
North Coast Regional Water Quality Control Board

March 17, 2017

Douglas and Heidi Cole
100 Tomorrow Road
Somes Bar, CA 95569

Dear Douglas and Heidi Cole:

Subject: **Notice of Violation No. 2 and Response to August 26, 2016 Letter Regarding 13267/Cleanup and Abatement Order No. R1-2016-0031 (CAO) Requirements**

File: Douglas and Heidi Cole, Marble Mountain Ranch, 92520 Highway 96, Somes Bar; Siskiyou County APN 026-290-200, Klamath River Watershed, WDID No. 1A15024NSI

The purpose of this letter is to notify you that you are in violation of the above-referenced CAO; in particular, Directives 1, 2, 3, and 4 a. (refer to Attachment A for the full text of directives).

Directive 1-Due date October 15, 2016

Directive 2- Due date September 10, 2016

Directive 3-Due date October 15, 2016

Directive 4.a.-Due date September 10, 2016

This is a second Notice of Violation. Ongoing and additional violations of Order directives subject you to penalties of \$5,000 per day under section 13350 for each day of violation, and in the event of discharges of waste to receiving waters, you may be fined up to \$10,000 per day and \$10 per gallon for each discharge, pursuant to section 13385 of the California Water Code.

This Notice of Violation also provides a response to the August 26, 2016 correspondence in which Ms. Barbara Brenner, attorney, and Douglas and Heidi Cole (Discharger) allege, in brief, that the Final CAO (Attachment A) was a surprise and unanticipated, conflicts with the National Marine Fisheries Service (NMFS) instream flow requirements and does not allow sufficient time to complete tasks required in the CAO. To address the proceedings at

hand, a case history provides context to the overall background of the case to allow discussion of pertinent issues introduced by the Discharger as reasons for non-compliance.

Case History

In January of 2011, Andy Baker of the North Coast Regional Water Quality Control Board staff (Region 1) received an anonymous complaint alleging sediment discharges and waste and unreasonable use of water as a result of operating the Stanshaw Creek Diversion ditch on the Marble Mountain Ranch in Siskiyou County. The 2011 complaint was referred to the Region 1 Complaint Liaison, Stormer Feiler, who subsequently referred the complaint to the State Water Resources Control Board Division of Water Rights (DIV). At that time, Andy Baker remained the lead investigator for Region 1 on the complaint and proceeded to work collaboratively with the stakeholders to address water quality concerns through the established collaborative forum. The collaboration is an ongoing process, to date lasting over 18 years without resolution. Due to the Discharger's failure to address the water quality concerns through the collaborative forum, additional steps were determined necessary, which brings us to the CAO and its requirements.

On February 12, 2015, at the request of the DIV, Region 1 staff accompanied the DIV and inspected the Marble Mountain Ranch.¹ The inspection identified 20 locations where the Stanshaw Creek Diversion ditch had failed in the past or posed a potential for failure in the future. Several of these locations had resulted in large volumes of erosion and discharges of sediment directly to streams tributary to Stanshaw Creek and Irving Creek.

On December 3, 2015, as a result of the inspection and subsequent documentation of violations, Region 1 issued a Draft CAO and Notice of Violation (Attachment C and C. a.), mailed under cover of the DIV correspondence, which also included a Report of Inspection from the DIV. The Draft CAO requirements did not provide firm compliance deadlines, but rather provided examples of how such compliance could be timed. The scope of work was the same as provided in the Final CAO. The element of surprise regarding Water Code compliance requirements, potential enforcement, and the general timing of compliance would appear eradicated by issuing the draft CAO and attendant letters.

On January 19, 2016, in response to the Draft CAO and the DIV requirements the Discharger provided a preliminary scope of work and time schedule. After evaluating the scope of work and time schedule, Region 1 and the DIV discussed the scope of work and time schedule with the Discharger's attorney, and concluded the proposed scope of work and time schedule by the Discharger failed to address concerns outlined in the Draft CAO and DIV Report of Inspection. In a joint correspondence dated February 12, 2016, the DIV

¹For inspection results refer to the March 9, 2015 inspection report (Attachment B).

and Region 1 notified the Discharger that we would be pursuing formal enforcement, and we urged the Discharger to take corrective actions.

On March 24, 2016, the DIV and Region 1 received a supplemental response from the Discharger that provided a scope of work and revised compliance time schedule for a variety of tasks associated with the Draft CAO and DIV requirements (Attachment D). This schedule was used by the Region 1 staff, in part, to develop Final CAO directive deadlines, which in many instances were extended beyond the time-schedule provided by the Discharger. In summary, the Final CAO directive deadlines are based on the Discharger's time schedule with extensions where it was clear the Discharger had already missed their own deadlines. The timing of Draft CAO deadlines was to have a basis for decisions by the Discharger arise from the water/energy efficiency study, described and proposed in Directive 1 of the Draft CAO, and to complete necessary erosion control work before the winter period. In terms of the Draft CAO directive deadlines and fairness, a comparison of the Draft CAO Directive 1 and the March 24, 2016 time schedule provided by the Discharger shows that the Discharger, in March of 2016, proposed to have this scope of work completed by July of 2016. In the Final CAO, the Directive 1 deadline was extended to October 15, 2016. Another example of a missed self-prescribed deadline by the Discharger is the proposal on page 3 of the March 24, 2016 letter to provide the restoration and monitoring plan (RMP) by April 15, 2016. The Final CAO requires the Discharger to evaluate, assess, and develop a RMP by September 10, 2016. To date, the Discharger has failed to provide a RMP. When confronted with such a history of non-compliance, CAO directives with enforceable compliance schedules are necessary to ensure compliance with the Water Code and protection of the beneficial uses.

On August 4, 2016, Region 1 issued the Final CAO to the Discharger.

On August 26, 2016, the Discharger provided Ken Petruzzelli of the SWRCB Office of Enforcement correspondence in response to the Final CAO (Attachment E). The letter requests extensions of due dates for most CAO directives, suggests that the CAO requirements are unfair and overly burdensome and conflict with DIV requirements, and alleges the Discharger does not have the ability to pay and continue in business. The allegations contained within the Discharger's August 26, 2016, correspondence is the basis for the following discussion.

On October 18, 2016, Region 1 issued a Notice of Violation to the Discharger for a failure to comply with Final CAO Directives No. 2 and 4.a. (Attachment F)

Discussion of August 26, 2016 Discharger correspondence

The following discussion addresses the Discharger's allegations in the sequence stated in their August 26, 2016 letter.

National Marine Fisheries Service Bypass Flow Recommendations

The Discharger alleges that implementing the bypass flow requirements limits the amount of water in the ditch and creates a situation where the Discharger cannot comply with the ditch and slope evaluations required by the Final CAO. Region 1 staff finds that the bulk of the assessment of the ditch and slope can be accomplished without flow in the ditch. The points of concern the evaluation may miss would be areas of seepage where fills associated with the ditch are saturating. This is a potential ditch failure mechanism that should be evaluated should the ditch become fully operational. In the interim, it is entirely feasible for the Discharger to assess the areas of past failure and mass erosion that have occurred along the ditch and pollutants discharged to tributaries to Irving Creek and Stanshaw Creek. These affected tributary streams and erosion areas are obvious to a trained professional or a person with relevant experience.

The Discharger also contends that the NMFS bypass flow requirement does not allow them to utilize their full pre-1914 water right, and thus causes a hardship in terms of electricity generation. While it is true that implementing the NMFS bypass flows can simultaneously protect water quality by limiting the amount of water in the ditch, and in turn reduce the potential for ditch failure; these bypass flow requirements are not within Region 1 purview; the appropriate parties for this discussion would be the DIV and NMFS.

CAO Compliance Requirements

The Discharger alleges that the Region 1's CAO in general is 1) too detailed and impractical to implement, 2) the Discharger is a small business owner with limited funds to address CAO requirements and may require additional licensed professionals to complete the scope of work, 3) the CAO goes beyond the scope of the stakeholder group's discussion to date, and requires water quality monitoring if flow is returned to waters of the state from the diversion, which increases costs.

The Discharger belabors each directive and its concurrent deadline as a problem due to 1) a lack of grant funding opportunities, 2) the unavailability of the preferred consultant, and 3) the assessment of the Irving Creek outfall requires over a year to complete, as it is necessary to assess in the wet season to determine where seepage occurs. The Discharger contends that the necessity of the CAO required reports and mitigation does not bear a reasonable relationship to the costs, and that the report provided by Rocco Fiore is sufficient to meet the Restoration and Monitoring plan requirements.

Rocco Fiore Report

The report provided by Rocco Fiore, dated May 14, 2016, is a good start. However, it is incomplete in terms of assessing and inventorying the ditch and its failure points for areas where instream restoration can be implemented to restore eroding stream beds that are/were caused by the ditch operation. As Mr. Fiore proposes, piping the diversion may be the best solution to the issues posed by operating the ditch; however, the efficiency of this proposal has not been evaluated nor assessed in the context of water and energy use

efficiency as associated with the operation of the ditch for hydropower to determine if there were measures or methods that could be taken that would reasonably increase efficiencies and decrease the need for the diversion at its full rate; increased operational efficiencies and reductions in diversion would in turn benefit water quality and water quantity in Stanshaw Creek which also helps support beneficial uses in the Creek and Klamath River. Mr. Fiore's report also indicates that the Discharger should focus their analysis of the ditch on the upper 1100 feet of ditch, which represents an area of high priority; in addition; the Region 1 staff have pointed out the importance of stabilizing the Irving Creek outfall. Assessing the highest priority areas is a reasonable approach to assessing the ditch for areas requiring mitigation and streams requiring restoration and thus providing an inventory of the ditch with attendant mitigation measures that will likely meet CAO requirements. Yet, Mr. Fiore did not include this required scope of work within his assessment. Keep in mind, any inventory and/or plan(s) submitted will likely be reviewed in the field by Region 1 staff prior to approval.

Mr. Fiore has indicated that it may be advisable to outslope and install rolling dips along the filled surface of the ditch if installing a pipeline is the chosen alternative. This approach allows the filled ditch to become a road accessing the pipeline in the event repair or maintenance is required. Region 1 staff is willing to evaluate this approach further in the context of reviewing an adequate plan that naturally disperses surface drainage and identifies and restores all points where ditch operations and failures have caused damage in streams as part of this remediation plan. As of October 18, 2016, we have not received a plan for this scope of work nor seen an energy/water efficiency study supporting the preferred alternative.

In summary, the Mr. Fiore's report is incomplete in terms of meeting CAO directive requirements.

Irving Creek Outfall Assessment

With regard to the assessment of the Irving Creek outfall in relationship to wet weather conditions, a consultant with the proper training and experience should be able to assess the Irving Creek outfall during any time of year and develop mitigation adequate to restore and revegetate the impacted slopes and streams. For over 40 years Cal Trans and licensed geologists and engineering geologists have maintained highways in California through multiple slope failures. As such, there is a large body of design-related material available in the literature, online, and in various forums related to and providing designs for slope stabilization on and near streams with subsurface ground water interconnection. These materials would likely give an experienced licensed practitioner the tools necessary to design a restoration plan for the Irving Creek outfall. Granted there may be some advantage in reviewing the site during saturated soil conditions; however, it is not absolutely necessary. There is usually evidence of seepage whether the water is actively seeping or not. The subsequent compliance time schedule and required monitoring allows the Discharger to evaluate the effectiveness of the restoration and revegetation in

subsequent years and address any deficiencies as they may arise. Any plans and designs require Executive Officer approval prior to implementation.

CAO Necessity and Costs of Compliance

The CAO requires information in the form of technical reports to guide design and implementation of mitigation to address water quality concerns. The issues discussed within the stakeholder group are only a portion of what requires restoration in terms of the impacts the ditch has had on water quality over its operating life. To the best of Region 1's knowledge, the March 9, 2015 inspection report is the first documented inspection of the water quality issues associated with the Stanshaw Creek ditch. As this inspection occurred late in the stakeholder group's 18+ year discussion of these problems, Region 1 contends these issues would not have been part of the bulk of that discussion. In developing the CAO, Region 1 assessed the requirements of Water Code Sections 13267 and 13304 and the application of such as described in State Water Resources Control Board's Resolution No. 92-49². The burden of the required mitigation includes the costs of both the inventories and assessments (water/energy efficiency assessment and the inventory of the Stanshaw Creek ditch for active sediment delivery and failures that require restoration) required to guide the process of developing mitigation. This analysis should logically be followed by mitigation design, which upon approval by the Executive Officer, is adequate to comply with the Water Quality Control Plan-North Coast Region (Basin Plan). This is standard practice for the Region 1 staff in terms of addressing violations of Basin Plan prohibitions.

The costs of compliance are costs the Discharger appears to have avoided for many years of ditch operation. Over the course of the stakeholder group negotiations, the Discharger and their legal counsel have indicated that they rely on grant funding for property improvements; a funding stream unavailable to most people in business.

The Discharger has provided no documentation to support the allegation that the costs of compliance are prohibitive of staying in business. In investigating the Marble Mountain Ranch in Westlaw, it is apparent the ranch reports an income stream of \$500,000-\$1,000,000 annually. The Stanshaw Creek ditch is a water transportation feature for commercial and domestic purposes operated by the Marble Mountain Ranch with the operational life of the ditch spanning the 19th through the 21st centuries. Since the inception of the Porter Cologne Water Quality Control Act the diversion has apparently not complied with the Water Code and does not appear to have been operated to provide adequate protections to public trust resources.

When faced with a situation wherein a Discharger asserts that they cannot afford the cost of compliance; the Discharger has options. In accordance with Section 13360 of the Water

² Resolution 92-49 Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304. http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1996/rs96_079.pdf

Code the Discharger may propose an alternative that provides equal or better protection than what has been required by the CAO. In such a case, the Regional Water Board will determine if the alternative is adequate. In addition, the Discharger should propose alternatives within the deadlines specified in the CAO.

CAO Directive Extension Requests

Having addressed the Discharger's general discontent with the regulatory process we now turn to the Discharger's request for multiple extensions on CAO directive due dates.

CAO Directive No. 1 -Water Efficiency Study and Water Delivery System Design

The CAO deadline is October 15, 2016 by 5:00 PM.

The Discharger requests an extension until October 29, 2016.

Extension is not granted for reasons provided below:

The Discharger has known of this requirement since December 3, 2015, and of their own volition previously indicated they would provide the information by July of 2016. In previous correspondence and in meetings we (Region 1 and the DIV) were repeatedly assured that the Discharger was working on these items. In terms of designing an efficient process for the operation of the diversion, this should be the first priority for the Discharger to complete.

CAO Directive No. 2. - Submit Restoration and Monitoring Plan for the active erosion at the Irving Creek outfall

The CAO deadline is September 10, 2016.

The Discharger requests an extension to March 31, 2017.

Extension is not granted for reasons provided below:

The deadline for this scope of work was intentionally set for September 10, 2016 to allow Region 1 staff adequate time to review and approve any plans submitted prior to the wet weather period so that adequate erosion controls could be implemented to stabilize the head cut and prevent further erosion of earthen materials. In previous meetings and discussions, the DIV and Region 1 were assured that the Discharger would stabilize the Irving Creek outfall by the winter period of this year.

In the event the ditch is operated this winter for Pelton wheel operation there will be no controls in place to stabilize the head cut and prevent further erosion.

The Discharger has provided no plan to evaluate in terms of continued use of the Irving Creek outfall through this winter period; in addition, the discussion provided in the subject correspondence appears to avoid mitigation through interpreting directives as a requirement to conduct a study rather than meeting CAO requirements. The CAO requires assessment of the Irving Creek outfall and to restore and stabilize the eroded slopes and stream channel. Such assessment is necessary for the Discharger to develop effective mitigation and restoration actions and for Region 1 staff to evaluate whether proposed mitigation and restoration actions will likely eliminate the discharge of pollutants. There is no mention of study in the CAO.

In conclusion, we reiterate our previous comment on this issue. The Discharger contends that assessing the Irving Creek outfall must be done with the ditch flowing and the soils saturated and that only the chosen consultant can perform the scope of work. A consultant with proper training and experience should be able to assess the Irving Creek outfall and develop mitigation adequate to restore and revegetate the slope during any time of year. There are many consultants capable of this scope of work; the Discharger appears to be placing a limitation on compliance in terms of consultant availability, particularly when the Discharger has been aware of this requirement for at least several months. We do not see this as reason for non-compliance.

Due to the uncertain situation regarding Pelton Wheel operation and the lack of any defined plan to address use of the ditch through this winter period, and a history of what appears to be chronic and ongoing noncompliance; as such, an extension is not granted.

CAO Directive No. 3 – Ditch Evaluation and Operations and Monitoring Plan

CAO Directive deadline is October 15, 2016.

The Discharger requests an extension to March 31, 2017.

Extension is not granted for reasons provided below:

The Discharger requests an extension to March 31, 2017, with the caveat that they will provide a ditch operation and monitoring plan by October 15, 2016. We have not yet received such a plan; and are therefore unable to approve this extension. The Discharger contends the directive requirements are unclear. The directive is provided below for discussion purposes and to reiterate the requirements.

3. In the event that the delivery system will require continued operation of all or a portion of the diversion ditch, retain an appropriately qualified and experienced California-licensed professional to evaluate and submit a report to the Executive Officer for review and approval by **October 15, 2016**. The report shall include the following:

- a. Evaluation of the entire ditch system, identifying all features and locations susceptible to failure by any of the physical processes and mechanisms described herein, (including but not limited to ditch seepage, berm fill saturation, upslope cut bank stability), and identifying where there is potential for sediment delivery to receiving waters in the event of a failure.

Specify appropriate corrective action measures or steps to take, including design and construction standards and an implementation schedule to complete the defined scope of work. In addition, assess all areas of past failures to determine if the features reach Stanshaw Creek and deliver sediment and represent future delivery routes that require mitigation, propose mitigation as necessary to control sediment delivery and surface flows in the event of future failures or during annual rainfall events.

- b. A ditch operation and maintenance plan that includes an inspection and maintenance schedule and identifies any permits required for the scope of work anticipated. The plan should include proposed measures to ensure that the slopes above the ditch do not collapse into or block the ditch, that water seepage from the ditch does not saturate underlying materials and result in failure, that the ditch does not overtop the berm, that the berm does not fail, and that sediment does not deliver from the ditch to waters of the state. The plan must also include specifications for measures to be constructed and/or incorporated to prevent further erosion and sediment delivery from the discharge point to Irving Creek, and to restore and stabilize the channel between the discharge point and Irving Creek.

For clarity, Directive 3.a. requires an inventory of the ditch for areas prone to failure and of areas where there are failures that impact water quality. Upon completion of an assessment or inventory, the directive requires development of mitigation for areas where active and historic failures are likely to continue to contribute sediment to waters of the state. Please also refer to the discussion of Rocco Fiore's Report provided above.

3.b. applies if the ditch operations continue as they have. In order to ensure the ditch operates in a manner protective of water quality, the development of a ditch operation and maintenance plan that addresses the items discussed in 3.b. is necessary. As such, an extension is not granted.

Directive No. 4 – Slope Assessment and Water Quality Sampling

CAO Directive due date is September 10, 2016

The Discharger requests an extension until March 31, 2017. This directive deadline was recently addressed in a Notice of Violation sent by the Regional Board to the Discharger on October 18, 2016 (Attachment F). The text of that discussion is provided below.

Directive No. 4a - Regardless of the ultimate water delivery system, the following additional measures shall be taken by **September 10, 2016** to protect water quality: Assess slopes between the upper ditch and Stanshaw Creek and the streambed of Stanshaw Creek and Irving Creek and the unnamed tributary to Irving Creek for stored sediment deposits and erosional sources associated with the past and current failures of the ditch. Identify all erosional issues and those that should be corrected, propose corrective measures and provide a schedule for implementing corrective measures.

The Discharger contends the proposed long-term fix of piping water through the ditch results in no discharge of pollutants from the ditch and hence there is now no reason to evaluate the ditch. However, the Regional Water Board staff contends erosion controls and instream restoration are necessary due to past ditch operation and failures and/or active erosional sources that exist at ditch diversion points. These active erosional sources require inventory and corrective actions. Although the proposed fix of piping water through the existing ditch may alleviate some of the failures and threatened discharges, it is incomplete unless additional corrective actions are proposed, such as decommissioning the ditch as a surface feature and laying back the cut bank slopes to a stable angle with implementing schedules. Therefore, the Discharger has not fully complied with directive 4.a.

The ditch, if not treated appropriately, would retain the capacity to flow by capturing rainfall and intercepting groundwater during the wet season. Even if flows in the ditch are reduced, these flows may continue to exacerbate existing conditions. The Order's September 10, 2016 deadline for Directive 4.a. allowed the Regional Water Board time to review any information submitted and to approve any immediate restoration or erosion control work necessary to prevent, minimize and mitigate for discharges that are likely to occur this winter period. A failure to comply with this directive likely results in continued erosion throughout this 2016/2017 winter period. As such, no extension is granted.

Directive 4.b. has been met with the Sampling Plan received via email on September 9, 2016. Directive 4.b. states:

Directive 4b – Ensure that water used onsite, conveyed in the ditch and discharged does not adversely impact waters of the state. Develop a sampling plan to assess the quality of water in the ditch as it passes through the ranch property for potential sources of fecal coliform, total coliform, total petroleum hydrocarbons, temperature, and nutrients. The sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface

waters from the ditch or pond. Submit the Sampling Plan for approval by the Executive Officer by **September 10, 2016**. Upon approval implement the sampling plan and provide results of the sampling by **November 1, 2016**. In the event that sampling identifies inputs of constituents of concern, then develop a plan to remedy the discharges and submit the plan by **December 1, 2016** to the Executive Officer for review and approval.

Although the plan does not address our original concern regarding potential pollutants from the ranch entering the ditch and downstream receiving waters during high flows and summer low flow periods, we are accepting it as proposed due to the current limited use of the ditch. In the event the ditch is used throughout the season again, we will likely request a revised sampling schedule.

Directive 5 - Quarterly Progress Reports

On October 5, 2016, we received a progress report from Marble Mountain Ranch, the report did not demonstrate progress towards compliance, but it did provide an adequate update as to the Discharger's intentions. (Attachment G)

Monitoring Plan Inquiry Response

The Discharger requests clarification on monitoring plan requirements after slope restoration is implemented. The CAO requires a successful restoration and revegetation of the stream side slopes following restoration. This is encapsulated in a required 5-year monitoring plan and, based upon the success of the revegetation or lack thereof, the monitoring can be extended as re-planting may be necessary, or as restoration failures may necessitate. The monitoring required primarily relies on photo documentation through inspection. Inspection frequency and monitoring plan details are left to the Discharger to develop. The CAO directive provides a backdrop of requirements the monitoring plan shall meet. Please refer to the directive when developing your monitoring plan. Keep in mind the Monitoring Plan shall be approved by the Executive Officer or the Executive Officer's designee.

Conclusion

As a reminder, the Order directives lay out time frames for reporting on aspects of the ditch operation, use, and maintenance that should guide the process of developing a solution that meets all requirements. The delayed submittal of the restoration and monitoring plan required by Directive No. 2 delays your ability to apply for any required permits and may prevent you from completing the required scope of work within the CAO-directed timeframe.

Please be aware that the Discharger may be subject to administrative civil liabilities for failure to comply with the CAO. The liabilities can be up to \$5,000 per day pursuant to

Water Code section 13350 for each day the violation occurs. When there is a discharge, the liabilities can be up to \$10,000 per day and \$10 per gallon of waste discharged pursuant to Water Code sections 13385.

If you have any questions, please contact Stormer Feiler of my staff by email at Stormer.Feiler@waterboards.ca.gov, or by phone at (707) 543-7128, or his supervisor, Diana Henriouille, by email at Diana.Henriouille@waterboards.ca.gov, or by phone at (707) 576-2350.

Sincerely,


Shin-Roei Lee
2017.03.17
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Shin-Roei Lee
Assistant Executive Officer

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Certified - Return Receipt Requested

Enclosures:

Attachment A- Marble Mountain Ranch CAO

Attachment B- Stanshaw Creek Diversion/Marble Mountain Ranch Inspection Report, March 9, 2015

Attachment C- Region 1 Marble Mountain Ranch CAO draft

Attachment C(a)- Region 1 Marble Mountain NOV, December 3, 2015

Attachment D- MMR 3-24-16 correspondence

Attachment E- MMR 8-26-16 correspondence

Attachment F- Marble Mountain Ranch Notice of Violation, October 18, 2016

Attachment G- 10-5-2016 Marble Mountain Ranch Progress Report 1

cc by email:

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

CLEANUP AND ABATEMENT

AND

WATER CODE SECTION 13267(b) ORDER NO. R1-2016-0031
DOUGLAS AND HEIDI COLE, ASSESSOR PARCEL NUMBER 026-290-200
WDID 1A15024NSI

SISKIYOU COUNTY

This Order is issued to Douglas and Heidi Cole (hereinafter referred to as Dischargers) based on provisions of Water Code section 13304, which authorizes the North Coast Regional Water Quality Control Board (Regional Water Board) to issue a Cleanup and Abatement Order ("Order"), and Water Code section 13267, which authorizes the Regional Water Board to require the preparation and submittal of technical and monitoring reports.

