CALIFORNIA
Water Boards

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EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

DEC 3 / 2015

CERTIFIED MAIL

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

CERTIFIED MAIL NO:7003 1680 0000 2965 6458

Barbara Brenner
Churchwell White LLP
1414 K St., 3rd Floor
Sacramento, CA 95814

CERTIFIED MAIL NO:7003 1680 0000 2965 6441

RE: Marble Mountain Ranch/ Stanshaw Creek Water Right Division and North Coast Regional Water Board Inspection Reports and Notice of Violation

Dear Mr. Cole and Ms. Brenner,

The North Coast Regional Water Quality Control Board (Regional Water Board) and the State Water Resources Control Board (State Water Board) Division of Water Rights have completed their investigations of the activities of your client, Marble Mountain Ranch. Please see the attached Division of Water Rights Report of Inspection and the Regional Water Board's Inspection Report, each dated March 9, 2015, and the accompanying Regional Water Board Notice of Violation, which includes a preliminary draft Cleanup and Abatement Order.

Each report describes inspections by staff from the Regional Water Board and State Water Board, their concerns, and a list of corrective actions that must occur to reduce the unauthorized discharge to waters of the state, waste and unreasonable use of water, unreasonable method of diversion of water, and impacts to public trust resources. Some actions have timelines. To the knowledge of the Regional Water Board and State Water Board, the conditions observed have been occurring for many years. As a result, the Regional Water Board and the State Water Board, as well as many stakeholders, strongly desire that Marble Mountain Ranch substantially address the concerns the reports describe and a timeline that Marble Mountain Ranch will follow to implement those actions.

Contact us within 30 days of receiving this letter to discuss how your client will respond. If your client does not respond by then and if the Regional Water Board and the State Water Board do not see Marble Mountain Ranch begin to implement actions that will substantially address their concerns, they will pursue formal enforcement action.

Sincerely,

KENNETH PETRUZZELLI
State Water Resources Control Board
Office of Enforcement

Enclosures: Division of Water Rights Report of Inspection
Regional Water Board Notice of Violation and preliminary draft Cleanup and Abatement Order
Regional Water Board Staff Inspection Report
National Marine Fisheries Service Instream Flow Recommendations

cc: Konrad Fisher
100 Tomorrow Rd.
Somes Bar, CA 95568

California Sportfishing Protection Alliance
1608 Francisco Street
Berkeley, CA 94703

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

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DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

Date of Inspection: 12-17-2014 and 2-12-2015

Inspection Performed by: Skyler Anderson (12-17-2014 & 2-12-2015) - Water Rights
Taro Murano (12-17-2014) - Water Rights
Michael Vella (2-12-2015) - Water Rights
Stormer Feiler (2-12-2015) North Coast Regional Water Board

Accompanied by: Douglas Cole - Owner Marble Mountain Ranch

Persons Interviewed: Douglas Cole

Telephone: 530-469-3322

OWNERSHIP: Douglas T Cole
92520 Highway 96
Somes Bar, CA 95568

SOURCE(S): Stanshaw Creek
No change

POINT(S) OF DIVERSION: Stanshaw Creek 41.47918741, -123.50004043
County: Siskiyou Parcel #: 026-290-200-000 (43.07 acres), 023-290-240-000 (4.20 acres) and 026-290-270-000 (0.05 acres)
No change

PURPOSE OF USE(S): Domestic, Irrigation, Power, Stockwatering
Fish and Wildlife Preservation and Enhancement and Fire Protection
No change

AMOUNT: S015022 Pre-1914 claim of right filed on December 1, 1998 for 2.5 cfs
S016375 Pre-1914 claim of right filed on May 28, 2010 for 3.0 cfs
Douglas Cole holds a Pre-1914 claim of right (S015022 & S016375) and a Small Domestic Registration (D030945)
No change

SEASON(S) OF DIVERSION: Pre-1914 season of diversion 01/01 to 12/31

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DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

Small Domestic Registration season of diversion 01/01 to 12/31
No change

PLACE OF USE: Marble Mountain Ranch
No change

METHOD(S) OF DIVERSION: On Stream Diversion
No change

COMPLIANCE TO TERMS AND CONDITIONS:

S015022 is limited to 2.5 CFS with no seasonal restrictions and is limited to such water as shall be reasonably required for beneficial use.

