment: 5/13/2002

ID: 303

Commenter: Chris Poehlmann

Representing: Coastal Forest Alliance

Type: Geology/Fluvial Geomorphology

Comment:

1. The source of sediment in lower reaches is unclear whether from historic or a mixture of historic and recent land use.
2. Lower stream areas are aggrading from additional sediment pulses.

Response:

1. That is still the case, however we assume, based on studies elsewhere, that most road related mass wasting would consist of landslides smaller than 1/5 acre. The relationship between historically active landslides smaller than 1/5 acre, channel sediment, and the surrounding deep seated, long term landslides has not been studied in sufficient detail to allow for the resolution of what amount of instability and sedimentation is the result of recent land uses and what percentage is due to underlying long-term geologically driven effects. Relative proportions of prehistoric and historic sediment depositions are discussed from recent studies in other watersheds.
- 2.

The fluvial geomorphic analyses from aerial photos from 1984 and 1999/2000 provide a perspective on the more recent depositions and improvements in channel conditions.

Appendix 3 "Land Use History of the Gualala Watershed" shows diagrams of geologic colluvium deposits occupying the channel zone in large volumes. Historic sediment deposits have been found to line geologic or pre-historic channel terraces inset of the current stream channel.

3. In general, sediment levels have diminished, especially in reaches with gradients greater than four percent, indicating effective downstream transport. This suggests that while instream sediment was scoured from upstream storage and deposited somewhere downstream, basin-wide net sediment transport may have exceeded resupply in most of the streams in recent times.

Date of Comment: 5/13/2002 **ID:** 305
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Hydrology

Comment: Stream flow, water availability and water use not addressed. DWR data are absent.

Response:

More detailed discussions of hydrology and precipitation now are presented in the Gualala Watershed Profile, Section 3.1 and the DWR data are presented in detail in Appendix 6.

Date of Comment: 5/13/2002 **ID:** 307
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: NCWAP Process/Scope of Work

Comment:

NCWAP should evaluate effects of permitted & non-permitted water uses and changes in hydrology from land use and on stream flow, and consider it as a limiting factor.

Response:

Unfortunately, this is beyond the current scope of NCWAP.

Date of Comment: 5/13/2002 **ID:** 308
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Recommendations

Comment:

NCWAP does not provide desired future watershed conditions and goals, how goals can be reached and effectiveness measured.

Response:

Please see responses to comment #323 (5) and comment #332. The restoration matrix (Table 4.4-2) in the March 2003 report (Section 4.4.2) recommends actions to reach the goals in specific streams.

Date of Comment: 5/13/2002 **ID:** 309
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Synthesis

Comment:

The synthesis lacks data for specific conclusions and lacks conclusions based on available "coarse evidence".

Response:

The synthesis is improved substantially in the March 2003 Assessment Report, and a clear path from the data to the conclusions and recommendations is provided in the Subbasin Public Issues, Synthesis, and Recommendations section of each subbasin.

Date of Comment: 5/13/2002 **ID:** 301
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Fisheries

Comment:

Current habitat conditions are described qualitatively without assessment and limiting factors discussion.

Response:

The March 2003 Assessment Report provides data from habitat inventory surveys and presents a limiting factors analysis, potential refugia, and restoration recommendations.

Date of Comment: 5/13/2002 **ID:** 304
Commenter: Chris Poehlmann
Representing: Coastal Forest Alliance
Type: Restoration

Comment:

Efforts are directed to restoration and not protection.

Response:

Restoration and protection are more directly linked from a fish-centric view. "Protect the best" is one NCWAP focus, and areas with desirable conditions for salmonids are identified at least on a planning watershed level. Additionally, the restoration opportunities have been prioritized to aid in a better focus of limited resources.

Date of Comment: 5/16/2002 **ID:** 349
Commenter: Stillwater Sciences
Representing: Peer Review Committee
Type: Recommendations

Comment:

Many of the recommendations were vague and similar for all watersheds, and lacked sufficient information to prioritize restoration efforts.

Response:

The recommendations were revised and made more specific to each subbasin. Restoration priorities are provided in Table 4.4-2 (Section 4.4.2), along with guidance for potential sediment restoration sites and hydrologic/geomorphic considerations.

Date of Comment: 5/16/2002 **ID:** 350
Commenter: Stillwater Sciences
Representing: Peer Review Committee
Type: Restoration

-Comment:

The report should identify where conditions are suitable ("save the best") and where improvement is needed ("restore the rest").

Response:

Please see response to Comment #304.

Date of Comment: 5/16/2002 **ID:** 352
Commenter: Stillwater Sciences
Representing: Peer Review Committee
Type: Land Use

Comment:

The impacts of tractor yarding vs. cable yarding are very different and are not discussed.

Response:

The March 2003 report compares tractor versus cable areas of THPs 1991 to 2001, further discussed in Appendix 3 and Appendices 6a and 6b.