The Executive Officer finds, with respect to the Dischargers' acts, or failure to act, the following:

- 1. Purpose of the Order:** This Order requires the Dischargers to eliminate the threat of future discharges and to clean up and abate the effects of discharges of soil, rock and miscellaneous debris into Irving Creek, Stanshaw Creek, and the Klamath River. These watercourses are considered waters of the state, as well as waters of the United States. (References hereinafter to waters of the United States are inclusive of waters of the state.)¹ The Dischargers maintain a diversion ditch from Stanshaw Creek to Irving Creek. The Dischargers operate the ditch to provide water to the Marble Mountain Ranch (Ranch), for domestic uses, as well as to generate electricity, and to fill and maintain a small pond for recreational use and potentially fire protection. The upper segment of the ditch carries water from Stanshaw Creek to the Marble Mountain Ranch. Tailwater from the Pelton wheel used for power generation flows through the property to the pond. Overflows from the pond flow to a discharge point where they enter Irving Creek. Water in the upper segment of the ditch periodically overtops or breaches portions of its outboard containment berm, eroding slopes below the ditch.

¹ The Regional Water Board administers and enforces the Clean Water Act (CWA). The CWA regulates what it refers to as "navigable waters" and defines those waters as "waters of the United States." Waters of the United States have been interpreted broadly by the agencies responsible for implementing the CWA to include all traditionally navigable waters and their tributaries. (40 C.F.R. § 122.2) The Porter-Cologne Water Quality Control Act (Porter-Cologne) provides the Regional Water Board additional authority to regulate discharges of waste into "waters of the state." (Water Code § 13260.) The term "water of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code § 13050(3).) All waters of the United States that are within the boundaries of California are also waters of the state for purposes of Porter-Cologne.

In some cases, water escaping from the ditch flows to and transports earthen material into downslope watercourses, including Stanshaw Creek and, potentially, the Klamath River.

Outflows to Irving Creek have created a significant active erosional feature, representing a chronic source of sediment discharges into Irving Creek. Point source discharges of sediment-laden waters associated with ditch containment failures and chronic sediment discharges from the Irving Creek outfall occur without authorization from applicable federal, state, and local agencies, including the Regional Water Board. This Order requires investigation and cleanup in compliance with the Water Code, the Water Quality Control Plan for the North Coast Region (Basin Plan), and other applicable Regional Water Board plans, policies, and regulations.

2. **Responsible Parties:** The Dischargers, as the property owners and operators of the ditch are discharging or creating a threat of discharge, and are responsible parties for purposes of this Order.
 - a. Per records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole are the owners of record for the property identified as Assessor Parcel 026-290-200.
 - b. The Regional Water Board reserves the right to amend this CAO to add additional responsible parties when/if those parties are identified.
3. **Location and Description:** The Marble Mountain Ranch is located approximately 8 miles north of Somes Bar, in Siskiyou County at 92520 Highway 96. The ditch supplying water to the Ranch originates in Stanshaw Creek (tributary to Klamath River at river mile 76.1) and discharges into Irving Creek (tributary to Klamath River at river mile 75). The Point of Diversion (POD) is located on Stanshaw Creek, about 0.68 miles upstream of the Highway 96 crossing.
4. **History:** According to records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole purchased the Ranch in March of 2007. There is no record of the Ranch or the diversion ditch having prior regulatory oversight or history with the Regional Water Board. The diversion has reportedly been in place since the 1800s, supplying a variety of uses to landowners over the years with the most recent landowners being the Dischargers.
5. **Basis of Order:** Periodic failure of the ditch, and the Dischargers' activities to operate and maintain the ditch, as detailed below, created and/or threaten to create, conditions of pollution or nuisance in waters of the state by unreasonably impacting water quality and beneficial uses.

- a. During an inspection of the diversion ditch and the Ranch on February 12, 2015, Regional Water Board staff identified 19 locations along the upper ditch where the ditch has failed or has the potential to fail.
- b. The primary failure mechanisms were identified as: 1) cut bank slumps that block the ditch and cause flows to overtop the berm; 2) water infiltrates into and seeps through the berm, and causes the berm to fail eroding underlying soils and hillslopes; and 3) as noted above, cumulative sediment inputs reduce the ditch capacity and increase the risk of overtopping as ditch capacity is diminished, particularly increasing the potential for failure in areas where the berm is low or has been damaged. Due to the operation and maintenance of the ditch, failures and repairs constitute an annual and chronic discharge of sediment to waters of the state, including Stanshaw and Irving Creeks, and potentially directly to the Klamath River.
- c. The diversion ditch outfall discharges onto a steep slope with an abrupt drop into a short unnamed tributary to Irving Creek. This discharge causes significant slope erosion and chronic delivery of substantial volumes of sediment into Irving Creek and the Klamath River.

6. Beneficial Uses and Water Quality Objectives: The Basin Plan designates beneficial uses, establishes water quality objectives, contains implementation programs for achieving objectives, and incorporates by reference, plans and policies adopted by the State Water Resources Control Board. Stanshaw and Irving creeks are tributaries of the Klamath River within the Middle Klamath River Hydrologic Area, which under section 303(d) of the federal CWA is listed as impaired for sediment, temperature, microcystin, organic enrichment/low dissolved oxygen, and nutrients. On September 7, 2010, the State Water Resources Control Board adopted a Resolution approving amendments to the Water Quality Control Plan for the North Coast Region to establish: (1) Site Specific Dissolved Oxygen Objectives for the Klamath River; (2) an Action Plan for the Klamath River Total Maximum Daily Loads (TMDLs) Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin impairments in the Klamath River; and (3) an Implementation Plan for the Klamath and Lost River basins. On December 28, 2010, the United States Environmental Protection Agency approved the TMDLs for the Klamath River in California pursuant to CWA section 303(d)(2). The Action Plan indicates that temperature impairments in the Klamath are attributable in part to excess sediment loads from anthropogenic sources, and encourages parties responsible for existing sediment sources to take steps to inventory and address those sources. Existing and potential beneficial uses for the Ukonom Hydrologic Subarea of the Middle Klamath River Hydrologic Area potentially affected by the activities described herein include the following: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PRO); Ground Water Recharge (GWR); Freshwater Replenishment Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Hydropower Generation (POW);

Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Wildlife Habitat (WILD); Rare Threatened or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, reproduction, and/or Early Development (SPWN); and Aquaculture (AQUA) and Native American Culture (CUL). Beneficial uses of any specifically identified water body generally apply to all of its tributaries. These include Stanshaw Creek, Irving Creek, and any tributaries thereto.

Section 3 of the Basin Plan contains water quality objectives that specify limitations on certain water quality parameters not to be exceeded as a result of waste discharges. These include, but are not limited to the following:

- a. **Suspended Material**: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
 - b. **Settleable Material**: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
 - c. **Sediment**: The suspended sediment load and suspended discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
 - d. **Turbidity**: Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.
7. **Failure to Obtain Necessary Permits**: Regional Water Board staff determined that discharges of waste earthen material associated with ditch operation, maintenance, and failure, including point source discharges of sediment-laden water to waters of the state has occurred without coverage under either a National Pollutant Discharge Elimination System (NPDES) permit, waste discharge requirements, or a waiver thereof.
8. **Clean Water Act Violations**: Section 301(a) of the CWA provides certain exceptions to “the discharge of any pollutant by any person shall be unlawful.” (33 U.S.C. § 1311(a).) One of the exceptions allowed for under the CWA is the discharge from a point source as authorized by a permit granted pursuant to the National Pollutant Discharge Elimination System (NPDES) under section 402 of the CWA. (33 U.S.C. § 1342.) The CWA prohibits the discharge of any pollutant from a point source into waters of the United States without an NPDES permit. Evidence observed by staff along the upper ditch indicated that the ditch had overtopped or caused the berm to fail at several locations.

While staff did not follow the erosion path below each failure point to confirm that flows reached downstream surface waters, staff did observe a number of points where the flows reached Stanshaw Creek. In each case, such a flow, carrying sediment and/or other mobilized materials and delivering them into a surface water represents a point source discharge of waste, requiring an NPDES permit.

9. Water Code Violations:

- a. Water Code section 13376 requires any person discharging or proposing to discharge pollutants to waters of the United States to file a report of waste discharge. Each case where the ditch has failed and flows have discharged into Stanshaw Creek or the Klamath River represents a violation of Water Code section 13376 due to the discharge of sediment-laden water into waters of the United States without first filing a report of waste discharge. In addition, the chronic discharge of sediment into Irving Creek associated with the erosion feature at the ditch outfall represents an ongoing violation, and a discharge of waste without a report of waste discharge and/or waste discharge requirements.
- b. Water Code section 13304(a) states, in relevant part:

“Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and causes, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts....Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”
- c. Sediment, when discharged to waters of the state, is a “waste” as defined in Water Code section 13050. The Dischargers have discharged waste directly into surface waters of Stanshaw Creek, an unnamed tributary to Irving Creek, and to Irving Creeks, which are tributaries of the Klamath River.
- d. The beneficial uses of the Klamath River discussed above in Finding 6 also apply to Stanshaw and Irving creeks.

- e. "Pollution" is defined by Water Code section 13050, subdivision (l)(1) as, an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:
 - i. The waters for beneficial uses; or
 - ii. Facilities which serve these beneficial uses.

- f. "Nuisance" is defined by Water Code section 13050, subdivision (m) as, anything which meets all of the following requirements:
 - i. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - ii. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - iii. Occurs during, or as a result of, the treatment or disposal of wastes.

- g. The Dischargers' ditch operations and maintenance activities, and chronic ditch failures result in the relatively continuous unauthorized discharge of waste into surface waters and have created, and threaten to create, a condition of pollution by unreasonably affecting the beneficial uses of waters of the state.

10. Basin Plan Violations: The Water Quality Control Plan for the North Coast Region (Basin Plan) contains specific standards and provisions for maintaining high quality waters of the state that provide protection to the beneficial uses listed above. The Basin Plan's Action Plan for Logging, Construction and Associated Activities (Action Plan) includes two prohibitions (Page 4-29.00 of the 2011 Basin Plan):

- a. **Prohibition 1** - "The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited."
- b. **Prohibition 2** - "The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities which could be deleterious to fish, wildlife, or other beneficial uses is prohibited."

Evidence observed by staff during the inspection suggests that flows in the ditch chronically overtop portions of the ditch and, at times, cause the ditch berm to fail, and potentially transport that material into Stanshaw Creek or the Klamath River.

Ditch maintenance/repair includes rebuilding or reinforcing the berm, in effect placing additional material at locations where it can be transported into watercourses in the event of a ditch failure.

- 11. Cleanup and Abatement Action Necessary:** Sediment discharges associated with improperly constructed and maintained ditches and chronic erosion and sedimentation at the Irving Creek outfall, operated by the Dischargers have occurred, and have the potential to continue to occur. Restoration, cleanup, and mitigation action is required on the part of the Dischargers to ensure that the existing conditions of pollution or nuisance are addressed, that threatened unauthorized discharges from the ditch are prevented, and that any impacts to beneficial uses are mitigated. The current conditions represent priority violations and the issuance of a cleanup and abatement order pursuant to Water Code section 13304 is appropriate and consistent with policies of the Regional Water Board.
- 12. Technical Reports Required:** Water Code section 13267(a) provides that the Regional Water Board may investigate the quality of any water of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267 (b) provides that the Regional Water Board, in conducting an investigation, may require Dischargers to furnish, under penalty of perjury, technical or monitoring program reports. The technical reports required by this Order are necessary to assure compliance with this Order and to protect the waters of the state. The technical reports are further necessary to demonstrate that appropriate methods will be used to clean up waste discharged to surface waters and watercourses and to ensure that cleanup complies with Basin Plan requirements. In accordance with Water Code section 13267(b), the findings in this Order provide the Dischargers with a written explanation and evidence with regard to the need to implement cleanup, abatement and restoration actions and submit reports. The Dischargers named in this Order own and/or operate the feature from which waste was discharged, and thus are appropriately responsible for providing the reports.
- 13. California Environmental Quality Act:** Issuance of this Order is being taken for the protection of the environment and to enforce the laws and regulations administered by the Regional Water Board and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061 (b) (3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup and restoration activities at the Site. CEQA exempts mere submittal of plans as submittal will not cause a direct or indirect physical change in the environment and/or cannot possibly have a significant effect on the environment. CEQA review at this time is premature and speculative, as there is simply not enough information concerning the Discharger's proposed remedial activities and possible associated environmental impacts.

If the Regional Water Board determines that implementing any plan required by this Order will have a significant effect on the environment that is not otherwise exempt from CEQA, the Regional Water Board will conduct the necessary and appropriate

environmental review prior to approval of the applicable plan. The Dischargers will bear the costs, including the Regional Water Board's costs, of determining whether implementing any plan required by this Order will have a significant effect on the environment and, if so, in preparing and handling any documents necessary for environmental review. If necessary, the Dischargers and a consultant acceptable to the Regional Water Board shall enter into a memorandum of understanding with the Regional Water Board regarding such costs prior to undertaking any environmental review.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13304 and 13267, Douglas and Heidi Cole (Dischargers) shall clean up and abate the impacts to water quality in accordance with the scope and schedule set forth below and provide the following information. The Dischargers shall obtain all necessary permits for the activities required in this Order.

1. Retain an appropriately licensed and experienced California Licensed Professional(s) to evaluate, and provide recommendations on the following:

Evaluate the operation of the Pelton wheel to determine if there are methods of diversion operation that would increase efficiency and reduce the required volume of the diversion, such as piping the diversion flow for example. Provide a report including recommendations based upon this evaluation. The evaluation shall consider the following:

- a. Water balance – in vs. out;
- b. Water quality review – in vs. out;
- c. Review onsite water needs and usage, and hydropower generation;
- d. Review opportunities to optimize water needs and usage for power generation;
- e. Review opportunities to reduce water loss or head loss; and
- f. Design a delivery system that optimizes water conservation.

In the event that this evaluation concludes that a piped delivery system is appropriate, develop a plan to decommission the ditch by removing the outboard berm and restoring all affected watercourses. In addition, provide design standards for slope restoration and outsliping to ensure evenly distributed surface flows. All bare soils shall be stabilized with erosion controls and replanted with native vegetation. **Submit all information and recommendations as described above on or before 5:00 pm October 15, 2016.**

2. Retain an appropriately licensed and experienced California- licensed professional to evaluate, assess, and develop a Restoration and Monitoring Plan (RMP) to restore and stabilize the head cut and slope at the outlet of the Stanshaw Creek diversion to the unnamed tributary of Irving Creek. Submit

the plan by **September 10, 2016** to the Executive Officer for review and approval.

- a. The RMP shall (1) restore the vegetative and hydrological functions of the damaged streams to ensure the long term recovery of the affected streams; and (2) replant the slopes and streamside areas with native vegetation to prevent erosion and sediment delivery to streams.
- b. The RMP shall include and apply best management practices for all current and planned work associated with construction activities affecting, or having the potential to impact, the ditch outfall, unnamed tributary and Irving Creek. The RMP shall contain, at a minimum, design and construction standards, specifications, and designs for stream restoration, surface drainage controls, erosion control methods and standards for unanticipated precipitation during restoration, compaction standards, an implementation schedule, a monitoring and reporting plan, and success criteria meeting the requirements specified herein.
- c. The RMP shall include map(s) and/or project designs at 1:12000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing channels, the projected restored slopes and stream channels, illustrating all restoration plan work points, spoil disposal sites, re-planting areas, and any other factor that requires mapping or site construction details to complete the scope of work.
- d. The RMP shall include a time schedule for completing the work including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must adhere to any regulatory deadlines prescribed by the State Water Resource Control Board or North Coast Regional Water Quality Control Board.
- e. To ensure a successful re-vegetation/earthen stabilization effort, site restoration and mitigation, the Discharger shall monitor and report for five years. All tree and shrub plantings must have a minimum of 85% success of thriving growth at the end of five years with a minimum of two consecutive years (two growing seasons) of monitoring after the removal of irrigation. Planting shall be adequately spaced to ensure adequate vegetative cover to control surface erosion and increase soil stability. In the event the re-planting fails, re-planting is required and the monitoring shall be extended for another five years until the 85% success rate of vegetation re-establishment is accomplished. The Dischargers are responsible for replacement planting, additional watering, weeding, invasive/exotic eradication, or any other practice to achieve the success criteria.
- f. The RMP must include a time schedule for completing the work, including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must describe and include installing temporary erosion control measures prior to October 15, 2016 and completion of slope and ditch outlet restoration by October 15, 2017.
- g. A monitoring plan is required for all site restoration and replanting to determine the success of stream restoration efforts and re-vegetation. The monitoring plan

- must include regularly scheduled inspections, and established monitoring photo points of sufficient number to document the site recovery for five years or until the Site is restored, mitigation is complete, vegetation is reestablished, erosion is no longer ongoing and meets the success criteria in the approved RMP. These photo-documentation points shall be selected to document the stability of the tributaries. The Dischargers shall prepare a site map with the photo-documentation points clearly marked. Prior to and immediately after implementing the restoration and/or mitigation, the Dischargers shall photographically document the pre- and post-conditions of the tributaries at the pre-selected photo-documentation points. The Dischargers shall submit the pre-restoration photographs, the post-restoration photographs, and the map with the locations of the photo-documentation points to the Water Board as part of the as-built report as defined below.;
- h. The monitoring plan must include regularly scheduled inspection dates. We recommend October 15, January 5, and March 1 of each year, and a monitoring report is required within 30 days of each inspection. Monitoring Reports shall summarize monitoring results; describe any corrective actions made or proposed to address any failures of the Site and restoration measures (features to be assessed for performance and potential failure include, but are not limited to, erosion controls, stream bed and bank erosion, sediment discharges, work, and re-vegetation); and include narrative and photo documentation of any necessary mitigation and evidence of successful restoration and Site recovery for five years, or until Site recovery meets the approved success criteria. At the conclusion of restoration work, when the site is stable and the monitoring program has been fulfilled, submit a Summary report by **January 1, 2021 or the year that site remediation and replanting meets the approved success criteria**. The Executive Officer or designee will review the report and determine if the site meets all the requirements and the Order can be terminated.
3. In the event that the delivery system will require continued operation of all or a portion of the diversion ditch, retain an appropriately qualified and experienced California-licensed professional to evaluate and submit a report to the Executive Officer for review and approval by **October 15, 2016**. The report shall include the following:
 - a. Evaluation of the entire ditch system, identifying all features and locations susceptible to failure by any of the physical processes and mechanisms described herein, (including but not limited to ditch seepage, berm fill saturation, upslope cutbank stability), and identifying where there is potential for sediment delivery to receiving waters in the event of a failure.

Specify appropriate corrective action measures or steps to take, including design and construction standards and an implementation schedule to complete the

- defined scope of work. In addition, assess all areas of past failures to determine if the features reach Stanshaw Creek and deliver sediment and represent future delivery routes that require mitigation, propose mitigation as necessary to control sediment delivery and surface flows in the event of future failures or during annual rainfall events.
- b. A ditch operation and maintenance plan that includes an inspection and maintenance schedule and identifies any permits required for the scope of work anticipated. The plan should include proposed measures to ensure that the slopes above the ditch do not collapse into or block the ditch, that water seepage from the ditch does not saturate underlying materials and result in failure, that the ditch does not overtop the berm, that the berm does not fail, and that sediment does not deliver from the ditch to waters of the state. The plan must also include specifications for measures to be constructed and/or incorporated to prevent further erosion and sediment delivery from the discharge point to Irving Creek, and to restore and stabilize the channel between the discharge point and Irving Creek.
4. Regardless of the ultimate water delivery system, the following additional measures shall be taken by **September 10, 2016** to protect water quality:
- a. Assess slopes between the upper ditch and Stanshaw creek and the streambed of Stanshaw Creek and Irving Creek and the unnamed tributary to Irving Creek for stored sediment deposits and erosional sources associated with the past and current failures of the ditch. Identify all erosional issues and those that should be corrected, propose corrective measures and provide a schedule for implementing corrective measures.
 - b. Ensure that water used onsite, conveyed in the ditch and discharged does not adversely impact waters of the state. Develop a sampling plan to assess the quality of water in the ditch as it passes through the ranch property for potential sources of fecal coliform, total coliform, total petroleum hydrocarbons, temperature, and nutrients. The sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface waters from the ditch or pond. Submit the Sampling Plan for approval by the Executive Officer by **September 10, 2016**. Upon approval implement the sampling plan and provide results of the sampling by **November 1, 2016**. In the event that sampling identifies inputs of constituents of concern, then develop a plan to remedy the discharges and submit the plan by **December 1, 2016** to the Executive Officer for review and approval.
5. Progress reports are due quarterly the first of the month starting on **October 1, 2016**. Quarterly progress report deadlines shall be January 1, April 1, July 1, and October 1 through January 1, 2022. Progress reports should include an update on project development and permitting, a description of steps taken to develop and

implement the required plans, and any unforeseen circumstances that may affect progress on meeting the deadlines and requirements of this Order. Progress reports will continue until the RMP is fully implemented.

6. **By October 15, 2018**, complete all approved restoration and mitigation measures.
7. **By December 15, 2018**, submit a Completion Report for the Restoration, and Monitoring Plan including an as built report. The Completion Report shall accurately depict all restoration and/or mitigation measures and document that the above plan(s) to restore, compensate for, avoid and minimize any further impacts to waters of the state and United States have been fully implemented.

GENERAL REQUIREMENTS AND NOTICES

8. **Duty to Use Qualified Professionals:** The Dischargers shall have the documentation, plans, and reports required under this Order prepared under the direction of appropriately qualified professionals. As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The Dischargers shall include a statement of qualification and registration numbers, if applicable, of the responsible lead professionals in all plans and reports required under this Order. The lead professional shall sign and affix their registration stamp, as applicable, to the report, plan, or document.
9. **Signatory Requirements:** All technical reports submitted by the Discharger shall include a cover letter signed by the Discharger, or a duly authorized representative, certifying under penalty of law that the signer has examined and is familiar with the report and that to his or her knowledge, the report is true, complete, and accurate. The Discharger shall also state if they agree with any recommendations/ proposals and whether they approve implementation of said proposals. Any person signing a document submitted under this Order shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

10. **Notice of Change in Ownership or Occupancy:** The Discharger shall file a written report on any changes in the Site's ownership or occupancy and/or any changes in responsible party or parties operating the ditch. This report shall be filed with the

Regional Water Board no later than 30 days prior to a planned change and shall reference the number of this Order.

- 11. Submissions:** All monitoring reports, technical reports or notices required under this Order shall be submitted to: the Assistant Executive Officer and Stormer Feiler:

Assistant Executive Officer - Shin-Roei Lee

Shin-Roei.Lee@waterboards.ca.gov

Stormer.Feiler@waterboards.ca.gov

By mail to: North Coast Regional Water Quality Control Board, 5550 Skylane Blvd. Suite A, Santa Rosa, CA 95403

- 12. Other Regulatory Requirements:** The Dischargers shall obtain all applicable local, state, and federal permits necessary to fulfill the requirements of this Order prior to beginning the work.
- 13. Cost Recovery:** Pursuant to Water Code section 13304, the Regional Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
- 14. Delayed Compliance:** If for any reason, the Dischargers are unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Assistant Executive Officer, the Dischargers may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as a delay is recognized and prior to the compliance date. An extension may be granted by revision of this Order or by a letter from the Assistant Executive Officer.
- 15. Potential Liability:** If the Dischargers fail to comply with the requirements of this Order, this matter may be referred to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability. Failure to comply with this Order may result in the assessment of an administrative civil liability up to \$10,000 per violation per day, pursuant to California Water Code sections 13268, 13350, and/or 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law, including but not limited to, violation of the terms and condition of this Order.
- 16. No Limitation of Water Board Authority.** This Order in no way limits the authority of the Regional Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the Site consistent with the Water Code. This Order may be revised as additional information becomes available.

17. Modifications. Any modification to this Order shall be in writing and approved by the Executive Officer of the Regional Water Board, including any potential extension requests.

18. Requesting Review by the State Water Board: Any person aggrieved by this or any final action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and Title 23, California Code of Regulations, section 2050 et al. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the State Water Board must receive the petition on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

This Order is effective upon the date of signature.

Matthias St. John
Executive Officer

16_0031_MarbleMountainRanch_CAO

North Coast Regional Water Quality Control Board

Inspection Report
Stanshaw Creek Diversion
Marble Mountain Ranch
Douglas and Heidi Cole, Landowners
92520 Hwy 96, Somes Bar
Siskiyou County
WDID No. 1A15024NSI

Date: March 9, 2015

To: Diana Henriouille – Senior Water Resource Control Engineer
Shin-Roei Lee – Supervising Water Resource Control Engineer
David Leland – Assistant Executive Officer
Taro Murano – Division of Water Rights, Senior Environmental
Scientist, Public Trust Unit

From: Stormer Feiler, Environmental Scientist

Inspection Date: February 12, 2015

Mailing and
Physical Address: 92520 Hwy. 96, Somes Bar, CA 95568

Assessor's Parcel
Number: 026-290-200,

Landowner: Douglas and Heidi Cole

Watershed: Stanshaw Creek and Irving Creek watersheds within the
Ukonom Hydrologic Subarea of the Middle Klamath River
watershed

Introduction

At the request of staff of the State Water Resources Control Board's Division of Water Rights Public Trust Unit (DIV), on February 12, 2015, I accompanied DIV staff Skyler Anderson and Michael Vella on an inspection of the Stanshaw Creek diversion. The diversion originates on Stanshaw Creek and discharges to Irving Creek, both tributaries to the Klamath River, near Somes Bar. Diverted water is

used for electrical power generation with a pelton wheel and for domestic water supply on the Marble Mountain Ranch.

The diversion has reportedly been in place since the 1800s, supplying a variety of uses to landowners over the years with the most recent landowners being the current owners of the Marble Mountain Ranch, Douglas and Heidi Cole. The DIV is presently in the process of reviewing various aspects of the diversion, in response to complaints of public trust impacts and unauthorized diversion in excess of pre-1914 water rights. The objective of this inspection was to evaluate the existing and potential impacts to water quality and beneficial uses associated with operation of the diversion.

Diversion Description

As noted above, the diversion originates in Stanshaw Creek (tributary to Klamath River at river mile 76.1) and discharges into Irving Creek (tributary to Klamath River at river mile 75). The Point of Diversion (POD) is located on Stanshaw Creek, about 0.68 miles upstream of the Highway 96 crossing¹. A gravel and cobble push-up dam diverts water from Stanshaw Creek. When flow in Stanshaw Creek is less than approximately 3-4 cfs (typical late spring, summer, and fall flow conditions), most of the creek flow is diverted into the ditch. Conveyance is gravity driven, via lined and unlined ditch, approximately 0.5 miles to a junction where flows are directed either to a water treatment plant or to a forebay and penstock that services the power generation facility and a pressurized irrigation system. Conveyance from the junction to the forebay is via lined and unlined ditch. Lined ditch reaches reportedly consist of half rounds of corrugated PVC, of approximately 30-inch diameter. Discharge from the power plant is conveyed via ditch to an onsite pond. Flows from the pond are conveyed in a ditch to the south across the Ranch to a steep slope that has headcut and is discharging to a tributary stream to Irving Creek.

Watershed and Beneficial Uses Information

Stanshaw Creek is within the Stanislaus Creek, Cal Water Watershed No. 1105.310701, and Irving Creek is in the Irving Creek Cal Water Watershed No. 1105.310702 (Cal Water version 2.2). Both of these streams are tributary to the Ukonom Hydrologic Subarea of the Middle Klamath River Hydrologic Area. The Middle Klamath River is federal Clean Water Act section 303(d)-listed for nutrient, temperature, and organic enrichment/dissolved oxygen impairments. On September 7, 2010, the State Water Resources Control Board adopted a Resolution approving amendments to the Water Quality Control Plan for the North Coast Region to establish: (1) Site Specific Dissolved Oxygen Objectives for the Klamath River; (2) an Action Plan for the Klamath River Total Maximum Daily Loads Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River; and (3) an Implementation Plan for the Klamath and Lost River Basins. On December 28, 2010, the US Environmental Protection Agency approved the TMDLs for the Klamath River in California pursuant to CWA Section 303(d)(2). The Action Plan indicates that temperature impairments in the Klamath are

¹ Diversion description drawn from information contained in "Marble Mountain Ranch Water Rights Investigation: Water Use Technical Memorandum," prepared by Cascade Stream Solutions, LLC, November 18, 2014.

attributable in part to excess sediment loads from anthropogenic sources, and encourages parties responsible for existing sediment sources to take steps to inventory and address those sources.

The Water Quality Control Plan for the North Coast Region (Basin Plan) designates the following existing and potential beneficial uses for the Middle Klamath River and its tributaries within the Ukonom Hydrologic Subarea: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Navigation (NAV), Power Generation (POW), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species Habitat (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Aquaculture (AQUA), and Native American Culture (CUL). Through direct site observation, it appears that the primary beneficial uses the diversion potentially impacts are COMM, MIGR, COLD, SPWN, RARE, and CUL.

The Basin Plan includes a series of water quality objectives designed and intended to protect the beneficial uses of water and guide determining violations of the Basin Plan and Porter Cologne Water Quality Control Act. The following objectives are likely to be associated with water quality violations that occur from the operation and maintenance of the Stanshaw Diversion as observed and discussed herein.

Color

Water shall be free of coloration that causes nuisance or adversely affects beneficial uses.

Floating Material

Water shall not contain floating material, including solids, liquids, foams, and scum in concentrations that cause nuisance or adversely affect beneficial uses.

Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Settleable Material

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.

Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity

Turbidity shall not be increased more than 20% above naturally occurring background levels. Allowable zones of dilution within which higher percentages can

be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Inspection Observations

On February 12, 2015, I accessed the Marble Mountain Ranch and Stanshaw Diversion with Skyler Anderson and Michael Vella. During the course of my inspection, I walked the Diversion from the Point of Diversion in Stanshaw Creek to the penstock for the power plant (upper ditch), I observed a stretch of the lower ditch from the pond to the gully that discharges to Irving Creek (lower ditch), and I observed three established diversion monitoring locations used to measure cumulative daily flows and water losses.

The upper ditch is located upslope of and runs southwest, roughly parallel to Stanshaw Creek, gradually diverging away at an approximately 15-20 degree angle as it approaches the junction before turning southeast and heading toward the forebay and penstock. As noted above, this segment is comprised of lined and unlined reaches. Unlined and lined reaches are confined by an earthen berm on the outboard (downslope) side. Sediment from a number of sources, including Stanshaw Creek, hillslope erosion, and landsliding reportedly deposits in this segment of channel, affecting conveyance capacity. The outboard berm elevation reportedly varies at times due to overtopping, slumping, hillslope failure, and trampling by wildlife.

During the February 12 inspection, I identified 19 areas of concern (Points) on the upper ditch where the outboard berm or upslope cut banks have the potential to fail or have failed, diverting some or all in-channel flows onto native slopes causing erosion and formation of channels delivering sediment towards or into Stanshaw Creek. I observed evidence of three primary types of ditch failure: 1) cut bank slumps block the ditch and cause flows to overtop the berm; 2) water infiltrates into and seeps through the berm, and causes the berm to fail eroding underlying soils and hillslopes; and 3) as noted above, cumulative sediment inputs reduce the ditch capacity and increase the risk of overtopping as ditch capacity is diminished, particularly increasing the potential for failure in areas where the berm is low or has been damaged.

As discussed below, at inspection Points 4 and 5, and visible in image 1, the upper ditch crosses over an unnamed tributary to Stanshaw Creek. The tributary is conveyed under the ditch via culvert. At this location, there is also a culvert that drains a portion of the water in the ditch and discharges it through a shotgunned outlet onto the slope a short distance below the outfall for the stream crossing culvert. The combination of uncontrolled discharges and additional flows into the unnamed tributary has caused significant streambank erosion and channel widening in the tributary downstream of the culvert. The ditch may have historically failed at this location, which has likely also contributed to stream channel enlargement.

I followed the lower ditch from the pond to its discharge point into the gully leading to the unnamed tributary to Irving Creek. Along the lower ditch, the primary area of concern for water quality is Point 20, the headcut erosion where return flows from the Ranch are discharged to Irving Creek.

I do not have GPS coordinates for the points I observed and report on herein; however, the photos provided below include a description of the observed conditions.

Image 1 provides general locations for the Point of Diversion at Stanshaw Creek (Point 1), and the discharge point above Irving Creek (Point 20), which are the start and end points of inspection observations as ordered below.

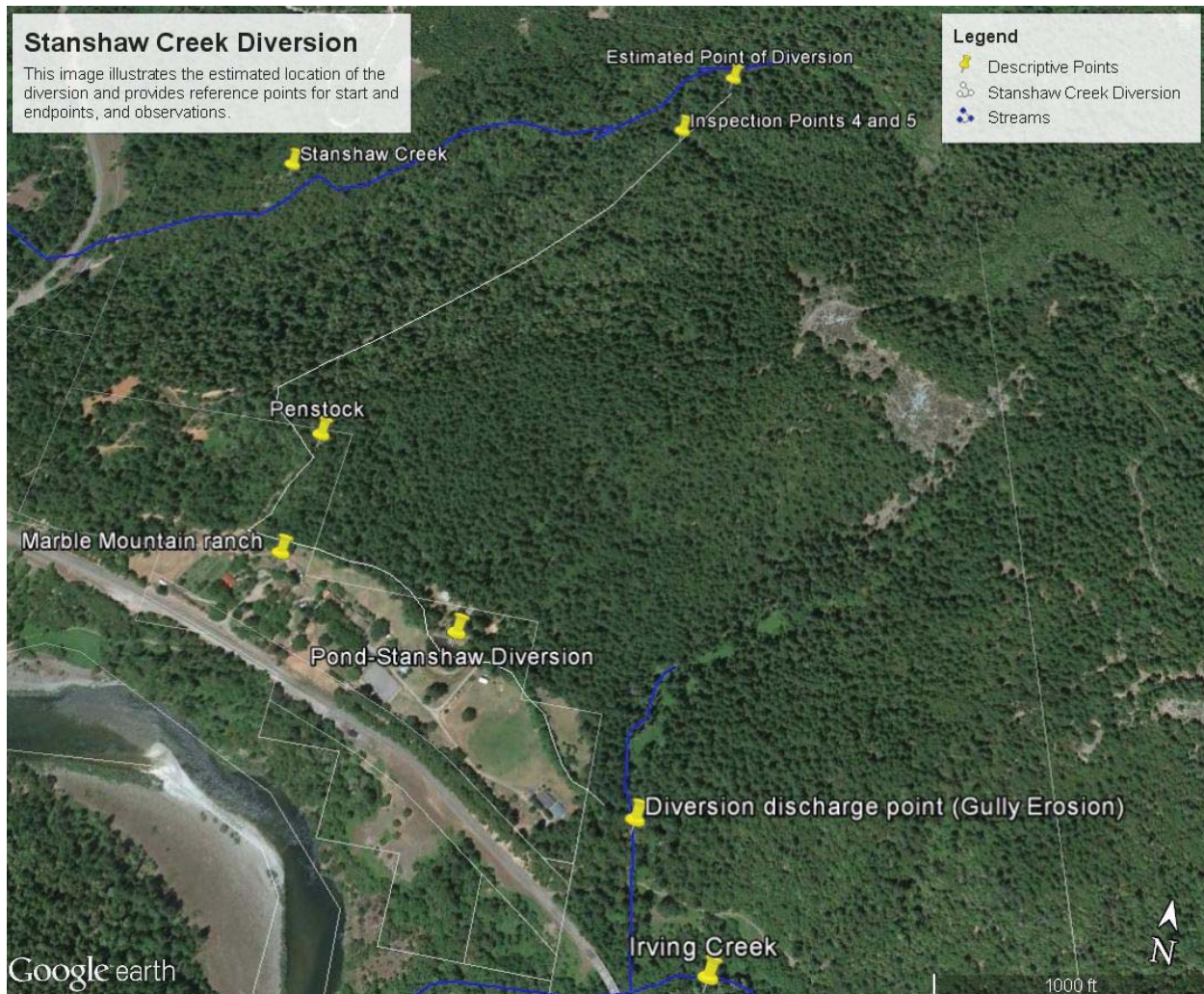


Image 1- shows an overview of the Stanshaw Diversion route and Marble Mountain Ranch. The locations identified are estimated based upon visual observation of the area during the inspection and through subsequent comparison with existing 6/6/2013 Google Earth Pro imagery, Arcview GIS topographic maps, and historic maps of the diversion.

Inspection Photographs and Observations

I have presented photographic images below in order proceeding down the diversion from the point of diversion to the diversions' discharge point into an unnamed tributary to Irving Creek. I took all photos on February 12, 2015. At many of the

Points, I observed multiple issues within a short reach of the ditch, likely posing an increased risk of ditch failure and downslope erosion.



Image 3- shows Point 1, the Point of Diversion. The Stanshaw Diversion flows toward the lower right corner of this image. It appears the rock and cobble diversion structure fails episodically and likely requires periodic modification as Stanshaw Creek's flows change, in order to maintain a diverted flow. (Photos 8459, 8460 and 8461 stitched)



Image 4- shows Point 2, a failure along the outboard berm, approximately 70 feet downstream of Point 1, allowing some of the water in the ditch to flow down to Stanshaw Creek, potentially resulting in erosion and sediment transport. This location appears to have failed repeatedly in the past. The instream flume in the Ditch just downstream of this failure is used to measure flows entering the diversion. (Photo 8454 and 8455)



Image 5- shows Point 3, a tank or railroad tank car buried in the ditch channel, likely intended to trap sediment. The tank car is full of sediment. Water flowing in the ditch appears to have overtopped the outboard berm at this location and caused some erosion on the slopes below. (Photo 8467)



Image 6- shows the erosion channel downslope of Point 3.



Image 7- shows the erosion channel downslope of Point 3. The void is visible here in the foreground; the erosion extends downslope an unknown distance.



Image 8- at Point 3, shows a closer view of the buried tank car with stored sediments visible. (Photo 8450)

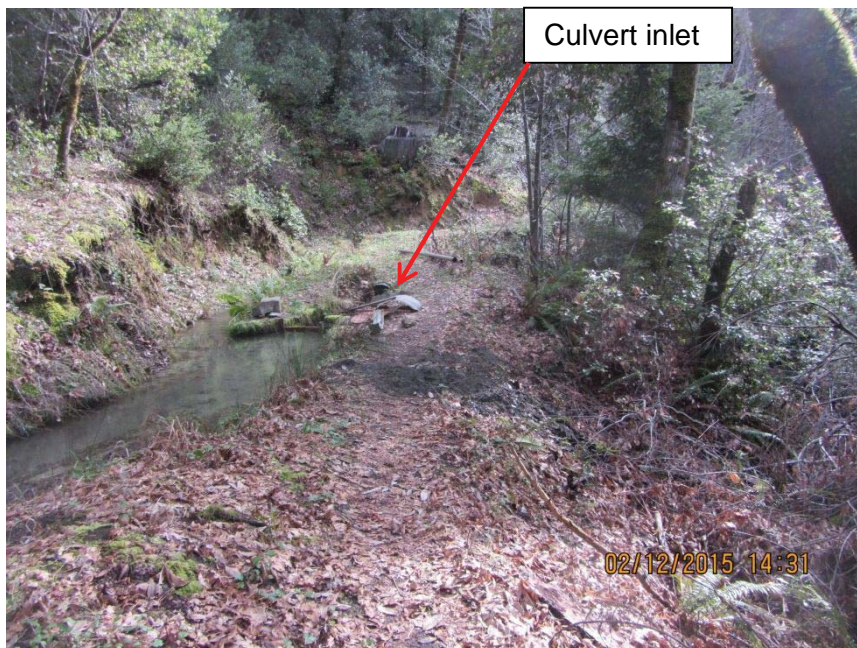


Image 9- at Point 4, shows the partial diversion of the ditch into an unnamed tributary to Stanshaw Creek through the inlet of a 12-inch culvert, before the diversion ditch is routed across the stream in a lined ditch. The culvert is shotgunned, which appears to have caused significant instream erosion in the downslope channel. The stream above the crossing is 3-4 feet wide at bankfull width; the eroded stream channel below the diversion crossing is 12-14 feet wide, and does not appear stable. At this location, I also observed muddy soils in the berm adjacent to the ditch, indicating that seepage from the ditch is saturating surrounding soils, which may lead to catastrophic failure of the ditch. (Photo 8441)



Image 10- at Point 4, shows a closer look at the seepage in the berm; note the muddy soils in the foreground. (Photo 8441 cropped)

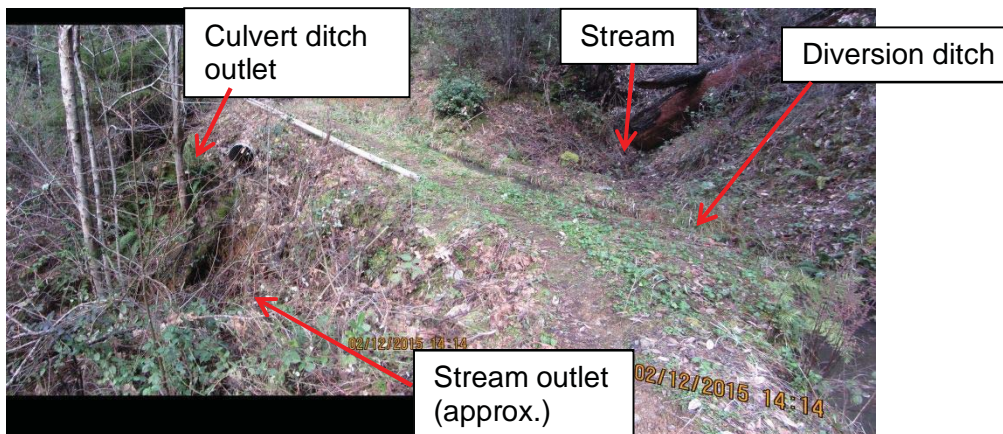


Image 9- at Point 5, shows the shotgunned 12-inch ditch culvert outlet, diversion ditch and native stream channel flowing under the diversion ditch. (Photos 8442, 8443, 8444, 8445 composite)



Image 10- shows the unnamed stream channel above Points 4 and 5; the upslope active bankfull stream channel width is approximately 3-4 feet.

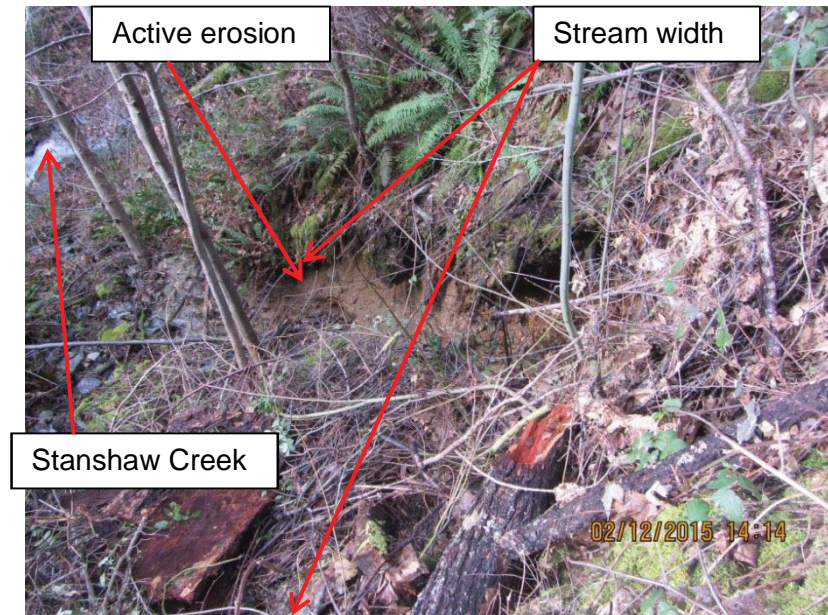


Image 11- shows the unnamed stream channel downstream of Point 5, and the erosion caused by water draining from the shotgunned culvert. Stanshaw Creek can be seen a short distance downslope. I conservatively estimate that this site has delivered 150-300yds³ of sediment and debris to Stanshaw Creek over the life of the Diversion. (Photo 8478)



Image 12- shows Point 6, where the diversion channel is full, leaving no freeboard should it rain or the ditch receive a bank slump upstream. It appears the outboard berm may have failed in this area in the past, and at present is seeping, indicating that a portion of the berm may be saturated. Stanshaw Creek is within 200 feet; any failure here likely results in direct delivery of sediment and erosional debris. The flume section visible in the photo appears to have been installed to remedy previous ditch failures and/or to prevent future failures.



Image 13- point 7, shows the end of the flume in the previous photo; note the black plastic sheeting on the outboard slope face, and the low outboard berm as the diversion ditch exits the flume. The lack of freeboard creates a high potential for overtopping and erosion. The presence of the pipe section and plastic sheeting in the area suggests that the berm or underlying slope in this area has likely failed in the past. (Photo 8483)



Image 14- shows point 8, an approximately 150-foot section of the channel downstream of Point 7, where the low berm and full ditch likely creates a high potential for berm or slope failure, erosion, and sediment transport downslope. I observed concrete blocks at various locations along the outboard edge of the berm throughout this segment, likely to rebuild or reinforce berm sections. (Photo 8486)



Image 15- shows Point 9, a significant failure point, likely caused by a cut bank slump filling the diversion channel and diverting the stream flow. Note the cut bank slump above and the erosion void downslope. This failure likely accelerated erosion on lower slopes and into the nearby streams. (Photo 8490 and 8491 composite)

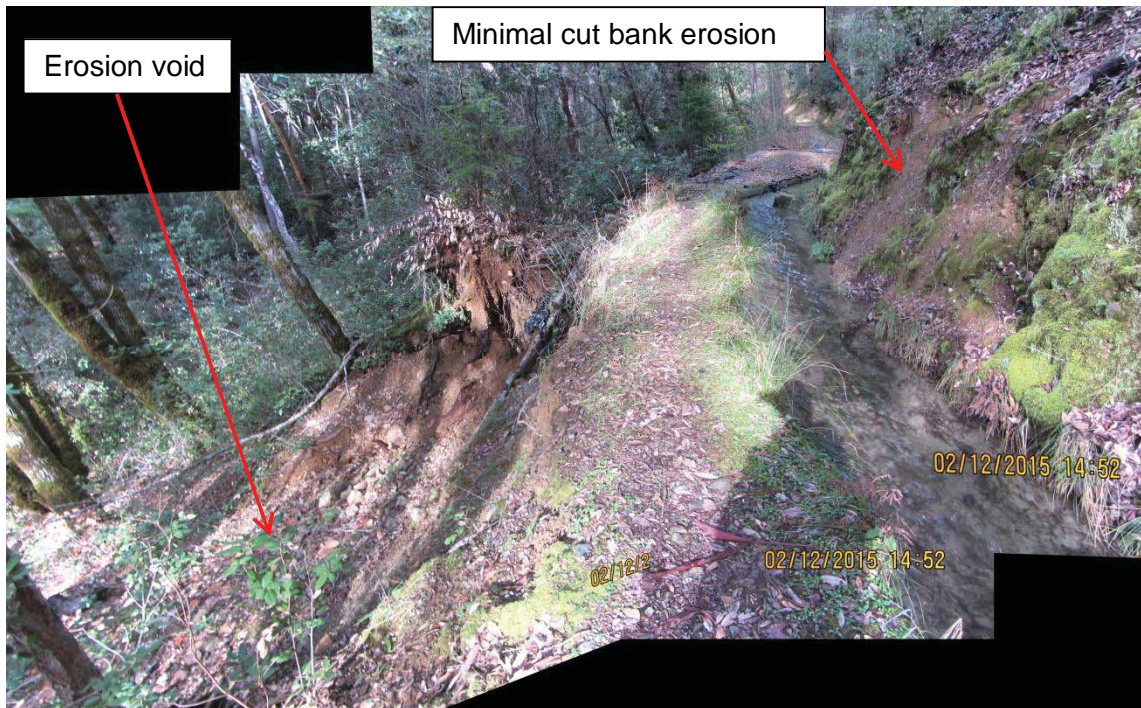


Image 16- Point 10 is an area of concern that includes an erosional channel likely formed by a berm failure and active erosion visible on the cut bank. I observed active cut bank erosion on many of the upper slopes above the diversion ditch and expect that bank slumps have and are contributing significantly to ditch failures. (Photos 8495, 8496, 8497, and 8498 composite image).



Image 17- Point 11 is another 150-200 feet of ditch with a low freeboard and evidence of past failures; this ditch segment leads to a section of ditch subject to a recent bank failure. I observed erosion scars on the lower slopes that are now overgrown with ferns and small shrubs. (Photo 8499)



Image 18- Point 12 shows evidence of a recent bank failure that caused water to overtop the outboard berm and erode slopes below the ditch. The outboard ditch shows signs of seepage throughout this length. Note the sand bags and fresh soils along the outboard berm, indicating recent repairs. Also, note the 50-75 foot section of the cut bank with exposed soils. (Photo 8503)



Image 19- Point 12, closer view of berm repair made with ready crete concrete sacks and soils. Note the saturated soils along the outboard berm where water is seeping. (Photo 8510)



Image 20- Point 13 shows a large continuous cut bank slump that extends for approximately 220 feet. Based on my observations, it appears the cut bank slumped along this stretch over this past winter, delivering approximately 10 yds³ of sediment into the ditch, blocking the channel, and causing water to overtop the berm

and erode the lower slopes. Cut banks are often chronic sources of erosion, delivering additional sediment to streams and ditches each year.



Image 21- Point 14, a cut bank that appears to have slumped in the recent past, causing water to overtop the berm and erode the berm and lower slopes. (Photo 8520 and 8521 composite)



Image 22- Point 15 shows an active cut bank slump, and evidence of recent repairs to the ditch and berm. (Photo 8523)



Image 23- Point 16, another cut bank that has a high risk of failure. Note the steep, near vertical slope of this cut bank, which indicates that the bank is still likely to erode. The roots hanging out of the cut bank are indicators of the erosion that has occurred. Most cut banks are originally constructed in a planar form with no visible roots protruding. Over time the cut bank erodes, exposing the roots, and leaving an indicator as to the amount of soil that has eroded or slumped. (Photo 8525)



Image 24- Point 17 shows a segment of channel with an active cut bank slump and evidence of recent repairs to the outboard berm.

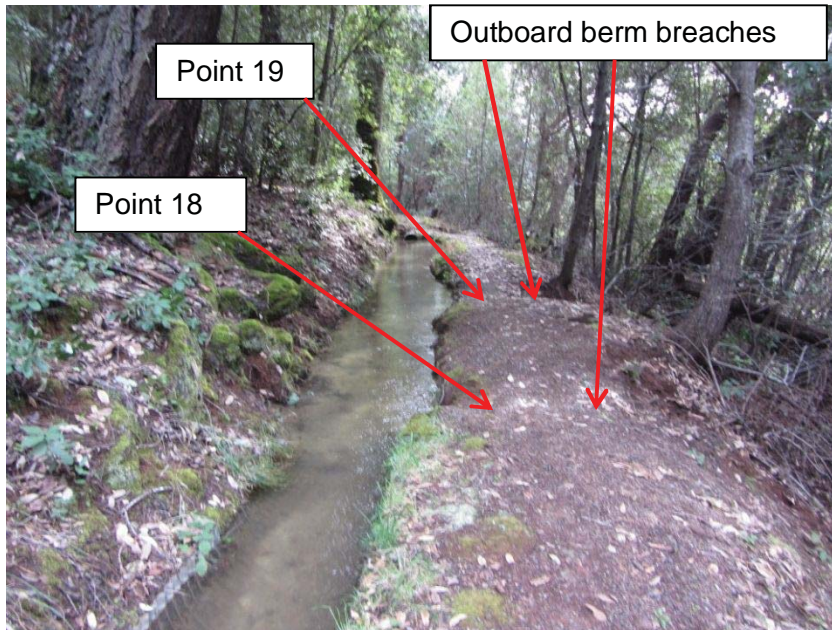


Image 25- shows two locations, points 18 and 19, where the outboard berm has apparently breached in the past, resulting in gully erosion on lower slopes. The failure at Point 19 resulted in the formation of a gully channel for a long distance down the slope, and may have contributed a significant sediment load to the Klamath River and possibly Stanshaw Creek. I did not follow the gully all the way down the slope, but did see an erosion channel from the lower road.