Date of Comment: 5/16/2002 **ID:** 353
Commenter: Stillwater Sciences
Representing: Peer Review Committee
Type:

Comment:

The assessment did not address whether tributaries with suitable water temperatures were fish-bearing or provided thermal refugia for fish, and there was no recommendation to keep shade canopy ("protect the best"). (specifically to the Rockpile)

Response:

The March 2003 Assessment Report identifies where water temperatures are suitable. However some of those tributaries were not habitat inventoried. The recommendations now address retaining and restoring the riparian areas for shade canopy and LWD recruitment.

Date of Comment: 5/16/2002 **ID:** 351
Commenter: Stillwater Sciences
Representing: Peer Review Committee
Type: NCWAP Process/Scope of Work

Comment:

There should be a straightforward, consistent process to document the data sources, dates, and types used in the assessment.

Response:

The individual appendices contain data sources. A data catalogue also is provided as Appendix 6d.

Date of Comment: 3/9/2002 **ID:** 284
Commenter: Notes from the public workshop
Representing:
Type: Fisheries/Hab Inventory

Comment:

1. Compare current and historic fish population data and use it to develop baseline for future comparisons.
2. Show dewatered [dry] reaches? Pattern 2001-2002?
3. Show where to plant riparian vegetation?
4. Could one look for coho scales in sediment samples from the estuary to establish presence by year?
5. Obtain habitat data from Sea Ranch and Gualala Aggregates?
6. Historic fish data provides recognition of the decline of salmonids. It would be a shame to lose that perspective.
7. Recommend finishing Palmer Canyon Creek habitat inventories.

Response:

1. Comparing historic and current population is not possible due to the major differences in methodologies. Historic fish population and distribution data are limited on the Gualala River Watershed. Only three scientifically credible population estimates were conducted, for steelhead only. The first two were conducted in 1974-1975 and 1975-1976 (Boydston) on adult spawners on the mainstem and the third in 1989 on Fuller Creek (Cox). Current 2001 data were collected by electrofishing using the 10 pool protocol which determines presence/ not detected status only. The early stream surveys recorded "game species [salmonids] and rarely recorded " non-game species" [roach, stickleback, and sculpins]. This inconsistent data recording makes development of scientifically based historic vs. current fish community structure impossible.

However, CDFG was able to estimate historic coho distribution based upon historic stream surveys and current steelhead distribution based upon electrofishing data. One of NCWAP's goals was to collect baseline data because little or none were available. The electrofishing and habitat inventory surveys conducted provide those baseline conditions in many cases.

2. Dry areas are available from the habitat inventory data, but only for those sections surveyed.
3. The Restoration Priorities table and map recommends tributaries that could be improved by increasing riparian vegetation.
4. That is an interesting idea, but beyond the scope of NCWAP. We suggest the GRWC explore that possibility in the future.
5. The data from the GRWC included the Sea Ranch and Gualala Aggregates data and were used in the assessment.
6. An historical perspective is provided in the March 2003 report. The incorporation of the survivorship in relationship to ocean conditions was out of the scope of NCWAP, however smolt mortality has been directly linked to ocean temperatures. Coho salmon smolt mortality is increased during El Nino Southern Oscillation (Percy 1988, Botsford 2002). Given the recorded frequency of El Nino Southern Oscillation 1982-83, 1991-1992, and the current 2003 , this phenomenon should be considered when looking at declines in salmonid populations.
7. Habitat typing was ended at the falls on Palmer Canyon Creek because it was judged to be the end of anadromy. Rainbow trout juveniles may and probably are recruiting over the falls, which would justify restoration activities upstream of the falls.

Date of Comment: 3/9/2002 **ID:** 285
Commenter: Notes from the public workshop
Representing:
Type: EMDS

Comment:

1. Enhance the roads analysis with soil type, road surface, etc...
2. Add skid trails.
3. Include road improvements in EMDS.

Response:

1. We did not have those specific data for the watershed, and collecting that detail was beyond the scope of the NCWAP assessment. However, the "Synthesis Graphics" section of Appendix 6A, shows modern road segments in erosion prone areas clipped to indicate the need for further field evaluation. This includes road segments (1) crossing steep sideslopes, (2) proximate to streams, and (3) near channel bank erosion. The CGS restoration map clipped modern road segments crossing large debris flows. Each of the Subbasin sections show historic roads and landings located either in the streambed or following the streambank to one side. Appendix 3 compares both historic and modern road impacts as these have contributed to current conditions. The EMDS analysis methodology continues to be upgraded for future use.
2. Skid trails were detail beyond the scope of the NCWAP assessment.
3. The EMDS hillslope model is being revised, and we will suggest this as a branch.

Date of Comment: 3/9/2002

ID: 286

Commenter: Notes from the public workshop

Representing:

Type: Land Use

Comment:

1. Include road improvements in report
2. Include 1985-2002 THP history, and compare with 1985-1990
3. Include vegetation layers for fire hazard in southern subbasins
4. There is too much focus/blame for current conditions placed on the 1964 flood event. Larger events have occurred since then, and new impacts are still occurring. Photos available?