Image 26- Point 20 is the headcut upslope from Irving Creek. This is where tailwater from the Stanshaw Diversion is discharged to an unnamed stream, tributary to Irving Creek. This area is actively eroding. Several trees appear to have fallen recently through erosion of their root masses. I estimate that the headcut erosion has delivered between 1500-2200 yds³ of sediment to the Irving Creek watershed. (Photo 8529)

Summary

In summary, I observed 19 Points in the upper ditch where the outboard berm has been or may be compromised by either erosion of the berm, saturation of the berm, or sediment loading to the ditch from cut bank failures; the ditch retains the potential to fail in the future from one or a combination of these mechanisms.

On the lower ditch, I observed evidence of significant active erosion occurring at the downstream discharge point to Irving Creek, representing a chronic source of sediment delivery into Irving Creek and, thence, to the Klamath River.

This list of observation points is not exhaustive, and my inspection was not a complete inspection of the entire diversion system. The points selected for discussion provide a basis for analyzing the long term and short term sediment-related impacts of the diversion ditch on water quality. Based upon the observations as provided in the body of this report, portions of the outboard berm and/or the upper ditch have likely been failing periodically since the original construction of the diversion ditch, delivering sediment and debris to Stanshaw Creek. Each time the berm or slope fail, there is the potential for mass erosion of earthen material from lower slopes. In some locations, these erosional gullies are visible and show the age of the failure through the relative recovery of vegetation and duff recruitment within the features.

As the ditch is maintained at a low gradient, approximately 3% grade, the ditch is both transporting fine sediments (colloidal materials) and storing sediment (coarse sediment and consolidated earthen deliveries). Storing sediment reduces the capacity of the ditch and increases the risk of mass failure of the berm through saturation and through berm overtopping and erosion. When sediment is transported out of this ditch system the result is a direct delivery into the pond on the Marble Mountain Ranch, or possibly to the downstream tributary to Irving Creek.

It is apparent that if the diversion system is maintained and operated in the present fashion, it will continue to represent a chronic source of sediment discharge to surface waters in the Middle Klamath River watershed. The Regional Water Board has received at least one complaint over the years regarding water quality impacts associated with the Diversion, specifically, in January 2011 staff received a complaint alleging that repeated failures of the diversion were impacting aquatic resources in the Klamath River and its tributaries through excessive sediment loading. My observations tend to support these allegations, and suggest that further such impacts will occur in the future. In my opinion, the diversion ditch likely represents a chronic source of sediment discharge to Stanshaw Creek and Irving Creek.

I did not inspect the reaches of Stanshaw Creek or Irving Creek downstream of the Stanshaw Diversion, so did not confirm evidence of recent sediment discharges to either Creek or to the Klamath River; however, I did inspect the site of a 2013 Fisheries Restoration Grant (FRGP), Grant # P1110319, which involved the removal of 560 cubic yards of stored sediments at the confluence of Stanshaw Creek and the Klamath River to restore a large backwater pool to provide refugial habitat for salmonid species. A report

describing this project indicates, in part, that “[o]riginating from Stanshaw Creek, the bulk of the sediment plug was deposited during the 2005/2006 flood event when the upstream ditch diversion to Marble Mountain Ranch overtopped causing severe gully erosion.” Here, I confirmed that at least at present, the backwater pool still appears to be functioning as intended.

The ditch has been in operation for a number of years and, as noted above, supplies water for domestic needs and power generation for the Marble Mountain Ranch. I briefly researched the alternator in use to generate electricity for the ranch. Upon initial evaluation, it appears that there may be opportunities to more efficiently operate the pelton wheel, which would result in significant reductions in the volume of water necessary for power generation.

Water quality is affected by a number of mechanisms, in this case observations indicate that 1) the operation of the Stanshaw Creek Diversion is likely influencing increased sediment loading on the Klamath River, and 2) the flows in Stanshaw Creek provide an important source of water to a refugial habitat for all life stages of salmonids occupying the Klamath River. Cold clean water is the basis of salmonid survival and properly functioning conditions supportive of all beneficial uses. The diversion is losing water through evaporation and seepage to surrounding soils, the loss of water is likely contributing to failures of the berm and erosion resulting in sediment contributions to Stanshaw Creek and Irving Creek. In addition, the loss of water is an impact on water quality when one considers that the diversion takes cold water from a native stream, and after use, places it in another location without the apparent habitat values of its original native location. Finally, as the water passes through the Stanshaw diversion system and crosses through the Marble Mountain Ranch, it may be subject to changes in characteristics based on potential pollutant inputs or increases in temperature. I did observe potential pollutant sources of concern while viewing the diversion system on the Marble Mountain Ranch, primarily domestic livestock grazing. I did not note any locations where the ditch was exposed to run off from livestock grazing or that the ditch was prone to intercepting pollutants generated on the ranch. However, I did not evaluate the entire system on the Ranch, nor collect any samples or take any measurements.

Recommendations

This diversion and its operation can likely be improved significantly, to both reduce sediment discharges, and increase native instream cold water resources in Stanshaw Creek, and the Klamath River basin. To facilitate such an improvement to the benefit of water quality, I recommend the following information be considered in evaluating the current and future operation of the Stanshaw Creek Diversion. Some of this information may already be available or may be under development. Information should be developed by a California licensed professional or professionals with relevant experience.

- Water balance, i.e., how much water enters the Stanshaw diversion, how much discharges, how much is demonstrably applied to consumptive uses within the Marble Mountain Ranch

- Water quality review, i.e., sampling/testing of water entering the Stanshaw diversion and discharging from the Marble Mountain Ranch, identification of factors or features that may be contributing to changes, if any, to water quality– in vs. out
- Review onsite water needs for domestic uses
- Review opportunities to optimize water needs for power generation (this may include reviewing operational requirements for the existing pelton wheel to identify ways to optimize efficiency and/or consideration of alternative hydropower generation systems)
- Review opportunities to reduce water loss or head loss
- Design a delivery system that optimizes water conservation while fulfilling onsite water needs

Outfall/Irving Creek tributary

Regional Water Board staff recommend that an appropriately qualified California licensed professional experienced in Geology and stream restoration evaluate the diversion outfall tributary to Irving Creek and develop a stream restoration plan to restore stream side vegetative and hydrological functions of the tributary, if applicable, and to ensure the long term recovery of the affected streams; and 2) replant slopes and streamside areas with native vegetation to prevent erosion and sediment delivery. The plan shall include provisions to ensure that continued use of this tributary, either for diversion outfall flow or for transport of seasonal flows through the ranch property, does not create new or exacerbate existing erosion.

Upper Ditch

Water quality recommendations regarding the upper ditch will vary depending on whether the ditch or ditch alignment is to be maintained to any degree as part of the delivery system, or whether it is to be taken out of service altogether. Specifically, if/when the ditch is to be taken out of service, Regional Water Board staff recommend that a licensed California professional (or professionals) with experience including hydraulic engineering, geology, and instream and hillslope restoration, develop a plan to decommission the ditch by removing the outboard berm, outsloping the channel as appropriate/necessary to disperse drainage, and stabilizing and replanting all bare soils as necessary on the upslope, channel, berm material, and slopes below the ditch to minimize the potential for continued or future erosion, slope failure, and/or sediment delivery to downslope receiving waters.

Alternatively, for any delivery system that will require that the ditch, ditch alignment, or segments thereof be retained in service, Regional Water Board staff recommend that an appropriately qualified California Licensed professional (or professionals) with experience including hydraulic systems analysis; design, construction and maintenance of water transport and delivery systems; stream and hill slope restoration; and geologic analysis of slope stability:

- a) Evaluate the entire ditch system, identify all features and locations susceptible to failure by any of the physical processes and mechanisms described herein, (including but not limited to ditch seepage, berm fill saturation, upslope cutbank stability), identify locations where there is potential for sediment delivery to receiving waters in the event of a failure, develop mitigations including design and construction standards and an implementation schedule as necessary to complete the defined

scope of work,

- b. Develop and submit for approval a ditch operation and maintenance plan that includes an inspection and maintenance schedule, specifying those measures to be incorporated/ constructed and steps to be taken to ensure that the slopes above the ditch do not fail into and block the ditch, that water seepage from the ditch does not saturate underlying materials and result in failure, that the ditch does not overtop the berm, that the berm does not fail, and that sediment does not deliver from the ditch to waters of the state.

For either alternative, the ditch repair or decommissioning plan shall include specifications to restore the affected stream/unnamed tributary that crosses at inspection points 4/5, replant with native vegetation, and to protect streams from any further impacts or discharges associated with the ditch.

Additional Measures to Protect Water Quality

Regional Water Board staff recommends that an appropriately qualified licensed California professional or professionals conduct the following reviews and develop plans to ensure or implement the following:

- a) Assess slopes between the upper ditch and Stanshaw creek and identify any erosional issues associated with the ditch that should be corrected to prevent or minimize sediment delivery to Stanshaw Creek and/or to the Klamath River, and propose and provide a schedule for implementing corrective measures.
- b) Assess segments of Stanshaw and Irving Creeks downstream of the diversion inlet & outlet points to identify and map any evidence of damage or sediment storage with potential for restoration. In the event the survey identifies areas where stored sediments can be remediated, or past discharges from the ditch have created erosional features that have the potential to actively erode with rainfall and transport sediment into downstream receiving waters, then develop a plan to remediate and describe any potential concerns with implementing the scope of restoration work identified.
- c) Assess the potential for pollutant inputs and/or changes to water quality over the segment of lower ditch passing through the property and discharging at the outfall to Irving Creek. A visual assessment to identify potential locations where pollutants may be added or temperatures may increase coupled with samples collected at the upstream and downstream end of this segment may be adequate for an initial assessment and help to focus additional assessment if necessary. Constituents of concern for sampling/testing may include but are not necessarily limited to nutrients, fecal coliform, total coliform, BOD, temperature, blue green algae and any other potential contaminant of concern identified through the visual assessment.

General Recommendations for Restoration Plans

Restoration plans prepared per recommendations above should include or specify, as applicable/appropriate:

- a) Design and construction standards specifications and designs for stream restoration, surface drainage controls, erosion control methods and standards for unanticipated precipitation during restoration, compaction standards, an implementation schedule, a monitoring and reporting plan, and success criteria.
- b) Map(s) and/or project designs at 1:12000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing channels, the projected restored slopes and stream channels, illustrating all restoration plan work points, spoil disposal sites, re-vegetation planting areas, and any other factor that requires mapping or site construction details to complete the scope of work
- c) Best management practices to be applied for all work associated with construction activities affecting, or having the potential to impact, surface waters.
- d) Proposed time schedules for completing work, taking into account time needed to receive any necessary permits from State, County and/or federal agencies. In the event that the Water Boards impose deadlines for work completion, proposed work schedules must adhere to those deadlines.
- e) Proposed program to monitor, assess, maintain, and report on the success of restoration efforts. Restoration monitoring plans should include regularly scheduled inspections, and established monitoring photo points of sufficient number to document the site recovery for five years or until the Site is restored, mitigation is complete, vegetation is reestablished, erosion is no longer ongoing and monitoring is no longer necessary.

Areas that have been revegetated with native plants must be monitored for five years following planting, including a minimum of two years of monitoring following irrigation, if any. Revegetation success criteria for tree and shrub plantings is a minimum of 85%, and may require one or more replanting efforts, weeding, exotic species removal, watering, etc.

Photo-documentation points should include restoration work areas, revegetation areas, and affected tributaries, up and downstream of restoration sites, and individual work sites where construction occurs within the ditch (upper or lower). Monitoring plans should include a site map with the photo-documentation points clearly marked. Restoration sites, affected watercourse segments, and other photo-documentation points should be photographed immediately prior to and immediately after implementing restoration and/or mitigation work, and pre- and post-project photos should be included with the map as part of the as-built report, to be submitted with the next regular monitoring report following the completion of restoration work.

Restoration sites should be monitored periodically including, at a minimum, inspections prior to, during, and towards the end of each rainy season (for example: October 15, January 5, and March 1 of each year), and monitoring reports should be submitted within 30 days of each inspection. Monitoring Reports should include a summary of any monitoring observations or results

(in the event that monitoring includes sampling); describe any corrective actions made or proposed to address any failures of the Site and restoration measures (features to be assessed for performance and potential failure should include, but are not limited to, erosion controls, stream bed and bank erosion, sediment discharges, work, and re-vegetation); and include narrative and photo documentation of any necessary mitigation and evidence of successful restoration and Site recovery for five years, or until Site recovery is considered complete.

Staff recommend that when applicable restoration sites are stable and monitoring programs have been fulfilled, a Summary report be submitted for staff review, and that a site representative arrange for an inspection with Regional Water Board staff to determine whether restoration has been adequately completed and conditions representing water quality violations have been successfully corrected.

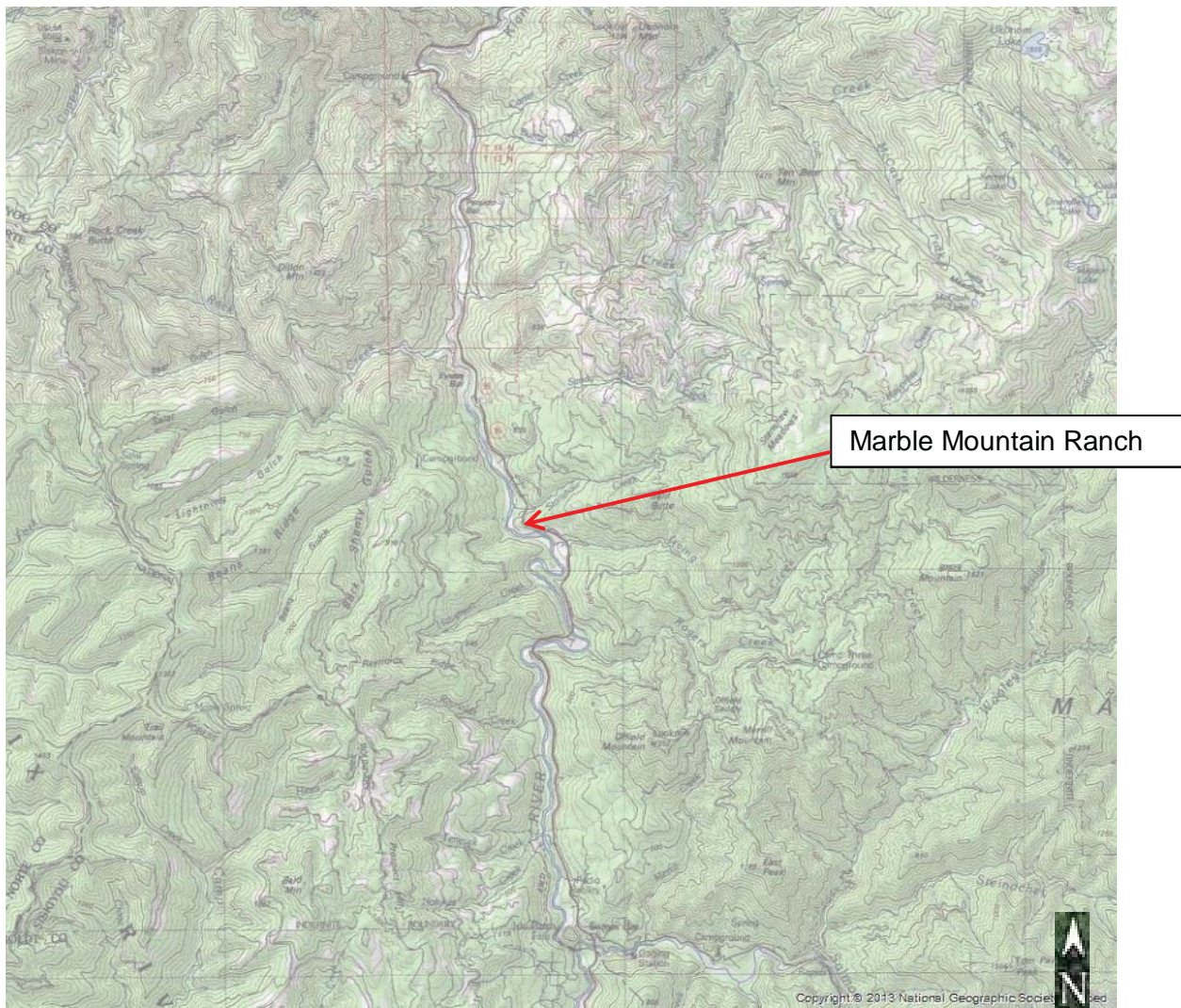


Image 27 shows the general location of the Marble Mountain Ranch.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

DRAFT
CLEANUP AND ABATEMENT
AND
WATER CODE SECTION 13267(b) ORDER NO.[XXXXX]
DOUGLAS AND HEIDI COLE, ASSESSOR PARCEL NUMBER 026-290-200
WDID 1A15024NSI

SISKIYOU COUNTY

This Order is issued to Douglas and Heidi Cole (hereinafter referred to as Dischargers) based on provisions of Water Code section 13304, which authorizes the North Coast Regional Water Quality Control Board (Regional Water Board) to issue a Cleanup and Abatement Order ("Order"), and Water Code section 13267, which authorizes the Regional Water Board to require the preparation and submittal of technical and monitoring reports.

The Assistant Executive Officer finds, with respect to the Dischargers' acts, or failure to act, the following:

- 1. Purpose of the Order:** This Order requires the Dischargers to eliminate the threat of future discharges and to clean up and abate the effects of discharges of soil, rock and miscellaneous debris into Irving Creek, Stanshaw Creek, and the Klamath River. These watercourses are considered waters of the state, as well as waters of the United States. (References hereinafter to waters of the United States are inclusive of waters of the state.)¹ The Dischargers maintain a diversion ditch from Stanshaw Creek to Irving Creek. The Dischargers operate the ditch to provide water to the Marble Mountain Ranch, for domestic uses, as well as to generate electricity and provide a stock watering pond, with the potential for fire protection, and recreational use. The upper segment of the ditch carries water from Stanshaw Creek to the Marble Mountain Ranch. Tailwater from the pelton wheel used for power generation flows through the property to the pond. Overflows from the pond flow to a discharge point where they enter Irving Creek. Water in the upper segment of the ditch periodically overtops or breaches portions of its outboard containment berm, eroding slopes below the ditch.

In some cases, water escaping from the ditch flows to and transports earthen material into downslope watercourses, including Stanshaw Creek and, potentially, the Klamath River. Outflows to Irving Creek have created a significant active

¹ The Regional Water Board administers and enforces the Clean Water Act (CWA). The CWA regulates what it refers to as "navigable waters" and defines those waters as "waters of the United States." Waters of the United States have been interpreted broadly by the agencies responsible for implementing the CWA to include all traditionally navigable waters and their tributaries. (40 C.F.R. 122.2) The Porter-Cologne Water Quality Control Act (Porter Cologne) provides the Regional Water Board additional authority to regulate discharges of waste into "waters of the state." (Water Code § 13260.) The term "water of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code § 13050(3).) All waters of the United States that are within the boundaries of California are also waters of the state for purposes of Porter-Cologne.

erosional feature, representing a chronic source of sediment discharges into Irving Creek. Point source discharges of sediment-laden waters associated with ditch containment failures and chronic sediment discharges from the Irving Creek outfall occur without authorization from applicable federal, state, and local agencies, including the Regional Water Board. This Order requires investigation and cleanup in compliance with the Water Code, the Water Quality Control Plan for the North Coast Region (Basin Plan), and other applicable Regional Water Board plans, policies, and regulations.

- 2. Responsible Parties:** The Dischargers, as the property owners and operators of the ditch are discharging or creating a threat of discharge, and are responsible parties for purposes of this Order.
 - a. Per records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole are the owners of record for the property identified as Assessor Parcel 026-290-200.
 - b. The Regional Water Board reserves the right to amend this CAO to add additional responsible parties when/if those parties are identified.
- 3. Location and Description:** The Marble Mountain Ranch is located approximately 8 miles north of Somes Bar, in Siskiyou County at 92520 Highway 96. The ditch supplying water to the Ranch originates in Stanshaw Creek (tributary to Klamath River at river mile 76.1) and discharges into Irving Creek (tributary to Klamath River at river mile 75). The Point of Diversion (POD) is located on Stanshaw Creek, about 0.68 miles upstream of the Highway 96 crossing.
- 4. History:** According to records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole purchased the Ranch in March of 2007. There is no record of the Ranch or the diversion ditch having prior regulatory oversight or history with the Regional Water Board. The diversion has reportedly been in place since the 1800s, supplying a variety of uses to landowners over the years with the most recent landowners being the Dischargers.
- 5. Basis of Order:** Periodic failure of the ditch, and the Dischargers' activities to operate and maintain the ditch, as detailed below, created and/or threaten to create, conditions of pollution in waters of the state by unreasonably impacting water quality and beneficial uses.
 - a. During an inspection of the diversion ditch and facility on February 12, 2015, Regional Water Board staff identified 19 locations along the upper ditch where the ditch has failed or has the potential to fail. The primary failure mechanisms were identified as 1) cut bank slumps block the ditch and cause flows to overtop the berm; 2) water infiltrates into and seeps through the berm, and causes the berm to fail eroding underlying soils and

- hillslopes; and 3) as noted above, cumulative sediment inputs reduce the ditch capacity and increase the risk of overtopping as ditch capacity is diminished, particularly increasing the potential for failure in areas where the berm is low or has been damaged. Due to the operation and maintenance of the ditch, failures and repairs constitute an annual and chronic discharge of sediment to waters of the state, including Stanshaw and Irving Creeks, and potentially directly to the Klamath River.
- b. The diversion ditch outfall discharges onto a steep slope with an abrupt drop into a short unnamed tributary to Irving Creek. This discharge causes significant slope erosion and chronic delivery of substantial volumes of sediment into receiving waters.
- 6. Beneficial Uses and Water Quality Objectives:** The Basin Plan designates beneficial uses, establishes water quality objectives, contains implementation programs for achieving objectives, and incorporates by reference, plans and policies adopted by the State Water Resources Control Board. Stanshaw and Irving Creeks are tributaries of the Klamath River within the Middle Klamath River hydrologic area, which is federal Clean Water Act section 303(d) listed as impaired for sediment, temperature, microcystin, organic enrichment/low dissolved oxygen, and nutrients. On September 7, 2010, the State Water Resources Control Board adopted a Resolution approving amendments to the Water Quality Control Plan for the North Coast Region to establish: (1) Site Specific Dissolved Oxygen Objectives for the Klamath River; (2) an Action Plan for the Klamath River Total Maximum Daily Loads (TMDLs) Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River; and (3) an Implementation Plan for the Klamath and Lost River Basins. On December 28, 2010, the US Environmental Protection Agency approved the TMDLs for the Klamath River in California pursuant to CWA Section 303(d)(2). The Action Plan indicates that temperature impairments in the Klamath are attributable in part to excess sediment loads from anthropogenic sources, and encourages parties responsible for existing sediment sources to take steps to inventory and address those sources. Existing and potential beneficial uses for the Ukonom Hydrologic Subarea of the Middle Klamath River Hydrologic Area potentially affected by the activities described herein include the following: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PRO); Ground Water Recharge (GWR); Freshwater Replenishment Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Hydropower Generation (POW); Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Wildlife Habitat (WILD); Rare Threatened or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, reproduction, and/or Early Development (SPWN); and Aquaculture (AQUA) and Native American Culture (CUL). Beneficial uses of any specifically identified water body generally apply to all

of its tributaries. These include Stanshaw Creek, Irving Creek, and any tributaries thereto.

Section 3 of the Basin Plan contains water quality objectives that specify limitations on certain water quality parameters not to be exceeded as a result of waste discharges. These include, but are not limited to the following:

- i. **Suspended Material**: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
 - ii. **Settleable Material**: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
 - iii. **Sediment**: The suspended sediment load and suspended discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
 - iv. **Turbidity**: Turbidity shall not be increased more than 20 percent above naturally occurring back ground levels. Allowable zones within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.
7. **Failure to Obtain Necessary Permits**: Regional Water Board staff determined that discharges of waste earthen material associated with ditch operation, maintenance, and failure, including point source discharges of sediment-laden water to waters of the state has occurred without coverage under either a National Pollutant Discharge Elimination System (NPDES) permit, waste discharge requirements, or a waiver thereof.
8. **Clean Water Act Violations**: Section 301(a) of the Clean Water Act provides that subject to certain exceptions, "the discharge of any pollutant by any person shall be unlawful." 33 U.S.C. § 1311(a). One of the exceptions allowed for under the Clean Water Act is the discharge from a point source as authorized by a permit granted pursuant to the National Pollutant Discharge Elimination System (NPDES) under § 402 of the Clean Water Act. 33 U.S.C. § 1342. The Clean Water Act prohibits the discharge of any pollutant from a point source into waters of the United States without an NPDES permit. Evidence observed by staff along the upper ditch indicated that the ditch had overtopped or caused the berm to fail at several locations. While staff did not follow the erosion path below each failure point to confirm that flows reached downstream surface waters, staff did observe a number of points where the flows reached Stanshaw Creek.

In each case, such a flow, carrying sediment and/or other mobilized materials and delivering them into a surface water represents a point source discharge of waste,

requiring an NPDES permit.

9. Water Code Violations:

- a.** Water Code section 13376 requires any person discharging or proposing to discharge pollutants to waters of the United States to file a report of the discharge. Each case where the ditch has failed and flows have discharged into Stanshaw Creek or the Klamath River, represents a violation of Water Code section 13376 associated with the discharge of sediment-laden water into waters of the United States without first filing a report of discharge. In addition, the chronic discharge of sediment into Irving Creek associated with the erosion feature at the ditch outfall represents an ongoing violation, and a discharge of waste without a report of waste discharge and/or waste discharge requirements.
- b.** Water Code section 13304(a) states, in relevant part: Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and causes, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts....Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.
- c.** Sediment, when discharged to waters of the state, is a “waste” as defined in Water Code section 13050. The Discharger has discharged waste directly into surface waters of Stanshaw Creek, an unnamed tributary to Irving Creek, and to Irving Creeks, which are tributaries of the Klamath River.
- d.** The beneficial uses of the Klamath River discussed above in Finding 6 also apply to Stanshaw and Irving Creeks.
- e.** “Pollution” is defined by Water Code section 13050, subdivision (l)(1) as, an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

- 11. Cleanup and Abatement Action Necessary:** Sediment discharges associated with improperly constructed and maintained ditches and chronic erosion and sedimentation at the Irving Creek outfall, operated by the Dischargers have occurred, and have the potential to continue to occur. Restoration, cleanup, and mitigation action is required on the part of the Dischargers to ensure that the existing conditions of pollution or nuisance are addressed, that threatened unauthorized discharges from the ditch are prevented, and that any impacts to beneficial uses are mitigated. The current conditions represent priority violations and the issuance of a cleanup and abatement order pursuant to Water Code section 13304 is appropriate and consistent with policies of the Regional Water Board.
- 12. Technical Reports Required:** Water Code section 13267(a) provides that the Regional Water Board may investigate the quality of any water of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267 (b) provides that the Regional Water Board, in conducting an investigation, may require Dischargers to furnish, under penalty of perjury, technical or monitoring program reports. The technical reports required by this Order are necessary to assure compliance with this Order and to protect the waters of the state. The technical reports are further necessary to demonstrate that appropriate methods will be used to cleanup waste discharged to surface waters and surface water drainage courses and to ensure that cleanup complies with Basin Plan requirements. In accordance with Water Code section 13267(b), the findings in this Order provide the Dischargers with a written explanation and evidence with regard to the need to implement cleanup, abatement and restoration actions and submit reports. The Dischargers named in this Order own and/or operate the feature from which waste was discharged, and thus are appropriately responsible for providing the reports.
- 13. California Environmental Quality Act:** Issuance of this Order is being taken for the protection of the environment and to enforce the laws and regulations administered by the Regional Water Board and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061 (b) (3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup and restoration activities at the Site. CEQA exempts mere submittal of plans as submittal will not cause a direct or indirect physical change in the environment and/or cannot possibly have a significant effect on the environment. CEQA review at this time is premature and speculative, as there is simply not enough information concerning the Discharger's proposed remedial activities and possible associated environmental impacts.

If the Regional Water Board determines that implementing any plan required by this Order will have a significant effect on the environment that is not otherwise exempt from CEQA, the Regional Water Board will conduct the necessary and appropriate

environmental review prior to approval of the applicable plan. The Discharger will bear the costs, including the Regional Water Board's costs, of determining whether implementing any plan required by this Order will have a significant effect on the environment and, if so, in preparing and handling any documents necessary for environmental review. If necessary, the Discharger and a consultant acceptable to the Regional Water Board shall enter into a memorandum of understanding with the Regional Water Board regarding such costs prior to undertaking any environmental review.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13304 and 13267, Douglas and Heidi Cole (Dischargers) shall clean up and abate the impacts to water quality in accordance with the scope and schedule set forth below and provide the following information. The Dischargers shall obtain all necessary permits for the activities required in this Order.

1. Retain an appropriately licensed and experienced California Licensed Professional(s) to evaluate, and provide recommendations on the following:
 - a. Evaluate the operation of the Pelton Wheel to determine if there are methods of diversion operation that would increase efficiency and reduce the required volume of the diversion, such as piping the diversion flow for example. Provide a report including recommendations based upon this evaluation. The evaluation should consider the following:
 - I. Water balance – in vs. out
 - II. Water quality review – in vs. out
 - III. Review onsite water needs, hydropower generation
 - IV. Review opportunities to optimize water needs for power generation
 - V. Review opportunities to reduce water loss or head loss
 - VI. Design a delivery system that optimizes water conservation

In the event that this evaluation concludes that a piped delivery system is appropriate, then develop a plan to decommission the ditch by removing the outboard berm, and restoring all affected watercourses, in addition, provide design standards for slope restoration and out sloping to ensure evenly distributed surface flows, all bares soils shall be stabilized with erosion controls and replanted with native vegetation. **Submit all information and recommendations as described above on or before DATE**

2. Retain an appropriately licensed and experienced California- licensed professional to evaluate, assess, and develop a Restoration and Monitoring Plan (RMP) to restore and stabilize the head cut and slope at the outlet of the

Stanshaw Creek diversion to the unnamed tributary of Irving Creek. Submit the plan by **DATE** to the Executive Officer for review and approval.

- I. 1) restore the vegetative and hydrological functions of the damaged streams to ensure the long term recovery of the affected streams; and 2) replant the slopes and streamside areas with native vegetation to prevent erosion and sediment delivery to streams.
- II. The RMP must include and apply best management practices for all current and planned work associated with construction activities affecting, or having the potential to impact, the ditch outfall, unnamed tributary and Irving Creek. The RMP shall contain, at a minimum, design and construction standards, specifications, and designs for stream restoration, surface drainage controls, erosion control methods and standards for unanticipated precipitation during restoration, compaction standards, an implementation schedule, a monitoring and reporting plan, and success criteria meeting the requirements specified herein.
- III. The RMP must include map(s) and/or project designs at 1:12000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing channels, the projected restored slopes and stream channels, illustrating all restoration plan work points, spoil disposal sites, re-vegetation planting areas, and any other factor that requires mapping or site construction details to complete the scope of work.
- IV. The RMP must include a time schedule for completing the work including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must adhere to any regulatory deadlines prescribed by the State Water Resource Control Board or North Coast Regional Water Quality Control Board.
- V. To ensure a successful re-vegetation/earthen stabilization effort, site restoration and mitigation, the Discharger shall monitor and report for five years. All tree and shrub plantings must have a minimum of 85% success of thriving growth at the end of five years with a minimum of two consecutive years (two growing seasons) of monitoring after the removal of irrigation. Planting shall be adequately spaced to ensure adequate vegetative cover to control surface erosion and increase soil stability. In the event the re-planting fails, re-planting is required and the monitoring shall be extended for another five years until the 85% success rate of vegetation re-establishment is accomplished. The Dischargers are responsible for replacement planting, additional watering, weeding, invasive/exotic eradication, or any other practice to achieve the success criteria.
- VI. The RMP must include a time schedule for completing the work including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must adhere to any regulatory deadlines prescribed by the State Water Resource Control Board or North Coast Regional Water Quality Control Board.

- VII.** A monitoring plan is required for all site restoration and replanting to determine the success of stream restoration efforts and revegetation. The monitoring plan must include regularly scheduled inspections, and established monitoring photo points of sufficient number to document the site recovery for five years or until the Site is restored, mitigation is complete, vegetation is reestablished, erosion is no longer ongoing and monitoring is no longer necessary. These photo-documentation points shall be selected to document the stability of the tributaries. The Dischargers shall prepare a site map with the photo-documentation points clearly marked. Prior to and immediately after implementing the restoration and/or mitigation, the Dischargers shall photographically document the pre- and post-conditions of the tributaries at the pre-selected photo-documentation points. The Dischargers shall submit the pre-restoration photographs, the post-restoration photographs, and the map with the locations of the photo-documentation points to the Water Board as part of the as-built report as defined below.;
- VIII.** The monitoring plan must include regularly scheduled inspection dates. We recommend October 15, January 5, and March 1 of each year, and a monitoring report is required within 30 days of each inspection. Monitoring Reports shall summarize monitoring results; describe any corrective actions made or proposed to address any failures of the Site and restoration measures (features to be assessed for performance and potential failure include, but are not limited to, erosion controls, stream bed and bank erosion, sediment discharges, work, and re-vegetation); and include narrative and photo documentation of any necessary mitigation and evidence of successful restoration and Site recovery for five years, or until Site recovery is considered complete. At the conclusion of restoration work, when the site is stable and the monitoring program has been fulfilled, submit a Summary report by **DATE, or by January 1, of the year that site remediation and replanting is determined to be stable.** The Assistant Executive Officer or designee will review the report and determine if the site meets expectations and the Order can be terminated
- 3.** In the event that the delivery system will require continued operation of all or a portion of the diversion ditch, retain an appropriately qualified and experienced California-licensed professional to evaluate and submit a report by **DATE** that includes the following:
- a.** Evaluation of the entire ditch system, identifying all features and locations susceptible to failure by any of the physical processes and mechanisms described herein, (including but not limited to ditch seepage, berm fill saturation, upslope cutbank stability), and identifying where there is potential for sediment delivery to receiving waters in the event of a failure. Specify appropriate corrective action measures or steps to taken, including design and construction standards and an implementation schedule as necessary to

- complete the defined scope of work. In addition, assess all areas of past failures to determine if the features reach Stanshaw Creek and deliver sediment and represent future delivery routes that require mitigation, propose mitigation as necessary to control sediment delivery and surface flows in the event of future failures or annual rainfall.
- b.** A ditch operation and maintenance plan that includes an inspection and maintenance schedule and identifies the permits, if any, required for the scope of work anticipated. The plan should include proposed measures to ensure that the slopes above the ditch do not collapse into and block the ditch, that water seepage from the ditch does not saturate underlying materials and result in failure, that the ditch does not overtop the berm, that the berm does not fail, and that sediment does not deliver from the ditch to waters of the state. The plan must also include specifications for measures to be constructed and/or incorporated to prevent further erosion and sediment delivery from the discharge point to Irving Creek, and to restore and stabilize the channel between the discharge point and Irving Creek.
 - 4.** Regardless of the ultimate water delivery system, the following additional measures shall be taken by DATE to protect water quality:
 - Assess slopes between the upper ditch and Stanshaw creek and the streambed of Stanshaw Creek and Irving Creek and the unnamed tributary to Irving Creek for stored sediment deposits, and erosional sources associated with the past and current failures of the ditch. Identify all erosional issues and those that should be corrected, propose corrective designs and provide a schedule for implementing corrective measures.
 - Ensure that water used onsite and carried in the ditch is treated/protected as necessary to minimize inputs of pollutants in the flow through process. Develop a sampling plan to assess the quality of water in the ditch as it passes through the ranch property for potential sources of fecal coliform, total coliform, total petroleum hydrocarbons, temperature, and nutrients. The sampling plan should assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any potential contaminants entering the surface waters of the ditch or pond. Submit the Sampling Plan for approval by the Executive Officer by DATE. Upon approval implement the sampling plan and provide results of the sampling by DATE. In the event that sampling identifies inputs of constituents of concern, then develop a plan to remedy the discharges and submit the plan by DATE to the Executive Officer for review and approval.
 - 5.** Progress reports are due the first of each month starting on DATE. Progress reports should include an update on project development and permitting, a description of steps taken to develop and implement the required plans, and any unforeseen circumstances that may affect progress on meeting the deadlines and requirements of this Order. Progress reports will continue until the RMP is fully implemented.

6. **By DATE**, complete all approved restoration and mitigation measures.
7. **By DATE**, submit a Completion Report for the Restoration, and Monitoring Plan including an as built report. The Completion Report shall accurately depict all restoration and/or mitigation measures and document that the above plan(s) to restore, compensate for, avoid and minimize any further impacts to waters of the state and United States have been fully implemented.

GENERAL REQUIREMENTS AND NOTICES

8. **Duty to Use Qualified Professionals:** The Dischargers shall provide documentation that plans, and reports required under this Order are prepared under the direction of appropriately qualified professionals. As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The Dischargers shall include a statement of qualification and registration numbers, if applicable, of the responsible lead professionals in all plans and reports required under this Order. The lead professional shall sign and affix their registration stamp, as applicable, to the report, plan, or document.
9. **Signatory Requirements:** All technical reports submitted by the Dischargers shall include a cover letter signed by the Discharger, or a duly authorized representative, certifying under penalty of law that the signer has examined and is familiar with the report and that to his or her knowledge, the report is true, complete, and accurate. The Dischargers shall also state if they agree with any recommendations/ proposals and whether they approve implementation of said proposals. Any person signing a document submitted under this Order shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

10. **Notice of Change in Ownership or Occupancy:** The Dischargers shall file a written report on any changes in the Site's ownership or occupancy and/or any changes in responsible party(ies) operating the ditch. This report shall be filed with the Regional Water Board no later than 30 days prior to a planned change and shall reference the number of this Order.

11. Submissions: All monitoring reports, technical reports or notices required under this Order shall be submitted to: the Assistant Executive Officer and Stormer Feiler:

Assistant Executive Officer - Shin-Roei Lee
Shin-Roei.Lee@waterboards.ca.gov
Stormer.Feiler@waterboards.ca.gov

By mail to: North Coast Regional Water Quality Control Board, 5550 Skyline Blvd. Suite A, Santa Rosa, CA 95403

12. Other Regulatory Requirements: The Dischargers shall obtain all applicable local, state, and federal permits necessary to fulfill the requirements of this Order prior to beginning the work.

13. Cost Recovery: Pursuant to Water Code section 13304, the Regional Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

14. Delayed Compliance: If for any reason, the Dischargers are unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Assistant Executive Officer, the Dischargers may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as a delay is recognized and prior to the compliance date. An extension may be granted by revision of this Order or by a letter from the Assistant Executive Officer.

15. Potential Liability: If the Dischargers fail to comply with the requirements of this Order, this matter may be referred to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability. Failure to comply with this Order may result in the assessment of an administrative civil liability up to \$10,000 per violation per day, pursuant to California Water Code sections 13268, 13350, and/or 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law, including but not limited to, violation of the terms and condition of this Order.

16. No Limitation of Water Board Authority. This Order in no way limits the authority of the Regional Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the Site consistent with the Water Code. This Order may be revised as additional information becomes available.

17. Modifications. Any modification to this Order shall be in writing and approved by the Executive Officer of the Regional Water Board, including any potential extension requests.

18. Requesting Review by the State Water Board: Any person aggrieved by this or any final action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and Title 23, California Code of Regulations, section 2050 et al. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the State Water Board must receive the petition on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

This Order is effective upon the date of signature.

Shin Roei- Li
Assistant Executive Officer

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North Coast Regional Water Quality Control Board

December 3, 2015

Douglas and Heidi Cole
92520 Highway 96
Somes Bar, CA 95568

Dear Mr. and Mrs. Cole:

Subject: Notice of Violations Associated with the Stanshaw Ditch, 92520 Highway 96, Somes Bar

File(s): Stanshaw Ditch, Marble Mountain Ranch - Siskiyou County APN 026-290-200 - WDID No. 1A15024NSI

Please be advised that you are in violation of the federal Clean Water Act, the California Water Code, and the Water Quality Control Plan for the North Coast Region (Basin Plan), due to unregulated discharges of waste in waters of the state and/or of the United States associated with maintenance, operation, and chronic failures of the Stanshaw Ditch.

Background

At the request of staff of the State Water Resources Control Board Division of Water Rights (Division), on February 12, 2015, North Coast Regional Water Quality Control Board (Regional Water Board) staff Stormer Feiler, Environmental Scientist, accompanied Division staff Skyler Anderson and Michael Vella on an inspection of the Stanshaw Creek diversion. The diversion originates on Stanshaw Creek and discharges to Irving Creek, both tributaries to the Klamath River, near Somes Bar. Diverted water is used for electrical power generation with a pelton wheel and for domestic water supply and irrigation on the Marble Mountain Ranch.

The diversion has reportedly been in place since the 1800s, supplying a variety of uses to landowners over the years. We understand that the Division is presently reviewing various aspects of the diversion in response to complaints that allege public trust impacts and unauthorized diversion in excess of pre-1914 water rights. The objective of the Regional Water Board's inspection was to evaluate the existing and potential impacts to water quality and beneficial uses associated with operation of the diversion.

As documented in Mr. Feiler's inspection report (attached), he observed 19 points in the upper ditch where the outboard berm has been or may be compromised by either erosion of the berm, saturation of the berm, or sediment loading to the ditch from cut bank failures. In addition, Mr. Feiler observed evidence of significant active erosion occurring at the downstream discharge point to Irving Creek, representing a chronic source of sediment delivery into Irving Creek and, thence, to the Klamath River. All features observed are controllable sources of sediment and appear to represent or comprise violations or threatened violations of various water quality requirements, as summarized below.

Applicable Requirements and Alleged Violations

Clean Water Act Violations

Section 301(a) of the Clean Water Act provides that subject to certain exceptions, "the discharge of any pollutant by any person shall be unlawful." 33 U.S.C. § 1311(a). One of the exceptions allowed for under the Clean Water Act is the discharge from a point source as authorized by a permit granted pursuant to the National Pollutant Discharge Elimination System (NPDES) under § 402 of the Clean Water Act. 33 U.S.C. § 1342. The Clean Water Act prohibits the discharge of any pollutant from a point source into waters of the United States without an NPDES permit. Evidence observed by staff along the upper ditch indicated that the ditch had overtopped or caused the berm to fail at several locations. While staff did not follow the erosion path below each failure point to confirm that flows reached downstream surface waters, staff did observe a number of points where the flows reached Stanshaw Creek. In each case, such a flow, carrying sediment and/or other mobilized materials and delivering them into a surface water represents a point source discharge of waste, requiring an NPDES permit.

Water Code Violations

Water Code section 13376 requires any person discharging or proposing to discharge pollutants to waters of the United States to file a report of the discharge. Each case where the ditch has failed and flows have discharged into Stanshaw Creek or the Klamath River, represents a violation of Water Code section 13376 associated with the discharge of sediment-laden water into waters of the state and the United States without first filing a report of discharge. In addition, the chronic discharge of sediment into Irving Creek associated with the erosion feature at the ditch outfall represents an ongoing violation, and a discharge of waste without a report of waste discharge and/or waste discharge requirements.

All earthen fill material discharged into Stanshaw Creek, Irving Creek, and/or the Klamath River as a result of operation, maintenance, and/or failure of the Stanshaw Ditch subjects you to administrative civil liability and orders for cleanup and abatement.

Penalties for water code violations are based upon a per gallon and per day basis, and can reach \$10,000/day per violation and \$10/gallon for discharge violations.

Basin Plan Violations

The Water Quality Control Plan for the North Coast Region (Basin Plan) contains specific discharge prohibitions to protect the beneficial uses. The Basin Plan's Action Plan for Logging, Construction and Associated Activities (Action Plan) includes two discharge prohibitions (Page 4-29.00 of the 2011 Basin Plan):

- i. Prohibition 1 - "The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited."
- ii. Prohibition 2 - "The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities which could be deleterious to fish, wildlife, or other beneficial uses is prohibited."

Evidence observed by staff during the inspection suggests that flow in the ditch chronically overtop portions of the ditch berm and, at times, cause the ditch berm to fail, and potentially transport that berm material into Stanshaw Creek or the Klamath River. Ditch maintenance/repair by rebuilding or reinforcing the berm with additional material can cause or contribute to discharges into watercourses in the event of a ditch failure.

Recommended Actions

We recognize that operation of the ditch and the associated issues have been occurring over the course of many years, and that a number of parties and agencies including the Division have been in continued discussions with you about alternatives to improve the efficiency of your water delivery system and to reduce the impacts and threatened impacts to water resources, including water quality and beneficial uses of Stanshaw and Irving creeks and the Klamath River. Whether you continue to operate the Stanshaw Ditch in its present form or make improvements to the system that allow you to decommission the ditch, it will be necessary for you to address the water quality violations we have identified and to take appropriate measures to correct features that represent chronic discharges or threatened discharges of waste to receiving waters. The enclosed water quality inspection report identifies features of concern and provides recommendations to address those.

The Regional Water Board is coordinating closely with the Division on this matter, and providing its inspection report and this Notice together with an inspection report prepared by the Division that specifies corrective action measures that you shall take in order to

December 3, 2015

prevent the waste and unreasonable use of water, unreasonable method of diversion of water, and harm to public trust resources. We would prefer that corrective actions you take in response to the direction from the Division consider and incorporate appropriate mitigations and corrective actions to address the Water Quality recommendations as well. Furthermore, we would prefer to continue to coordinate with the Division in working with you to address both of our agencies' concerns. Accordingly, as directed in the transmittal letter accompanying this document package, we expect a response from you and/or your attorney, within 30 days of receiving this Notice, describing your plans to address the collective water resource violations identified by Division staff and Water Quality staff.

Your failure to respond within 30 days and/or to demonstrate your plans to address those violations will lead to additional enforcement action and may cause the Regional Water Board to proceed under its own enforcement authority, including, but not limited to issuing an order directing the development and implementation of corrective actions to address violations or potential violations throughout the ditch system. We have enclosed a draft Cleanup and Abatement Order (Order) for your reference, subject to revision in the event we deem it appropriate to develop and issue such an Order.

We look forward to your response in this matter. If you have any questions, please contact Stormer Feiler of my staff by email at Stormer.Feiler@waterboards.ca.gov, or by phone at (707) 543-7128, or his supervisor, Diana Henriouille, by email at Diana.Henriouille@waterboards.ca.gov, or by phone at (707) 576-2350.

Sincerely,

Joshua Curtis, EPM, Chief
Planning, Stewardship, and Compliance Assurance Division

151203_SRF_ef_Marble_Mountain_NOV

Enclosures: Inspection Report
Draft Cleanup and Abatement Order

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March 24, 2016

*VIA US Mail & Email*Kenneth Petruzzelli (kenneth.petruzzelli@waterboard.ca.gov)
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814***Re: Supplemental Response Regarding the Marble Mountain Ranch/Stanshaw Creek
Water Right Division and North Coast Regional Water Board Inspection Reports and
Notice of Violation***

Dear Mr. Petruzzelli:

After review of your letter dated February 12, 2016, and my further discussion with you, Douglas and Heidi Cole (the "Coles") remain committed to continuing to work with both the North Coast Regional Water Quality Control Board and the State Water Resources Control Board (collectively, the "Water Boards") to implement solutions to the issues identified in the inspection reports at Marble Mountain Ranch. The Coles submit this letter to provide additional details about the actions they have already taken, and to establish benchmarks for future actions to achieve the solutions identified in their initial response letter dated January 19, 2016.

The Coles have engaged Joey Howard of Cascade Stream Solutions as their engineer to design and help implement the improvements to the Marble Mountain Ranch diversion and are working closely with Will Harling of the Mid Klamath Watershed Council to identify opportunities for funding and cooperative approaches to resource management. With both Joey Howard's and Will Harling's assistance, the Coles are currently amending the scope of an existing grant from the National Fish and Wildlife Foundation ("NFWF") Coho Enhancement Fund to evaluate water use efficiency. The evaluation will include calculating a water balance for the diversion, evaluating water quality and onsite water needs, identifying opportunities to optimize water needs for power generation, and designing a delivery system that optimizes water conservation. An initial step in improving water efficiency has already been taken as the Coles recently completed installing a filtration system in the water storage tanks at Marble Mountain Ranch. Photographs of the newly installed filtration system on the water tanks are attached to this letter as Exhibit B.

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Engagement with stakeholders in the Stanshaw Creek system has also continued since the January 14, 2016 stakeholders meeting. Those discussions include further review of the Coles' diversion with the United States Forest Service ("USFS"). The USFS's review found that changing the point of diversion for Marble Mountain Ranch is not an acceptable option. The USFS also confirmed that the current maintenance approach of clearing sediment from the diversion and using it to reinforce the berm is an effective approach for maintaining a diversion such as the Coles'.

With minor improvements discussed below, the ditch will remain the diversion method at Marble Mountain Ranch in the interim. The Coles will continue to provide details on the long term use of the diversion to the Water Boards. In addition to ongoing ditch maintenance efforts, the Coles will engage a professional to evaluate all identified erosion areas and create a plan for the Water Boards' review of proposed solutions.

The Coles remain engaged with other stakeholders to address the National Marine Fisheries Services ("NMFS") bypass flow recommendation. The Coles understand the need to provide water for all beneficial uses in the Stanshaw Creek system; however, the responsibility to provide bypass flow is shared among all of the users who divert from the system. On Thursday, March 10, 2016, the Coles received notice that NMFS revised its recommended instream flow for the Stanshaw Creek system. It is the Coles' understanding that those recommendations have been forwarded to the Water Boards.

NMFS revised recommended instream flow indicates that the Coles will be able to divert 10% of instream flow during low flow periods. The diverted water is necessary for the Coles' domestic use. In an effort to implement NMFS's recommendation this year, the Coles are seeking funding to lay a six inch pipe with a headgate directly in the ditch bed to convey consumptive use water to Marble Mountain Ranch during low flow periods.

The proposed piped system will include a temporary headgate to prevent entrainment into the pipe. Once installed, the point of diversion that feeds the interim six inch pipe will be monitored and partitioned once every two weeks during low flow periods to adjust the diversion to reflect the NMFS recommended instream flow. Upon implementation of the piped system, monitoring flows will be taken with a swiffer meter in Stanshaw Creek above and below the point of diversion, and in the diversion ditch just before the headgate. The Mid Klamath Watershed Council will measure the instream flows and share the results with stakeholders within one week of the flow measurement.