Response:

1. In the March 2003 report: 1) Most of the major road improvements have been documented. Many of the small scale road improvements have been missed due to the lack of an entire data set. However, we clipped out those road segments subject to Timber Harvest Plans assuming that the road segments within the plan area(s) have been upgraded. Remaining road areas out of THPs need further field evaluation. See Land Use History descriptions by Subbasin, and further elaboration in Appendix 3.
2. The five year period between 1985 and 1990 compares similarly with 1985 to 2002. Active timber harvesting resumed in the watershed by the late 1980s and has been consistently active since this time. Please see Section 4.2, Integrated Analysis of Physical Features and Habitat.
3. See Appendix 3, "Fires" section.
4. The report has been modified to show the range of storm damage by major storm events on pre-1973 conditions with which we had good photo coverage. About half of the photos in Appendix 3 "Land Use History of the Gualala Watershed" show areas in the east basin reaches that were active for only one or two years prior to December, 1964. Many of these were actually concurrent operations in the summer of 1964. From this, we were able to infer direct damage by the 1964 flood event. Other large storm events have been dated to the mid-century which probably caused similar damage. Current watershed conditions reflect a range of residual storm damage interspersed by variable recovery rates and functions.

Date of Comment: 3/8/2002

ID: 287

Commenter: Notes from the public workshop

Representing:

Type: Water Quality

Comment:

1. Monitoring and sediment budget?
2. Knopp is not comparable due to slope <1% on GRI land.
3. Integrate Gualala Aggregate's cross sections w/ gravel removal records to look at bedload at Valley Crossing site?
4. Fix SF water temp data.
5. Dry Creek -- drop in D_{50} may be a result of holes dug for the steelhead rescue project
6. If the watershed is impaired then it decreases my property value and other economic repercussions, the community will be changed forever.
7. Use Landsat for broader scale temp data where access is a problem.

Response:

1. A detailed budget is beyond the scope of NCWAP, but the final report contains recommendations for potential sites that may need improvement to reduce sediment delivery, as well as recommendations for sediment monitoring.
2. That is true, and due to the lack of comparable data no conclusions were based on Knopp (1993). Please refer to the Gualala Watershed Profile, Section 3.5, for further information.
3. Review of channel conditions in the vicinity of Valley Crossing as evident in time sequential aerial

photography was conducted and is described in the CGS Appendix 2. The time series cross-sections used by Gualala Aggregates, Inc. are consistent with the aerial photography.

4. The South Fork water temperature data were reviewed with the GRWC.
5. There was some thought that the slight improvement in D50 seen at a Dry Creek site was the result of channel scouring as the streambed downcut into holes dug in the gravel for fish rescue projects. We were unable to get information to confirm this.
6. Potential economic repercussions are unknown. The information provided by this assessment is meant to be helpful to land managers within the watershed. Sediment conditions are variable through time and across the watershed. Plate 3, Potential Restoration Sites and Habitat Limiting Factors for the Gualala River Watershed displays areas of potential impact and general recommendations.
7. NCWAP used LandSat data to look at vegetation types and canopy on a coarse scale. LandSat imagery does not provide a practical view of stream channel temperature due to several factors, especially level of resolution and cost.

Date of Comment: 3/15/2002

ID: 289

Commenter: Notes from the public workshop

Representing:

Type: Team Synthesis

Comment:

Will you have maps with landslides/roads/fish hab/sediment in the report?

Response:

Maps are available with the final report for landslides, relative landslide potential, geology, and potential restoration sites with habitat limiting factors. Included in the final report are fish habitat EMDS maps and maps of coho and steelhead historic distribution. Other map products available through NCWAP GIS products include both historic roads/landings and modern roads layers, land use layers since 1936, hydrography, fluvial geomorphology (includes sediment accumulations), and sampling stations. A listing of the NCWAP products is included in the final report.

Date of Comment: 3/9/2002

ID: 288

Commenter: Notes from the public workshop

Representing:

Type: Geology/Fluvial Geomorphology

Comment:

1. Can you use freeze core samples to look sediment age?
2. Are historic photos available?
3. Sediment issues are being swept under the rug.
4. What level of availability will the public have to maps and other data/products?
5. The South Fork is filled with 300 feet of sediment and won't change.

Response:

1. No, this is beyond the scope of NCWAP, but may be a consideration for future assessments.
2. Aerial photos are only available for use in the CGS Sacramento office. CDF has a similar policy. Contact either agency's Team member for more information.
3. Sediment is more thoroughly discussed in the March 2003 report.
4. Maps are available as a part of the final report, and in the GIS products.
5. The subsurface sediment conditions within the South Fork developed through a geologic history of uplift, earthquakes, and sea level changes. The CGS Appendix 2 discusses that geologic history and its significance to current conditions. Implications of historic sediment releases to long term geologic depositions in storage reaches are discussed in the CDF Appendix 3.