The six inch pipe and headgate will provide an interim solution while a permanent improvement can be designed and installed. Joey Howard has previously collaborated with NMFS and the California Department of Fish and Wildlife ("CDFW") to design a permanent stream gauging and bypass flow system for the Coles' diversion. He is in the process of confirming with those agencies that the initially discussed designs are still acceptable. That system will eventually

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 March 24, 2016
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replace the interim headgate and provide monitoring to implement the NMFS flow recommendation.

Joey Howard is also in the initial stages of designing the long term solution of installing a return flow system to Stanshaw Creek at or near Highway 96. That system will require piping along the highway. Therefore, the design and implementation will require California Department of Transportation ("CalTrans") approval as well as USFS approval. Since this long term solution will likely take more than a year to implement, Joey Howard is in the process of designing the short term solution of installing a culvert and other erosion control measures at the current Irving Creek outfall point.

To implement all of the long terms solutions for the Marble Mountain Ranch diversion and ditch, the Coles will develop a Restoration and Monitoring Plan ("RMP"). Will Harling, Joey Howard, and the Coles anticipate submitting the RMP to the Water Boards by April 15, 2016. It will outline both the steps the Coles will take in implementing resource improvements and the funding they anticipate applying for to implement the improvements. The proposed elements of the plan are included as an attachment to this letter as Exhibit A.

Detailed below are the major steps the Coles believe are necessary to achieve both the long term and short term solutions contained in the initial response letter dated January 19, 2016. The Coles will also submit quarterly progress reports addressing compliance actions. These progress reports will include an update on project development and permitting, a description of steps taken to develop and implement the required plans, and any unforeseen circumstances that may affect progress on meeting identified deadlines. The progress reports will continue until the RMP is fully implemented or as necessary to guide implementation of resource improvements at the diversion and ditch for Marble Mountain Ranch.

Proposed Steps and Reporting Dates for the Long Term Solutions Identified in the Coles' January 19, 2016 Letter

1. Return flow to Stanshaw Creek at or near Highway 96

Task	Reporting Date
Develop implementation plan with the input of stakeholders and permitting agencies	September 1, 2016
Secure funding for implementation	May 2016, March 2017, or as available
Submit plans for review and approval by CalTrans, CDFW, USFS, NMFS	April 2017
Bid the project	September 2017
Receive final approval from all permitting agencies	January 2018
Begin construction	March 2018
Project completion	June 2018

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Provide monitoring reports to demonstrate stability of improvements	Through January 1, 2022
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2. Line or pipe the entire diversion and install headgate with flow meter

Task	Reporting Date
Submit NFWF Coho Enhancement Fund Grant Application	May 2016
Discuss inspection report requirements for restoration and maintenance with the Water Boards	October 2016
Submit CDFW Fisheries Restoration Grant Program ("FRGP")	March 2017
Submit applications for other funding opportunities	As available
Complete approved RMP resources improvements	January 1, 2018
Submit a completion report for the RMP including an as built report	March 31, 2018
Provide monitoring reports to demonstrate stability of improvements	Through January 1, 2022

Proposed Steps and Reporting Dates for the Short Term Solutions Identified in the Coles' January 19, 2016 Letter

1. Complete diversion ditch maintenance and lay interim 6 inch pipe and headgate

Task	Reporting Date
Secure funding to lay 6 inch pipe and headgate	May 31, 2016
Lay 6 inch pipe and install headgate	July 1, 2016
Professional evaluation of ditch and grading	May 31, 2016
Propose corrective measures	July 1, 2016
Provide monitoring and flow reports	Once every two weeks during low flow periods after July 1, 2016
Maintain ditch	In progress reports

2. Install a culvert and other erosion control measure at the Irving Creek outfall point

Task	Reporting Date
Stabilize the head cut and slope at the Irving Creek outfall	April 15, 2016
Report of project completion with photographs	May 15, 2016

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 March 24, 2016
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3. Conduct audits of electric generation facility and domestic demand to identify additional potential conservation measure to implement

Task	Reporting Date
Complete update of water filtration system. Photographs of newly installed filtration system on water storage tanks are attached as Exhibit B.	February 2016
Complete the energy audit and water efficient study described in the January 19, 2016 letter	July 1, 2016
Create plans to implement any feasible recommendations from the audit and study	October 1, 2016

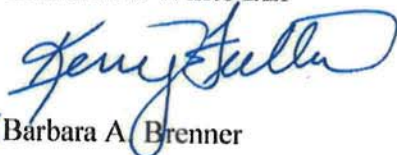
Public Drinking Water Permit Issue

The January 19, 2016 initial response letter noted that Marble Mountain Ranch's diversion serves roughly 50 people who live or are staying at Marble Mountain Ranch at any one time. While the operator of a diversion that serves that many people may often be required to secure a public drinking water permit, Marble Mountain Ranch's diversion does not meet the definition of a public water system. Marble Mountain Ranch serves up to 50 people, especially during the busy summer months, but does not serve "at least 25 individuals daily at least 60 days out of the year." (Health and Safety Code section 116275(h).) Therefore, Marble Mountain Ranch is not a public water system as defined in the Health and Safety Code.

We look forward to continuing to work with you and the Water Boards in achieving the goals outlined herein for resource improvements at Marble Mountain Ranch. Please contact me with any questions.

Regards,

Churchwell White LLP


 for Barbara A. Brenner

BAB/kaf

cc: With Attachments to All

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Mr. Petruzzelli
March 24, 2016
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Mr. Petruzzelli
March 24, 2016
Page 7

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Exhibit A

EXHIBIT A
Marble Mountain Ranch Supplemental Response
Proposed Restoration and Monitoring Plan Elements

I. Vegetative and Hydrological Restoration

The Restoration and Monitoring Plan ("RMP") will include plans for restoring the vegetative and hydrological functions of the damaged streams to ensure the long term recovery of the affected stream, and include plans for replanting the slopes and streamside areas with native vegetation to prevent erosion and sediment delivery to streams.

II. Best Management Practices

The RMP will include and apply best management practices for all current and planned work associated with construction activities affecting, or having the potential to impact, the ditch outfall, unnamed tributary and Irving Creek. The RMP will contain, at a minimum, design and construction standards, specifications, and designs for stream restoration, surface drainage controls, erosion control methods and standards for unanticipated precipitation during restoration, compaction standards, an implementation schedule, a monitoring and reporting plan, and success criteria meeting the requirements specified herein.

III. Maps and Project Design Specifications

The RMP will include map(s) and/or project designs at 1:12,000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing channels, the projected restored slopes and stream channels, illustrating all restoration plan work points, spoil disposal sites, re-vegetation planting areas, and any other factor that requires mapping or site construction details to complete the scope of work. LiDAR has been collected through a separate Mid Klamath Watershed Council ("MKWC") project and will be available to guide this analysis.

IV. Time Schedule

The RMP will include a time schedule for completing the work including receiving any necessary permits from state, county and/or federal agencies that may be required. The time schedule will adhere to regulatory deadlines prescribed by the State Water Resource Control Board ("SWRCB") or North Coast Regional Water Quality Control Board.

V. Stabilization Plan

To ensure a successful re-vegetation/earthen stabilization effort and site restoration is effective, the Discharger and partners, including MKWC and Cascade Stream Solutions ("CSS"), provided funding is secured, will monitor and report for five years. All tree and shrub plantings will have a minimum of 85% success of thriving growth at the end of five years with a minimum of two consecutive years (two growing seasons) of monitoring after the removal of irrigation. Plantings will be adequately spaced to ensure adequate vegetative cover to control surface erosion and

increase soil stability. In the event the re-planting fails, re-planting will occur and the monitoring will be extended for another five years until the 85% success rate of vegetation re-establishment is accomplished.

VI. Monitoring Plan

A monitoring plan for all site restoration and replanting will be implemented to determine the success of stream restoration efforts and revegetation. The monitoring plan will include regularly scheduled inspections, and established monitoring photo points of sufficient number to document the site recovery for five years or until the site is restored, improvements are complete, vegetation is reestablished, erosion is no longer ongoing and monitoring is no longer necessary. These photo-documentation points shall be selected to document the stability of the tributaries. The Cole's with assistance from MKWC and CSS, will prepare a site map with the photo-documentation points clearly marked. Prior to and immediately after implementing the restoration and/or improvement, photographic documentation of the pre- and post-conditions of the tributaries at the pre-selected photo-documentation points will occur. The Coles, MWKC and CSS will submit the pre-restoration photographs, the post-restoration photographs, and the map with the locations of the photo-documentation points to the SWRCB as part of the as-built report as defined below.

VII. Quarterly Reporting

The monitoring plan will include regularly scheduled quarterly inspection dates. Monitoring reports will be submitted to the SWRCB within 30 days of each inspection. Monitoring reports will summarize monitoring results; describe any corrective actions made or proposed to address any failures of the site and restoration measures (features to be assessed for performance and potential failure include, but are not limited to, erosion controls, stream bed and bank erosion, sediment discharges, work, and re-vegetation); and include narrative and photo documentation of any necessary improvements and evidence of successful restoration and site recovery for five years, or until site recovery is considered complete. At the conclusion of restoration work, when the site is stable and the monitoring program has been fulfilled, we will submit a summary report by January 1, 2022, or January 1, of the year that site remediation and replanting is determined to be stable.

Exhibit B



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August 26, 2016

VIA US Mail and Email (kenneth.petruzzelli@waterboard.ca.gov)Kenneth Petruzzelli
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Re: Cleanup and Abatement Order R1-2016-0031

Dear Mr. Petruzzelli:

Following our telephone conversation on August 5, 2016 and receipt of Cleanup and Abatement Order R1-2016-0331 ("CAO"), regarding Douglas and Heidi Cole's (the "Coles") diversion at Marble Mountain Ranch, I am providing additional information on behalf of the Coles to propose amended deadlines for the deliverables contained in the CAO. The resource improvement team for Marble Mountain Ranch, including Will Harling at the Mid Klamath Watershed Council, Joey Howard of Cascade Stream Solutions, and Rocco Fiori of Fiori Geosciences have reviewed and discussed the CAO and its deadlines at length to determine how best to comply with its requirements. Each Required Action in the CAO is discussed below, detailing the reasons the Coles may not be able to comply with the CAO's requirements or providing reasons the Coles need additional time to provide the information required under the CAO.

Before receiving the CAO, the Coles and their resource improvement team have continued to diligently pursue resource improvements at Marble Mountain Ranch. Their most recent efforts have been focused on installing a six inch pipe in the diversion ditch to comply with the National Marine Fisheries Service ("NMFS") recommended bypass flow during low flow periods. That effort remains one the Coles are committed to implementing and continue to believe is the best alternative to improve ditch stability, reduce seepage and provide adequate consumptive use supply during low flow periods.

NMFS Bypass Flow Letter Dated August 3, 2016 Complication

A complication for the Coles in complying with the CAO is the August 3, 2016 NMFS bypass flow recommendation letter that indicates the Coles are unable to divert water for non-consumptive use unless that water is returned to Stanshaw Creek, including during high flow periods. (National Marine Fisheries Service, technical assistance letter (Aug. 3, 2016) pp. 8-11 (a true and correct copy of this letter is attached).) That recommendation limits the amount of water that the Coles can allow in their diversion which in turn

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Kenneth Petruzzelli
August 26, 2016
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complicates several of the analyses required under the CAO. While further explored below, briefly, the ditch and slope evaluation required under the CAO will demand water in the diversion system in excess of the amounts that would be allowed under the NMFS bypass flow recommendation. Therefore, the Coles cannot comply with the directives from both NMFS and the North Coast Regional Water Quality Control Board unless there is a phased approach to the NMFS non-consumptive bypass flow recommendation.

Beyond the difficulty of complying with both NMFS recommended bypass flow and the North Coast Regional Water Quality Control Board's directives in the CAO, the NMFS bypass flow recommendation's requirement that the Coles return flow to Stanshaw Creek in order to divert non-consumptive water prohibits the Coles from exercising their full pre-1914 water right to divert 3 cfs for consumptive and non-consumptive use. In recent months, the Coles have foregone diverting the full extent of their 3 cfs water right during low flow periods, limiting their diversion to consumptive use only, to benefit the fisheries in Stanshaw Creek. That effort has proven successful. Continuing to reduce the Coles diversion during upcoming high flow periods imposes heavy costs on the Coles for electricity generation. These costs are in excess of \$50,000 and the environmental benefit of the 10% bypass flow recommendation is unclear.¹ The Coles request further clarification from both NMFS and the North Coast Regional Water Quality Control Board to successfully approach implementing both directives and exercising their pre-1914 water right.

CAO Compliance

The Required Actions section of the CAO contains four main action items with various subtasks outlined within each of the four main tasks and then provides for quarterly progress reports and final implementation deadlines. Before discussing the CAO's requirements individually, the Coles and their resource improvement team have some general concerns about the requirements in the CAO.

First, the level of detail and the assurances of no failure required under the CAO may be impractical on several fronts. The Coles are committed to the diversion's sustainable management, but best and prudent effort in many cases is all anyone can guarantee when factors beyond the Coles control such as large herds of elk or other large animals migrating through the area are involved.

Secondly, the Coles are small business owners with limited funds to address all of the demands under the CAO. Implementation of several of the items contained in the CAO may require new consultants and additional funding. The process of finding consultants

¹ The Coles and their resource improvement team are reviewing the studies cited in the NMFS technical assistance letter to justify the return flow requirement.

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Page 3 of 10

and securing funding can be unpredictable and slow. This may delay compliance with the CAO even with the Coles best efforts.

Finally, the CAO goes beyond the scope of the stakeholder group's discussion to date. For example, the CAO requires water quality monitoring if flow is returned to waters of the state from the Coles diversion. This further limits the Coles' ability to develop, implement, and fund improvements that would reroute any return flow to Stanshaw Creek. Funds and efforts that could be used to return flow to Stanshaw Creek must be realigned to address the water quality monitoring required under the CAO. Thus, compliance with all of the deadlines in the CAO will be difficult if not impossible.

Required Action No. 1 – Water Efficiency Study and Water Delivery System Design

The current deadline under the CAO requires submitting all information outlined under this action item on or before October 15, 2016 at 5:00 pm. A water efficiency study is a study the Coles have been engaged in and pursuing for quite some time, but the requirements under the CAO are more expansive than what has been previously discussed by all stakeholders. The CAO's addition of water quality review to the water efficiency study will complicate the focus of the study, and requires additional time and funding to include in the scope of work. A water quality analysis will require additional consultants and testing that was not previously contemplated at this juncture. Funding for such a study is not part of currently existing grants and it is not practical to seek grant funding opportunities for this type of evaluation at this time. The Coles will have to determine how to address these costs and find a consultant to do the testing required for such a study. Therefore, the Coles propose a revised deadline of **October 29, 2016** for this item.

Required Action No. 2 – Restoration and Monitoring Plan

Several subtasks contained within Required Action Item number 2 regarding a restoration and monitoring plan for the Irving Creek outlet go beyond the scope of the discussions with stakeholders to date and the level of scrutiny and detail required under the CAO may make compliance prohibitively expensive. The CAO requires an 85% success rate for replanting, but does not allow for the time required to properly evaluate the outfall point to ensure that success rate. The 85% success rate would require extensive inspections, soil testing, and it is likely that a physical process that could impact the success of revegetation could be missed even with extensive testing if conditions are not ideal for study.

Rocco Fiori previously provided a sedimentation study for the Coles diversion. (See the attached Fiori GeoSciences Technical Memorandum dated May 14, 2016.) To further evaluate sedimentation and erosion along the Coles diversion and at the Irving Creek outlet, the ditch and the Irving Creek outfall point must have more water in the system and leaf off conditions. The success of the restoration and monitoring plan depends on proper inspections and identification of any difficulties associated with slope stabilization and revegetation at Irving Creek. Specifically, the current headcut at the Irving Creek outfall

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August 26, 2016
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point may have additional seepage points below the outfall not readily observed in dry conditions. Making the evaluations of Irving Creek during leaf off, wet conditions will ensure that the proper solution for addressing any impacts to the waters of the state at the outfall point are identified.

Additionally if fill of areas of erosion at the outfall point is identified as the correct solution following study, properly identifying all points of seepage will be integral for successful resource improvement. Fill placed without identifying all points of seepage will not remain in place under wet conditions with additional seepage points. This will result in sediment being discharged to Irving Creek. To further complicate the matter, as previously discussed above, the NMFS bypass flow recommendation make it impossible for the Coles to provide fully wet conditions for study unless the NMFS bypass flow is phased in over time. Thus, creation of the restoration and monitoring plan requires conditions that are not available before Required Action Item number 2's current September 10, 2016 deadline and those conditions may never be available under the Coles current regulatory circumstances.

Beyond the physical limitations associated with the conditions required for successfully drafting and implementing a restoration and monitoring plan, the Coles face a secondary difficulty in complying with this Required Action Item. Rocco Fiori, who authored the original sedimentation study, is not available to begin the study of the Coles diversion until November of this year, which coincides with the onset of the physical conditions needed to conduct inspections of the outfall. Once Mr. Fiori can begin his inspection and study of the outfall, he will require three to four months to run tests and take soil samples on the diversion and outfall point and then draft the technical reports to comply with the CAO. Delaying the inspections is necessary to ensure high quality reports and save existing funds for resource improvement efforts. Mr. Fiori has already engaged in a preliminary evaluation of the system and is familiar with the difficulties and opportunities for resource improvement at Marble Mountain Ranch. His services will be more informed and less costly than if the Coles have to start over and find a new hydrogeologist to evaluate their diversion. His familiarity with the system means that he will provide a more thorough and expansive evaluation of the system as a whole.

Finally, the costs of such an expanded inspection and testing regime is unlikely to be funded through grant money. This leave the Coles without an avenue to comply with the CAO if they must provide testing that ensures there will be no failures of the restoration implemented at the Irving Creek outfall point. The Coles request further clarification regarding the scope of the required monitoring plan. Tentatively, based on the intent of the monitoring plan, the Coles believe a revised compliance date of **March 31, 2017** for submission of the restoration and monitoring plan will provide the Coles with the time to allow Rocco Fiori to evaluate the Irving Creek outfall point and to establish a successful restoration and monitoring plan.

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Required Action No. 3 – Ditch Evaluation and Operations and Monitoring Plan

Required Action Item number 3 requires a ditch evaluation and an operations and monitoring plan if the Coles intend on continuing to operate the diversion ditch to convey water to Marble Mountain Ranch. This requirement carries with it many of the same issues previously discussed for the Irving Creek outfall point. The continued operation of the diversion ditch and the related reports require: (1) the clarification of the requirements under the NMFS bypass flow; (2) leaf off, wet conditions to properly evaluate seepage, fill saturation, and stability; (3) additional time to allow for Mr. Fiori's proper conditions and time to do the required study and to draft the reports from the studies; and (4) additional funding as the requirements go beyond the scope of any previously discussed requirements for the study of the ditch system.

Beyond these issues, the level of evaluation for ditch stability in the CAO requires the identification and analysis of *ANY* physical process and mechanism that may be influencing sedimentation discharge or erosion along the ditch. That level of evaluation will be nearly impossible to achieve without a huge investment in just studies of the diversion. Those are resources that could be better used in addressing issues along the diversion to avoid erosion. Therefore, the Coles request clarification of the level of study required under Required Action Item number 3 before proceeding with the study. Based on a reading of the CAO's requirements that make them achievable, the Coles can provide a ditch evaluation by **March 31, 2017**.

While the Coles require additional time for the ditch evaluation, they will provide a ditch monitoring and operation plan for this coming wet season within the deadline contained in the CAO. The Coles will provide formalized protocols for ditch inspection and management to the North Coast Regional Water Quality Control Board for review in compliance with the CAO's deadline on **October 15, 2016**.

Required Action No. 4 – Slope Assessment and Water Quality Sampling

Once again, the extent of the slope assessment and water quality sampling required under Required Action Item number 4 has not been previously discussed among the stakeholders. It also carries with it a number of issues discussed previously, including: (1) requiring leaf off, wet conditions to properly evaluate sediment deposits and erosional sources; (2) additional time to allow for Mr. Fiori to do the required study and then the additional time to draft the required reports; and (3) additional funding as the requirements go beyond the scope of any previously discussed requirements for the study of the ditch system. To allow for the required time to provide the slope assessment, the Coles propose a revised deadline of **March 31, 2017** for that portion of Required Action Item number 4.

Moreover, according to Mr. Fiori, based on his previous evaluation of the Coles diversion, a slope stability study will not provide any additional information for implementing resource improvements at Marble Mountain Ranch. Mr. Fiori's technical memorandum

Kenneth Petruzzelli
August 26, 2016
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dated May 14, 2016 indicates laying a six inch pipe in the diversion ditch is the optimal approach to avoiding any release of sediment to the waters of the state from the Coles diversion during low flow periods.² Any additional slope stability study will find that the optimal solution for addressing the diversion of greater rates of flow will be to lay pipe in the ditch to carry that flow. Thus, a sedimentation study will not provide additional information to address any impacts to waters of the state and will delay implementation of the solution to the issue.

The water quality sampling element of Required Action Item number 4 we interpret to be required only if the Coles are discharging water from the diversion after use at Marble Mountain Ranch. Therefore, this requirement is dependent on the clarification regarding the NMFS bypass flow recommendation letter. Provided the Coles are able to divert and discharge water over the next few wet seasons, water quality sampling will require that the Coles hire additional consultants to test the water and implement systems for the chain of custody of the samples. Further, finding funding for the water quality monitoring is unlikely. Therefore, the Coles will have to divert resources to this monitoring effort as well. Please confirm that the water quality sampling is only required during high flow periods when there is return flow to waters of the state. Based on this interpretation, the Coles request until **December 1, 2016** to develop the monitoring plan once it is clear that they will be allowed to discharge return flow in the high flow season.

Required Action Item No. 5 – Quarterly Progress Reports

The Coles will provide quarterly progress reports beginning on **October 1, 2016**. These progress reports will comply with the requirements under the CAO to provide an “update on project development and permitting, a description of steps taken to develop and implement the required plans, and any unforeseen circumstances that may affect the progress on meeting the deadlines and requirements of [the CAO].” Please confirm that the CAO does not require that these reports be submitted by “an appropriately qualified and experienced California-licensed professional.” In order to focus the funds available on the resource improvement efforts, the current plan is to have Doug Cole with some assistance from his resource team submit these reports.

Required Action Items No. 6 and 7 – Complete all Restoration and Mitigation Measures and Submit Completion Report

The Coles will endeavor to meet the October 15, 2018 and December 15, 2018 deadlines for the completion of the restoration and mitigation measure implementation and related completion report. However, based on the currently needed additional time for the initial

² Mr. Fiori’s technical memorandum has been submitted to North Coast Regional Water Quality Board staff and all stakeholders in the Marble Mountain Ranch discussion along with a number of other documents regarding the proposed six inch pipe project. The Coles and their resource improvement team have not received any feedback regarding Mr. Fiori’s study or its findings.

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 August 26, 2016
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reports, the Coles may have difficulty meeting these targets. Once Rocco Fiori has completed all the required studies and reports, the Coles will be able to provide a revised deadline for these final two items.

Summary of Deadlines and Funding

To streamline the discussion of proposed deadlines among all stakeholders, the table below summarizes the items required under the CAO, the current deadlines for those items, the deadlines proposed in this letter for those items, and the funding status of each of those items.

CAO Required Action Item Number	Deliverable	CAO Deadline	Proposed Deadline	Funding Status
1.	Water Efficiency Study	October 15, 2016	October 29, 2016	Currently grant funded without the water quality study. Water quality study will require the Coles personally fund the effort.
2.	Restoration and Monitoring Plan	September 10, 2016	March 31, 2017	Funded on a much smaller scope. The 85% revegetation success rate and required study will require additional grant funding.
2.	Final Restoration and Monitoring Report	January 1, 2021	Pending Rocco Fiori studies	CAO requirements are beyond the scope of current funding.
3.	Ditch Monitoring and Operations Plan	October 15, 2016	October 15, 2016	Scope of monitoring plan is currently beyond funding.

Kenneth Petruzzelli
 August 26, 2016
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3.	Ditch Evaluation	October 15, 2016	March 31, 2017	Funded on a much smaller scale. Level of assurance of ditch operation beyond the scope of current funding.
4.	Slope Assessment	September 10, 2016	March 31, 2017	Funded on a much smaller scale. Level of assurance of ditch operation beyond the scope of current funding.
4.	Water Quality Assessment Plan	September 10, 2016	December 1, 2016	Not funded.
5.	Progress Reports	October 1, 2016 and ongoing quarterly	October 1, 2016 and ongoing quarterly	Not funded.
6.	Restoration and Monitoring Measures Completed	October 15, 2018	Pending study completion	Not funded at level of CAO's requirements.
7.	Restoration and Monitoring Measures Completion Report	December 15, 2018	Pending study completion	Not funded at level of CAO's requirements.

Kenneth Petruzzelli
August 26, 2016
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Please contact me at your earliest convenience to discuss the deadlines and other matters contained herein. Submittal of this request for additional time does not waive the Coles right to appeal the CAO within "30 days after the date of [the CAO]".

Regards,

Churchwell White LLP


for
Barbara A. Brenner
BAB/kaf

cc: Douglas and Heidi Cole
92520 Highway 96
Somes Bar, CA 95568
guestranch@marblemountainranch.com

Klamath National Forest
Ukonom Ranger District
c/o Mr. Jon Grunbaum
P.O. Drawer 410
Orleans, CA 95556

State Water Resources Control Board
Taro Murano
1001 I Street
Sacramento, CA 95814

North Coast Regional Water Quality Board
Diana Henriouille
5550 Skylane Blvd. Ste. A
Santa Rosa, CA 95403-1072

Stormer Feiler
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Kenneth Petruzzelli
August 26, 2016
Page 10 of 10

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TECHNICAL MEMORANDUM**Sediment Delivery Potential from Failures on the Stanshaw Creek Diversion Ditch**

Prepared for: Will Harling, Mid-Klamath Watershed Council and Douglas and Heidi Cole, Marble Mountain Ranch.

Prepared by: Rocco Fiori, Engineering Geologist, PG8066.

May 14, 2016

1.0 Introduction

This memorandum provides my preliminary findings of a survey to assess the sediment delivery potential from failures on the Stanshaw Creek diversion ditch. The Marble Mountain Ranch has a patented water right to divert water from Stanshaw Creek for consumptive and non-consumptive uses. The North Coast Regional Water Quality Control Board (NCRWQCB) and National Marine Fisheries Service (NMFS) are concerned operation of the diversion ditch constitutes a threat to downstream beneficial uses including water quality, and fish and wildlife habitat. This assessment was conducted at the request of Douglas and Heidi Cole, owners of the Marbled Mountain Ranch, and Will Harling, Director of the Mid-Klamath Watershed Council (MKWC).

2.0 Approach

The purpose of the survey was to assess the relative potential for ditch failures to deliver sediment to Stanshaw Creek and other waters of the State of California. The assessment was comprised of the following activities:

1. Review of a recent ditch inspection report prepared by NCRWCB staff (Feiler 2015).
2. Rapid field reconnaissance of the site on April 20, 2016, with Douglas Cole, Will Harling, and Joey Howard (Cascade Stream Solutions).
3. Desktop analysis, including qualitative assessment of site conditions using a 1-meter resolution LiDAR DEM, Digital Ortho-Photographs, and the Regional Geologic Map (Wagner and Saucedo 1987) with ArcGIS.

3.0 Findings**3.1 Ditch Failure Modes**

I observed many of the erosion points described in the NCRWCB ditch inspection report and concur with the general characterization of the types of failure modes operating along at the ditch line by Feiler (2015). Based on my observations it appears the failure modes and frequency of occurrence can be ranked in the following order, (with type 1 modes having the greatest likelihood of occurring):

1. Water seepage through the outboard embankment fill material. This failure mode has two likely outcomes: a) slow slump failure of the fill with the potential for ditch flow to overtop the embankment and discharge downslope; or b) rapid slump failure of the fill, leading to the near instantaneous discharge of ditch flow downslope. Type 1b failures are most likely to lead to onsite erosion and possibly contribute to offsite sedimentation.
2. Cutbank failure. The outcome of this failure mode depends on the volume of the failed material. For a) small cutbank failures, the failed material will likely displace some of the ditch flow onto the outboard edge of the embankment and not lead to any onsite erosion; or for b)

larger cutbank failures, the failed material can cause the ditch flow to overtop the embankment. Type 2b failures are the most likely to lead to onsite erosion and possibly contribute to offsite sedimentation.

3. Tree Windthrow. Windthrow from the cutbank or embankment fillslope can lead to either a) slow, or b) rapid failure of the embankment fill, or c) slow and d) rapid displacement of ditch flow on to or over the embankment fill. The magnitude of onsite erosion and possibility of offsite sedimentation is dependant on the size of the tree and duration of uncontrolled ditch flow through the failure.

3.2 Sediment Delivery Potential

Based on my preliminary field observations and desktop analysis it appears the first 1100 feet (starting at the Point of Diversion) of the ditch has the greatest potential to deliver sediment to Stanshaw Creek in the event of a ditch failure. This is primarily because the ditch is located directly above the stream channel, and secondarily because the ditch is partially within the fluvial corridor of Stanshaw Creek (Figure 1). The remaining sections of the ditch have a low to moderate sediment delivery potential (Figure 1 and Table 1). The lower delivery ratings are due to the capacity of large topographic benches and dense vegetation to intercept and store a majority of sediment before it can be delivered to the receiving waters of the State (Figure 1).

Table 1. Relative sediment delivery potential of the Stanshaw Creek Diversion Ditch.

Distance from POD (feet)	Relative Sediment Delivery Potential	Percent of Ditch Length	Receiving Waters	Rationale
0 to 1100	High	24	Stanshaw Creek	Ditch is directly above stream
1100 to 2100	Low	22	Stanshaw Creek	Topographic bench likely to store most sediment and attenuate turbid runoff
2100 to 2800	Moderate	15	Stanshaw Creek	Reduced effect of the topographic bench to store most sediment and attenuate turbid runoff.
2800 to 4600	Low to Moderate	39	Klamath River	Topographic bench likely to store most sediment and attenuate turbid runoff

3.3 Other Sediment Sources

There is approximately 6,400 feet of streambank (2 X 3,200 ft.) on Stanshaw Creek between the Point of Diversion and the Highway 96 Culvert (Figure 1). A preliminary slope stability analysis indicates these slopes are marginally to highly un-stable. Wagner and Saucedo (1987) mapped the landform in this area as Qls (Quaternary Landslide), which also indicates a higher potential for slope instability. Slope failures along the lower reach of Stanshaw Creek are likely a greater source of sediment delivery compared to the features along the ditch described by Feiler (2015), and could create background sedimentation and turbidity levels that would likely overprint inputs emanating from a ditch related failure.

3.4 Recommendations

1. During the field review, Mr. Cole described that his inspection and maintenance efforts target repairs to seepage and other minor failure problems before they evolve into larger or catastrophic failures. Similar inspection and maintenance efforts are recommended moving forward.
2. The use of a pipeline would avoid or minimize the likelihood of sediment delivery related to conveyance of the Cole's water right from the Point of Diversion to the points of consumptive and non-consumptive use.
3. If a pipeline is the selected alternative, consider retaining the existing ditch alignment as an inspection and maintenance travel way. Mild outsloping and appropriately spaced rolling dips along the travel way could be used to effectively improve the stability and drainage of the travel way, and to provide a route for rapid response in the event of a pipeline failure.
4. Slope stability analysis could be used to identify potential areas of concern and develop mitigation strategies.
5. A sediment budget could be used to obtain an accurate assessment of sediment contributions from past ditch failures and other sources.

References

Wagner, D.L., and G.J. Saucedo. 1987. Geologic Map of the Weed Quadrangle, California, 1:250,000. State of California, Department of Conservation. Regional Geologic Map Series. Weed Quadrangle – Map No, 4A (Geology), Sheet 1 of 4.

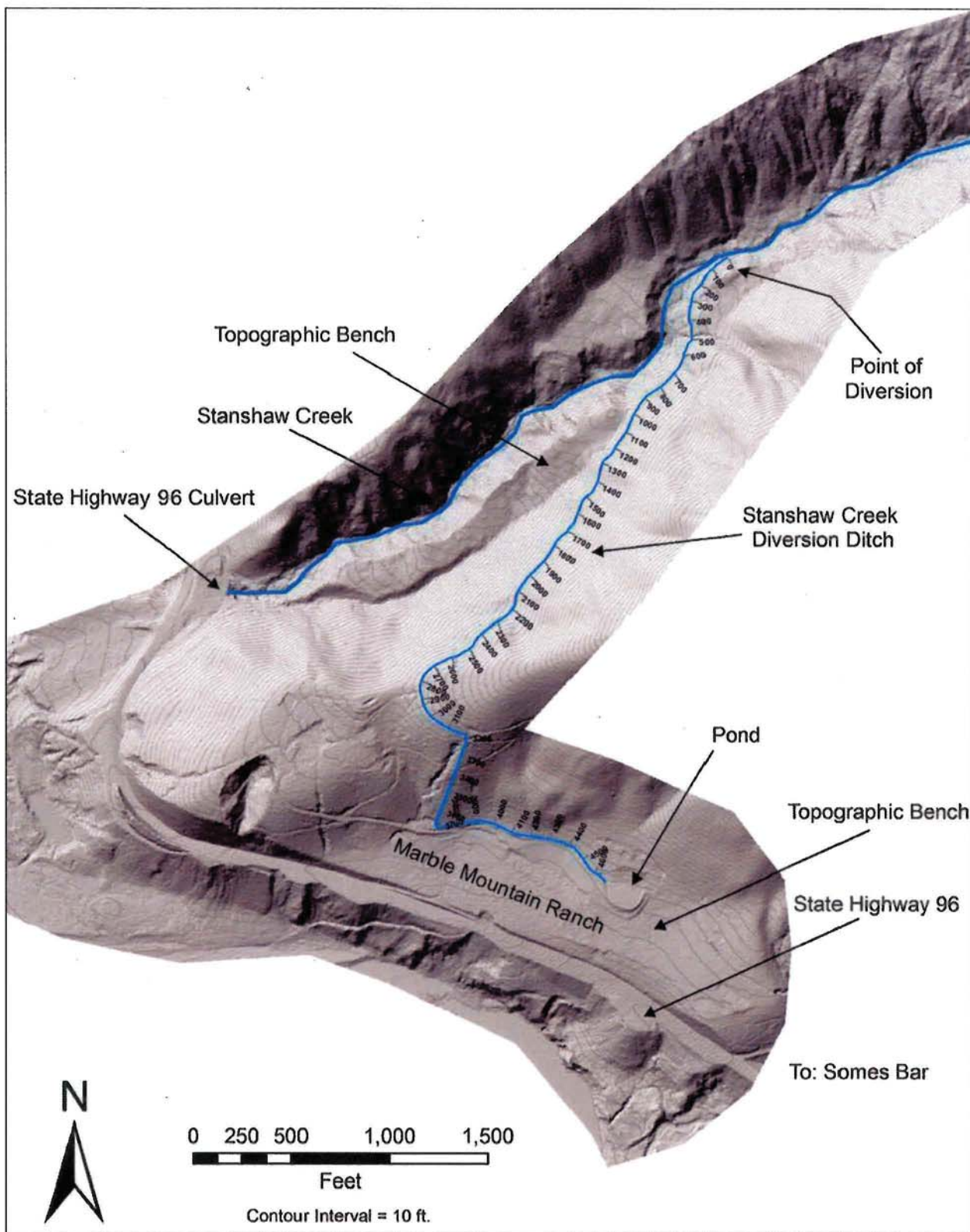


Figure 1. Project Location Map. Marble Mountain Ranch and the Stanshaw Creek Diversion Ditch. Base image is a 2010 1-meter LiDAR DEM Hillshade, provided by the Mid-Klamath Watershed Council.

{CW025827.1} Fiori GeoSciences PO Box 387 Klamath, California 95548.

Landline: 707 482 1029, Mobile and text: 707 496 0762, email: rocco@fiorigeosci.com

North Coast Regional Water Quality Control Board

October 18, 2016

Douglas Cole et. al.
100 Tomorrow Rd.
Somes Bar, CA. 95569

Dear Douglas and Heidi Cole:

Subject: **Notice of Violation** of 13267/Cleanup and Abatement Order No. R1-2016-0031 (CAO)

File: Douglas and Heidi Cole, Marble Mountain Ranch, 92520 Highway 96, Somes Bar; Siskiyou County APN 026-290-200 Klamath River Watershed, WDID No. 1A15024NSI

The purpose of this letter is to notify you that you are in violation of the above-referenced CAO.

On August 4, 2016, the Regional Board Executive Officer issued the subject 13267 Cleanup and Abatement Order (Order) requiring development of scientific reports and assessments, mitigation and restoration designs, and implementation of the restoration and mitigation after approval by the Executive Officer. As of September 10, 2016, you are in violation of the following directives in the Order:

Directive No. 2 - Retain an appropriately licensed and experienced California- licensed professional to evaluate, assess, and develop a Restoration and Monitoring Plan (RMP) to restore and stabilize the head cut and slope at the outlet of the Stanshaw Creek diversion to the unnamed tributary of Irving Creek. Submit the plan by **September 10, 2016** to the Executive Officer for review and approval.

This assessment is necessary and timely due to the extensive erosion at the outfall of the ditch as it enters the unnamed tributary to Irving Creek. It is likely that during the winter period this ditch will again carry flows to this location through interception of rainfall, snowmelt and ground water, which may result in additional erosion of the head cut.

Directive No. 4a - Regardless of the ultimate water delivery system, the following additional measures shall be taken by **September 10, 2016** to protect water quality: Assess slopes

between the upper ditch and Stanshaw Creek and the streambed of Stanshaw Creek and Irving Creek and the unnamed tributary to Irving Creek for stored sediment deposits and erosional sources associated with the past and current failures of the ditch. Identify all erosional issues and those that should be corrected, propose corrective measures and provide a schedule for implementing corrective measures.

The Discharger contends the proposed long-term fix of piping water through the ditch results in no discharge of pollutants from the ditch and hence there is now no reason to evaluate the ditch. However, we, the Regional Water Board, contend preferential erosion pathways and/or areas requiring restoration in streams due to past ditch failures and/or ditch diversion points exist as active erosional sources and issues that require inventory, mitigation design for restoration, and corrective action implementation upon inventory and design approval by the Executive Officer. Although the long-term corrective action of piping water through the existing ditch may alleviate some or most of the failures and threatened discharges if the ditch is decommissioned as a surface feature and cut bank slopes are laid back to a stable angle; we do not have such a design to evaluate for a long-term corrective action that would allow us to ensure all required mitigations are accomplished. The designs are incomplete in terms of addressing the issues identified above in directive 4.a.

In conclusion, the ditch, if not treated appropriately, still retains the capacity to flow by capturing rainfall and intercepting groundwater during the wet season. Even if flows in the ditch are lower, these flows may continue to exacerbate existing conditions. The Order's September 10, 2016 deadline for Directive 4.a., allowed the Regional Water Board time to review any information submitted and approve any immediate restoration or erosion control work necessary to prevent, minimize and mitigate for discharges that are likely to occur this winter period. A failure to comply with this directive likely results in continued erosion throughout this 2016/2017 winter period.

Directive 4b – Ensure that water used onsite, conveyed in the ditch and discharged does not adversely impact waters of the state. Develop a sampling plan to assess the quality of water in the ditch as it passes through the ranch property for potential sources of fecal coliform, total coliform, total petroleum hydrocarbons, temperature, and nutrients. The sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface waters from the ditch or pond. Submit the Sampling Plan for approval by the Executive Officer by **September 10, 2016**. Upon approval, implement the sampling plan and provide results of the sampling by **November 1, 2016**. In the event that sampling identifies inputs of constituents of concern, then develop a plan to remedy the discharges and submit the plan by **December 1, 2016** to the Executive Officer for review and approval.

Directive 4.b. has been met with the Sampling Plan received via email on September 9, 2016. Although the plan does not address our original concern regarding potential pollutants from the ranch entering the ditch and downstream receiving waters during high

flows and summer low flow periods, we are accepting it as proposed due to the current limited use of the ditch. In the event the ditch is used throughout the season again, we will likely request a revised sampling schedule.

As a reminder, the Order directives lay out time frames for reporting on aspects of the ditch operation, use, and maintenance that should guide the process of developing a solution that meets all requirements. The delayed submittal of your restoration and monitoring plan required by Directive No. 2 delays your ability to apply for any required permits and may prevent you from completing the required scope of work within the CAO-directed timeframe.

In accord with Directive No. 5, Progress reports are due quarterly starting on October 1, 2016. A prompt return to compliance regarding required directive deliverables and maintaining compliance with other directive deadlines and requirements will likely abrogate the need to address the violations identified herein through progressive enforcement.

Ongoing and additional violations of Order directives subject you to penalties of \$5,000 per day under section 13350 for each day of violation, and in the event of discharges, you may be fined up to \$10,000 per day and \$10 per gallon for each day of discharge under section 13385 of the California Water Code.

We received your letter requesting Order deadline extensions via email on the evening of August 26, 2016. We are willing to consider reasonable extensions to Order directives and amend the Order in the event the Cole family dismisses the petition submitted to the State Water Resources Control Board.

If you have any questions, please contact Stormer Feiler of my staff by email at Stormer.Feiler@waterboards.ca.gov, or by phone at (707) 543-7128, or his supervisor, Diana Henriouille, by email at Diana.Henriouille@waterboards.ca.gov, or by phone at (707) 576-2350.

Sincerely,

Shin-Roei Lee
Assistant Executive Officer

161018_SRF_Marble_Mountain_Ranch_Notice_of_Violation

Certified-Return Receipt Requested

cc by email:

Barbara Brenner
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California Sportfishing Protection Alliance
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Klamath National Forest
Ukonom Ranger District
c/o Mr. Jon Grunbaum
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cc list: electronic copies continued next page.

cc: *(via email only)*

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Barbara A. Brenner
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September 30, 2016

VIA U.S. Mail and Email

John O'Hagan (John.O'Hagan@waterboards.ca.gov)
Taro Murano (Taro.Murano@waterboards.ca.gov)
Kenneth Petruzzelli (Kenneth.Petruzzelli@waterboards.ca.gov)
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

NCRWQCB

OCT - 5 2016

<input type="checkbox"/> EO	<input type="checkbox"/> W/gmt	<input type="checkbox"/> Admin
<input type="checkbox"/> AEO	<input type="checkbox"/> Timber	<input type="checkbox"/> Legal
<input type="checkbox"/> Reg/NPS	<input type="checkbox"/> Groups	<input type="checkbox"/> Date

Shin-Roei Lee (Shin-Roei.Lee@waterboards.ca.gov)
Stormer Feiler (Stormer.Feiler@waterboards.ca.gov)
North Coast Regional Water Quality Control Board
5550 Skylane Blvd.
Suite A
Santa Rosa, CA 95403

Re: October 1, 2016 Progress Report for Marble Mountain Ranch required under
Cleanup and Abatement Order R1-2016-0031 and Draft Order WR 2017-00XX-
DWR, issued on August 30, 2016

Dear Messrs. O'Hagan, Murano, Petruzzelli, and Feiler and Ms. Lee:

Douglas and Heidi Cole, (the "Coles") own and operate Marble Mountain Ranch in Siskiyou County. They have received both the North Coast Regional Water Quality Control Board's ("Regional Water Board") Cleanup and Abatement Order R1-2016-0031 ("CAO") and the State Water Resources Control Board's ("State Water Board") Draft Order WR 2017-00XX-DWR ("Draft Order"). The Coles have responded to the CAO and will be responding to the Draft Order (collectively, the "Orders") in detail by October 7, 2016. The Coles have also appealed the Regional Water Board's CAO to the State Water Board. While the State Water Board and the Regional Water Board review the Coles responses to the Orders, the Coles continue to make efforts to comply. In furtherance of those efforts, the Coles provide the following status update on their progress to implement resource improvements at Marble Mountain Ranch, as required under the Orders.

Historical Background

The Coles have been engaged with stakeholders, including the State Water Board and the Regional Water Board for over 20 years relevant to their diversion at Marble

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Mountain Ranch. The resource improvements that are the focus of the Orders were identified and agreed upon by all stakeholders in the Stanshaw Creek system early on in this process. Throughout these 20 or more years, the Coles have continued to cooperate and seek a collaborative approach to improving the diversion at Marble Mountain Ranch.

However, resource improvement efforts were sidetracked for most of these 20 plus years while the Coles and the State Water Board were reviewing the Coles now established pre-1914 3 cfs water right. Following the determination of the Coles water right, the Coles turned their attention to seeking grant funding to implement the previously identified resource improvements. The grant funding process has proven slow and arduous. They have secured one grant to study the best approach to potential improvements to their diversion and water system, but no additional grant funding to implement those improvements. Despite this lack of funding, the Coles have begun taking steps to improve both their diversion and the Stanshaw Creek system generally. Those activities are discussed below.

Low Flow Periods

The Coles have forgone diverting their full pre-1914 right to divert 3 cfs of water during low flow periods in Stanshaw Creek to benefit fishery resources in that creek system. As a consequence of this effort, the Coles have experienced water shortages during their busy summer tourist season. Evidence of this shortage can be seen in the Coles recreational and storage pond at Marble Mountain Ranch. The level of the pond has been decreased to levels lower than normal during dry periods. This in turn has increased the presence of algae in and decreased the uses of the pond, which negatively impacts Marble Mountain Ranch's guest experience, the focus of the Coles business as dude ranch owners. Pictures of the pond are attached to this progress report as **Exhibit A**.

In addition to water shortages, the reduced amount of water diverted during low flow periods has significantly increased operational costs at Marble Mountain Ranch. The reduction in the amount of water diverted means that the Coles are unable to operate their hydroelectric facilities. Instead, the Coles must use their diesel generator to provide electricity for refrigeration, lights, and related electrical needs of the guests and residents at Marble Mountain Ranch. The Coles have sought solutions to address this issue by engaging alternative energy experts. To date, those experts have determined that it is impractical to either expand the conventional electricity grid to Marble Mountain Ranch or to rely on alternative sources, such as solar or wind. Hydroelectric power generation remains the most efficient source of power.

Impacts to Waters of the State

The reduced diversion amount during low flow periods mean that the Coles are only diverting water for consumptive use at Marble Mountain Ranch and are not operating their hydroelectric generation facility. Consequently, they are not discharging water to waters of the state at this time and they are electing to forgo exercising their full water right to benefit public trust interests. This election to decrease their diversion is not an election to abandon any portion of the Coles vested pre-1914 water right to divert 3 cfs year round.

The Coles have submitted a report from Rocco Fiori demonstrating that sedimentation impacts to waters of the state from the Coles diversion are not significant threats requiring further study and investigation at this time. That report is attached to this progress report as **Exhibit B**. Thus, any impacts to waters of the state or fishery resources during low flow periods have been addressed through the Coles recent management of the diversion.

Once high flows commence on Stanshaw Creek, the Coles could increase the flow of water into their diversion up to their full pre-1914 3 cfs right. Upon such increase, the Coles will implement a more intensive ditch management plan than the one currently in place. This plan will include regular ditch inspections and steps for diversion management during storm activity. The Coles will be submitting their ditch management plan to the Regional Water Board for their review and approval, as required under the CAO. These efforts will ensure that there are no impacts to waters of the state from the Coles diversion.

Implemented Improvements

The Coles have begun a number of projects at Marble Mountain Ranch to further improve their conveyance. Each of these projects and their status is discussed below.

1. Drinking water filtration and storage

The Coles have installed new water storage tanks and continue to manage their water filtration system to provide Marble Mountain Ranch's residents and guests with potable water more efficiently. They have also increased the number of storage tanks which significantly increases storage capacity. This improvement alone has cost the Coles over \$60,000. The system involves a staged filtration process with several tanks to treat and hold consumptively used water at Marble Mountain Ranch. The water is then conveyed to the residences and guest quarters for use. Marble Mountain Ranch's water quality is monitored by the Siskiyou County Public Health Department, with quarterly bacteriological sampling and annual inspections. Pictures of the new storage tanks are attached as **Exhibit C**.

2. Piping of the diversion for consumptive use water

The Coles have submitted plans and permit applications to all permitting agencies to install a six inch pipe in their diversion ditch to convey consumptive use water to Marble Mountain Ranch. Those plans and permit applications have been previously submitted to both the State Water Board and the Regional Water Board during stakeholder discussions. Permit applications were submitted at the behest of State Board staff which delayed the Coles ability to install the pipe and obtain funding for the project.

Each of the permitting agencies have determined that the proposed project does not require permitting under their authority. The United States Army Corps of Engineers confirmed that the project is exempt from 404 jurisdiction. The Coles also submitted a 401 permit application to the Regional Water Board. However, based on the United State Army Corps of Engineer's determination, the project is also exempt under the Regional Water Board's 401 jurisdiction. Finally, the California Department of Fish and Wildlife confirmed that a 1602 permit is not required. All of the work to install the six inch pipe will occur within the diversion ditch.

While the Coles have confirmed that no regulatory approvals are required for this project, they are faced with an additional barrier before they can actually install the pipe. The Coles require funding. They are small business owners that support themselves through the income to Marble Mountain Ranch. This income does not provide them with enough funds to independently implement any large scale resource improvements at Marble Mountain Ranch such as installing the six inch pipe in the diversion ditch. The Coles have sought funding for the six inch pipe installation, but have learned that the grant funding decisions will not be made until October 19, 2016. If the Coles receive funding through that grant, they will move forward with the plan to install the six inch pipe at that time, weather permitting.

3. Water Quality Monitoring Plan

The CAO required that if the Coles discharge water from their diversion into waters of the state, they must submit a water quality monitoring plan to the Regional Water Board by September 10, 2016. The Coles complied with this directive, despite their appeal of the CAO, and submitted a water quality monitoring plan to Shin-Roei Lee and Stormer Feiler of the Regional Water Board on September 9, 2016 via email and U.S. mail. A copy of the water quality monitoring plan is attached to this progress report as **Exhibit D**.

4. Retain Additional Consultants

As indicated above, the Coles have been engaged in over 20 years of effort to reach consensus amongst a large number of stakeholders relevant to what resource

Marble Mountain Ranch Quarterly Progress Report
September 30, 2016
Page 5 of 5

improvements those stakeholders would like to see implemented. Because much of that time was spent contesting the Coles pre-1914 water right, not much progress has been made on the resource improvements that the Coles thought the stakeholders had agreed upon, including the State and Regional Water Boards. The CAO and Draft Order require a number of tasks that were not discussed or raised during the stakeholder collaboration process. As a result, the current consultant team does not have the requisite expertise to address all of the requested directives. In an effort to address the varied tasks, the Coles have reached out to other consultants and have, or are in the process of, engaging other consultants as necessary and as funds allow.

If you have any questions regarding this progress report, please contact me at barbara@churchwellwhite.com or (916) 468-0625.

Regards,

Churchwell White LLP

for: 
Barbara A. Brenner
KAF

Enc: **Exhibit A:** September 21, 2016 Photos of Marble Mountain Ranch Pond
Exhibit B: Fiori Geosciences Technical Memorandum
Exhibit C: September 21, 2016 Photos of Marble Mountain Ranch Water Storage Tanks
Exhibit D: Water Quality Monitoring Plan

Exhibit A: September 21, 2016 Photos of Marble Mountain Ranch Pond







Exhibit B: Fiori Geosciences Technical Memorandum

TECHNICAL MEMORANDUM**Sediment Delivery Potential from Failures on the Stanshaw Creek Diversion Ditch**

Prepared for: Will Harling, Mid-Klamath Watershed Council and Douglas and Heidi Cole, Marble Mountain Ranch.

Prepared by: Rocco Fiori, Engineering Geologist, PG8066.

May 14, 2016

1.0 Introduction

This memorandum provides my preliminary findings of a survey to assess the sediment delivery potential from failures on the Stanshaw Creek diversion ditch. The Marble Mountain Ranch has a patented water right to divert water from Stanshaw Creek for consumptive and non-consumptive uses. The North Coast Regional Water Quality Control Board (NCRWQCB) and National Marine Fisheries Service (NMFS) are concerned operation of the diversion ditch constitutes a threat to downstream beneficial uses including water quality, and fish and wildlife habitat. This assessment was conducted at the request of Douglas and Heidi Cole, owners of the Marbled Mountain Ranch, and Will Harling, Director of the Mid-Klamath Watershed Council (MKWC).

2.0 Approach

The purpose of the survey was to assess the relative potential for ditch failures to deliver sediment to Stanshaw Creek and other waters of the State of California. The assessment was comprised of the following activities:

1. Review of a recent ditch inspection report prepared by NCRWCB staff (Feiler 2015).
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3. Desktop analysis, including qualitative assessment of site conditions using a 1-meter resolution LiDAR DEM, Digital Ortho-Photographs, and the Regional Geologic Map (Wagner and Saucedo 1987) with ArcGIS.

3.0 Findings**3.1 Ditch Failure Modes**

I observed many of the erosion points described in the NCRWCB ditch inspection report and concur with the general characterization of the types of failure modes operating along at the ditch line by Feiler (2015). Based on my observations it appears the failure modes and frequency of occurrence can be ranked in the following order, (with type 1 modes having the greatest likelihood of occurring):

1. Water seepage through the outboard embankment fill material. This failure mode has two likely outcomes: a) slow slump failure of the fill with the potential for ditch flow to overtop the embankment and discharge downslope; or b) rapid slump failure of the fill, leading to the near instantaneous discharge of ditch flow downslope. Type 1b failures are most likely to lead to onsite erosion and possibly contribute to offsite sedimentation.
2. Cutbank failure. The outcome of this failure mode depends on the volume of the failed material. For a) small cutbank failures, the failed material will likely displace some of the ditch flow onto the outboard edge of the embankment and not lead to any onsite erosion; or for b)

larger cutbank failures, the failed material can cause the ditch flow to overtop the embankment. Type 2b failures are the most likely to lead to onsite erosion and possibly contribute to offsite sedimentation.

3. Tree Windthrow. Windthrow from the cutbank or embankment fillslope can lead to either a) slow, or b) rapid failure of the embankment fill, or c) slow and d) rapid displacement of ditch flow on to or over the embankment fill. The magnitude of onsite erosion and possibility of offsite sedimentation is dependant on the size of the tree and duration of uncontrolled ditch flow through the failure.

3.2 Sediment Delivery Potential

Based on my preliminary field observations and desktop analysis it appears the first 1100 feet (starting at the Point of Diversion) of the ditch has the greatest potential to deliver sediment to Stanshaw Creek in the event of a ditch failure. This is primarily because the ditch is located directly above the stream channel, and secondarily because the ditch is partially within the fluvial corridor of Stanshaw Creek (Figure 1). The remaining sections of the ditch have a low to moderate sediment delivery potential (Figure 1 and Table 1). The lower delivery ratings are due to the capacity of large topographic benches and dense vegetation to intercept and store a majority of sediment before it can be delivered to the receiving waters of the State (Figure 1).

Table 1. Relative sediment delivery potential of the Stanshaw Creek Diversion Ditch.

Distance from POD (feet)	Relative Sediment Delivery Potential	Percent of Ditch Length	Receiving Waters	Rationale
0 to 1100	High	24	Stanshaw Creek	Ditch is directly above stream
1100 to 2100	Low	22	Stanshaw Creek	Topographic bench likely to store most sediment and attenuate turbid runoff
2100 to 2800	Moderate	15	Stanshaw Creek	Reduced effect of the topographic bench to store most sediment and attenuate turbid runoff.
2800 to 4600	Low to Moderate	39	Klamath River	Topographic bench likely to store most sediment and attenuate turbid runoff

3.3 Other Sediment Sources

There is approximately 6,400 feet of streambank (2 X 3,200 ft.) on Stanshaw Creek between the Point of Diversion and the Highway 96 Culvert (Figure 1). A preliminary slope stability analysis indicates these slopes are marginally to highly un-stable. Wagner and Saucedo (1987) mapped the landform in this area as Qls (Quaternary Landslide), which also indicates a higher potential for slope instability. Slope failures along the lower reach of Stanshaw Creek are likely a greater source of sediment delivery compared to the features along the ditch described by Feiler (2015), and could create background sedimentation and turbidity levels that would likely overprint inputs emanating from a ditch related failure.

3.4 Recommendations

1. During the field review, Mr. Cole described that his inspection and maintenance efforts target repairs to seepage and other minor failure problems before they evolve into larger or catastrophic failures. Similar inspection and maintenance efforts are recommended moving forward.
2. The use of a pipeline would avoid or minimize the likelihood of sediment delivery related to conveyance of the Cole's water right from the Point of Diversion to the points of consumptive and non-consumptive use.
3. If a pipeline is the selected alternative, consider retaining the existing ditch alignment as an inspection and maintenance travel way. Mild out-sloping and appropriately spaced rolling dips along the travel way could be used to effectively improve the stability and drainage of the travel way, and to provide a route for rapid response in the event of a pipeline failure.
4. Slope stability analysis could be used to identify potential areas of concern and develop mitigation strategies.
5. A sediment budget could be used to obtain an accurate assessment of sediment contributions from past ditch failures and other sources.

References

Wagner, D.L., and G.J. Saucedo. 1987. Geologic Map of the Weed Quadrangle, California, 1:250,000. State of California, Department of Conservation. Regional Geologic Map Series. Weed Quadrangle – Map No, 4A (Geology), Sheet 1 of 4.

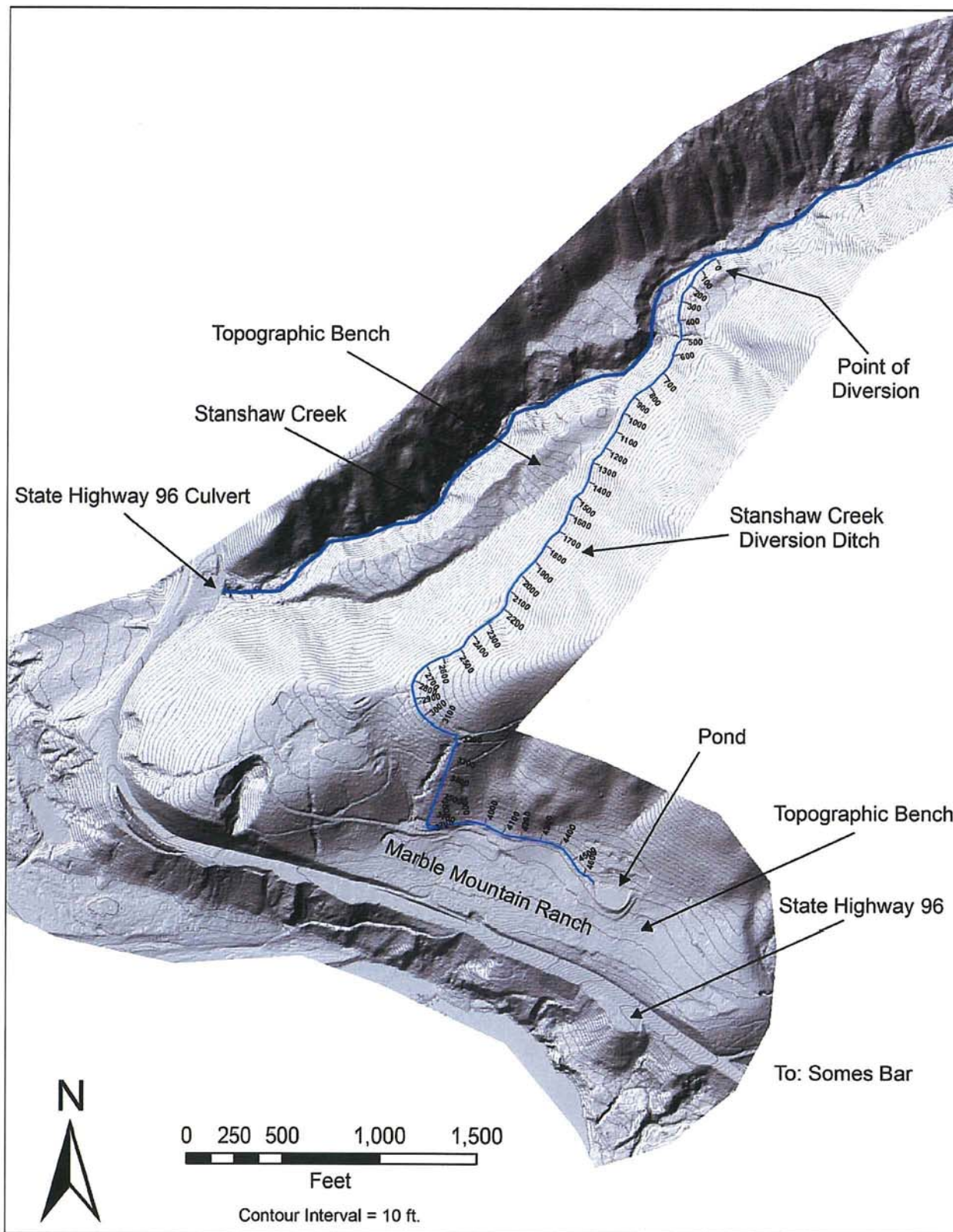


Figure 1. Project Location Map. Marble Mountain Ranch and the Stanshaw Creek Diversion Ditch. Base image is a 2010 1-meter LiDAR DEM Hillshade, provided by the Mid-Klamath Watershed Council.

Exhibit C: September 21, 2016 Photos of Marble Mountain Ranch Water Storage Tanks









Exhibit D: Water Quality Monitoring Plan

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September 9, 2016

VIA US Mail and Email (Shin-Roei.Lee@waterboards.ca.gov)Shin-Roei Lee
North Coast Regional Water Quality Control Board
5550 Skylane Blvd.
Suite A
Santa Rosa, CA 95403Re: Marble Mountain Ranch Water Quality Monitoring Plan Required under Cleanup
and Abatement Order R1-2016-0031

Dear Ms. Lee:

On behalf of my clients, Douglas and Heidi Cole (the "Coles"), I am submitting the attached water quality monitoring plan ("Plan") to the North Coast Regional Water Quality Control Board ("Regional Board") for review. Paragraph 4 on page 11 of Cleanup and Abatement Order R1-2016-0031 ("CAO") requires that the Coles submit this Plan for the Regional Board's Executive Officer's review by September 10, 2016.

On August 26, 2016, I sent to Kenneth Petruzzelli, the State Water Resources Control Board ("State Water Board") attorney assigned to the Marble Mountain Ranch matter, a letter indicating that the Coles would be unable to comply with all of the deadlines in the CAO. Following that letter, the Coles requested that the State Water Board review and stay the CAO on September 6, 2016. Courtesy copies of both my letter to Mr. Petruzzelli and the request for a review and stay of the CAO have been forwarded to you. I have received no response to my August 26, 2016, letter and the request for the stay of the CAO has not yet been granted.

Therefore, in an effort to comply with the deadlines in the CAO, the Coles have drafted the attached Plan. As indicated in my August 26, 2016, letter, the September 10, 2016, deadline to establish a water quality sampling plan could not be met because it was not enough time to find a qualified water quality consultant. The Coles continue to search for an individual who is qualified and able to provide further assistance with water quality compliance. While the Coles endeavor to find that consultant, please see the attached water quality sampling plan for the Regional Board's review.

{CW026791.2}

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Shin-Roei Lee
September 9, 2016
Page 2 of 2

Please contact me with any questions.

Regards,

Churchwell White LLP

for: 

Barbara A. Brenner
KAF/crp

Enclosures

WATER QUALITY SAMPLING PLAN
Marble Mountain Ranch

Submitted by:
Douglas Cole
September 9, 2016

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Water Quality Monitoring Sampling and Analysis Plan

This Water Quality Monitoring Sampling and Analysis Plan ("Plan") describes the surface water quality monitoring activities undertaken at the Marble Mountain Ranch, located at 92520, Highway 96 in Somes Bar, in Siskiyou County. The water quality sampling described in this plan will occur during water discharge activities at Marble Mountain Ranch that coincide with hydroelectric generation at the ranch. Marble Mountain Ranch is owned and operated by Douglas and Heidi Cole (the "Coles"). Douglas Cole will be responsible for implementing this Plan, his contact information is as follows:

Telephone number: (530) 469-3322

Email address: guestranch@marblemountainranch.com

1. SAMPLING DESIGN

a. Number and Location of Discharge Points

Marble Mountain Ranch has a single discharge point. That discharge point is only active when water is being diverted and used for hydroelectric power generation. Discharge is made to an unnamed tributary of Irving Creek. The map attached in Appendix A identifies the discharge point from Marble Mountain Ranch to the unnamed tributary to Irving Creek as "Discharge Point".

b. Number and Location of Monitoring Points

In addition to the single discharge point, the map attached in Appendix A also shows all monitoring points that will be used under this Plan. The first monitoring point is located just above the point of diversion in Stanshaw Creek and labeled on the map in Appendix A as "Point A". The second monitoring point is located near the discharge point to the unnamed tributary to Irving Creek. The second monitoring point is labeled on the map in Appendix A as "Point B".

The selected monitoring points comply with the requirements in Cleanup and Abatement Order No. R1-2016-0031 ("CAO") for a water quality monitoring plan. Page 11, paragraph 4(b) of the CAO provides that the "sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface waters from the ditch or pond." The first monitoring point, Point A, collects water "above the diversion and ranch complex" and the second monitoring point, Point B, collects water "below the ranch complex." Water taken from these sampling points will be used to "evaluate if there are any pollutants entering the surface waters from the ditch or pond."

c. Description of Typical Discharge Patterns

Marble Mountain Ranch does not engage in discharge to waters of the state year round. Discharge only occurs when the Coles divert water to use for hydroelectric power generation. During low flow periods in Stanshaw Creek, the Coles forbear exercising their full pre-1914 right to divert 3 cfs of water and do not divert water for hydroelectric power generation. Therefore, during low flow periods, there is no discharge of water. All water that is diverted during low flow periods is put to beneficial use at Marble Mountain Ranch.

During high flow periods in Stanshaw Creek, the Coles divert water for hydroelectric power generation that is then discharged at the discharge point to the unnamed tributary to Irving Creek. High flow periods generally coincide with the wet season and last until late May or early June. While this time period is the general trend of when discharge from Marble Mountain Ranch is expected to occur, when high flow periods exist outside this timeframe, discharge may also occur.

d. Timing of Monitoring

During discharge periods, samples for water quality monitoring will be taken from each monitoring point once every two (2) weeks. Reports of the testing of these samples will be provided on a quarterly basis with the progress reports the Coles are required to submit under paragraph 5 on Page 11 of the CAO on January 1, April 1, July 1, and October 1 of each year until January 1, 2022 unless an exceedance is detected by the monitoring. Water quality monitoring will continue during any discharge periods through January 1, 2022.

2. SAMPLING METHODS

Water temperature will be collected using a standard temperature gauge capable of detecting water temperature to one tenth of a degree Celsius. A field data sheet for documenting sampling conditions is attached in Appendix B.

Sampling Protocol

- a) At each monitoring point, label all bottles with the monitoring point name, date, and time with pencil or indelible marker.
- b) Sample near the middle of the channel flow when safe. The location should be deep enough to submerge the sampling probes and the bottles without disturbing bottom sediment.
- c) If the flow is not deep enough to submerge the probes, a bucket grab can be used. To do this, a clean bucket is rinsed three times with water from the flowing channel, and then filled to use for probe sampling. Care should be taken to take a representative sample from the center of the water column (not just from the surface flow).
- d) Document any field condition that may affect the result on the Field Data Sheet. This may include timing and amount of most recent rain, amount of flow, etc.
- e) Collecting a Grab Sample.
 - i) Wear clean disposable gloves.
 - ii) Rinse each bottle with stream water by partially filling the bottle, replacing the bottle cap, shaking and pouring out water downstream of where you are standing. Do this three times so that the bottle has been thoroughly rinsed. Omit this step if the bottle contains sample preservative (typical in nutrient sampling bottles).
 - iii) Collect a sample from the center of the flow, facing up-stream. Submerge the bottle slowly, obtaining a sample representing the entire water column (not just the surface).
- f) Samples will be chilled on wet ice and maintained at <math><6^{\circ}\text{C}</math> until testing.
- g) *Toxicity laboratory tests must be initiated within 48 hours of sampling. Nutrient tests must be initiated within 48 hours unless the sample is preserved with acid.*

3. SAMPLE HANDLING AND CUSTODY

The container requirements, sample volume, initial preservation and holding times for samples being sent to the laboratory for analysis will be determined by the laboratory retained to test the samples. No matter the water quality lab retained, the water quality samples will arrive at the lab within 48 hours unless the samples are preserved.

a. Chain of Custody:

A chain of custody ("COC") form is used to document the change in possession of the samples from the time they are collected to the time they are analyzed. This is standard sampling practice and is a way to ensure that the samples arrive at the laboratory with the proper information and proper handling en route. A copy of the COC will be retained with the field data sheet. The Sampler must sign off on the COC (relinquishing signature) upon shipping or transfer to laboratory staff (receiving signature). The following information will be included on the COC form:

- Project name and contact info: Marble Mountain Ranch, Doug Cole, (530) 469-3322
- Sampling site names: Monitoring Point A or Monitoring Point B
- Sample date and time
- Name of sample collector
- Analysis requested
- Receiving signature, time and date
- Relinquishing signature, time and date

A sample COC form is attached to this Plan as Appendix C.

b. Transport

Prior to transport to the laboratory, ice chests will be filled with wet ice (preferably in tied-off plastic bags). Bottle lids will be checked for tightness prior to shipping. All sample containers will be clearly labeled with the unique site name, date, and time, with an indelible marker. Samples will be shipped in insulated containers using same day delivery or overnight freight.

4. ANALYTICAL METHODS

Table 4 describes the constituents to be monitored under this Plan and the reporting limit for that constituent. The constituents included in Table 4 are those that are required under the paragraph 4(b) on page 11 of the CAO. All nutrients listed for testing are those that are also tested by the Karuk Tribe. The Karuk Tribe are stakeholders in the Stanshaw Creek system and have been involved in the discussions regarding the diversion at Marble Mountain Ranch for years.

Table 4. Individual discharge monitoring methods

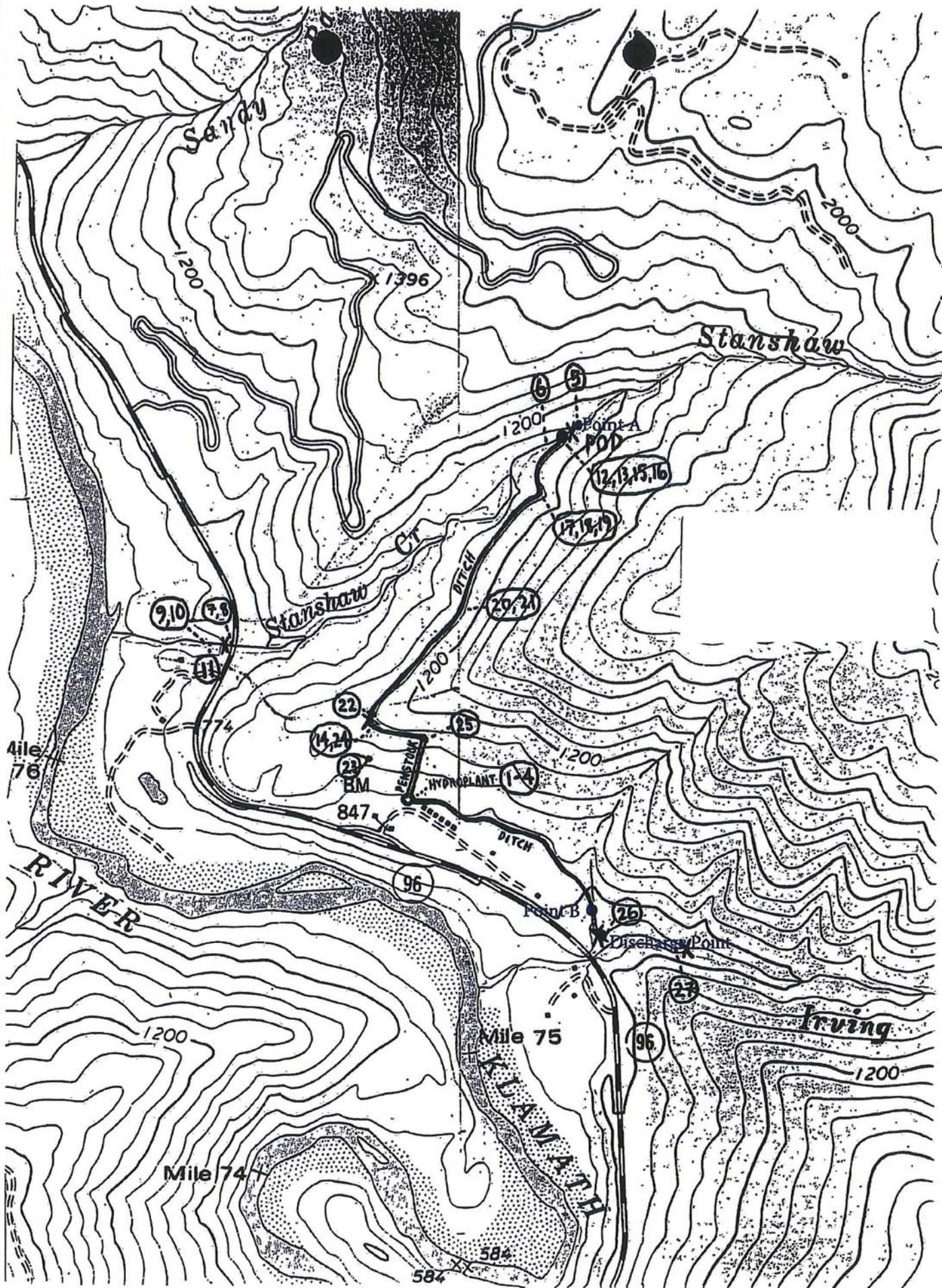
Parameter	Reporting Limit	Units
Fecal Coliform	EPA standard	CFU/100 ml
Total Coliform	EPA standard	CFU/100 ml
Total petroleum hydrocarbons	50-100	µg/l
Temperature	0.1	°C
Nutrients, including:	---	---
Total Phosphorus	0.002	mg/l
Soluble Reactive Phosphorus	0.001	mg/l
Ammonia	0.010	mg/l
NO3 + NO2	0.010	mg/l
Total Nitrogen	0.050	mg/l
Chloro A	0.1	mg/l
Phaeo A	0.1	mg/l
Total Suspended Solids	0.5	mg/l
Volatile Suspended Solids	0.5	mg/l
Dissolved Organic Carbon	0.250	mg/l
Turbidity	0.10	FNU/NTU
Alkalinity	1.00	mg/l
CBOC	2.00	mg/l

5. REPORTING

Data collected by this Plan will be submitted quarterly to the North Coast Regional Water Quality Control Board as part of the Coles quarterly progress reports on January 1, April 1, July 1, and October 1 of each year until January 1, 2022 during any discharge period unless an exceedance is detected. The report will include:

- A narrative description of the discharge period;
- Location of sampling sites and a map detailing that location;
- Sampling and analytical methods used;
- Photos obtained from all monitoring sites, clearly labeled with location and date;
- Laboratory data reports (including quality assurance (QA) data);

Appendix A. Map of discharge locations, sampling site locations, and adjacent receiving water



Appendix B. Field Data Sheet

Water Quality Data Sheet

Sample Location Information:

Sample Site Name:

Latitude: _____

Longitude: _____

Datum (circle one): NAD 83 NAD 27

Sample Location: (circle one) Bank Mid channel

Sample Collection Information:

Sample Date: _____

Sample Time: _____

Sample Event Type (circle one): Wet (Storm Runoff) or Dry (Irrigation Runoff)
>1"

Precipitation last 18 hours (circle one): None <1"

Sampling Personnel: _____ Site Photo Numbers: _____

Grab Samples Collected:

Bottle Types (circle all that apply): Amber Glass, Polyethylene

Parameters to be analyzed (circle all that apply):

Field Probe Measurements: Instrument Used: _____ Pre-monitoring calibration date/time: _____

Turbidity (FNU/NTU)	Water Temp (°C)

Comments: (Useful comments include water color, odor, presence of trash or other debris that can influence water quality and any special conditions encountered)

Appendix C. Example Chain of Custody Form