S016375 is limited to 3.0 CFS with no seasonal restrictions and is limited to such water as shall be reasonably required for beneficial use.

D030945 has the following terms and conditions:

Term # 5 - The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 10 acre-feet per annum to be collected from January 1 to December 31 of each year. The capacity of the reservoir shall not exceed 10 acre-feet which is the stated capacity shown in the registration.

The total amount of water to be taken from the source shall not exceed 10 acre-feet per water year of October 1 to September 30.

Term # 10 - Pursuant to California Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this registration, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the SWRCB in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

Term # 11- This appropriation is subject to prior rights. Registrant may be required to curtail diversion or release water stored during the

most recent collection season should diversion under this registration result in injury to holders of legal downstream senior rights. IF a reservoir is involved, registrant may be required to bypass or release water through, over, or around the dam. IF release of stored water would not effectively satisfy downstream prior storage rights, registrant may be required to otherwise compensate the holders of such rights for injury caused.

Term # 15 - Diversion works shall be constructed and water applied to beneficial use with due diligence.

Term # 17 - In compliance with section 5937 of the Fish and Wildlife Code, if storage or diversion of water under this registration is by means of a dam, registrant shall allow sufficient water at all times to pass through a fishway or, in the absence of a fishway, allow sufficient water to pass over, around, or through the dam to keep in good condition any fish that may be planted or exist below the dam; provided that, during a period of low flow in the stream, upon approval of the California Department of Fish and Wildlife, this requirement will be satisfied if sufficient water is passed through a culvert, waste gate, or over or around the dam to keep in good condition any fish that may be planted or exist below the dam if it is impracticable or detrimental to pass the water through a fishway. In the case of a reservoir, this provision shall not require the passage or release of water at a greater rate than the unimpaired natural inflow into the reservoir.

Term # 18 - the facilities for diversion under this registration shall include satisfactory means of measuring and bypassing sufficient water to satisfy downstream prior rights and any requirements of the California Department of Fish and Game.

Term 20 - This registration does not authorize any act which results in the taking of a threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Wildlife Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the registrant shall obtain an incidental take

permit prior to construction or operation. Registrant shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this registration.

Term 24 - The appropriation registered herein is subject to enforcement, including but not limited to revocation, by the SWRCB if 1) the SWRCB finds that the registrant knowingly made any false statement or knowingly concealed any material fact, in the registration; 2) the registration is not renewed as required by the conditions of this certificate; or 3) the SWRCB finds that the registrant is in violation of the conditions of this registration.

No Change

HISTORY:
Douglas Cole diverts surface water from Stanshaw Creek under a Pre-1914 claim of right in two Statements of Water Diversion and Use (Statements), S015022 and S016375. Statement S015022 is filed under Mr. Cole's name, and S016375 is filed under Marble Mountain Ranch (MMR). S015022 was filed with the State Water Resources Control Board, Division of Water Rights (Division) on December 1, 1998 for the following purpose of use: domestic, power, irrigation, fish and wildlife protection and/or enhancement, fire protection and stock watering. S016375 was filed with the Division on May 28, 2010 for irrigation and domestic uses. Mr. Cole also has one Small Domestic Use Registration, D030945R, filed on December 1, 1998. The point-of-diversion (POD) for all the above water rights is the same diversion facility located on Stanshaw Creek. The diversion facility is situated on land owned by the United States Forest Service (USFS). MMR is located at 92520 on Highway 96 in Somes Bar, California. MMR is owned and operated by the Cole family. MMR functions as a commercial guest ranch that offers activities such as horseback trail riding, hiking, whitewater rafting, jet boat rides, sport shooting, fly fishing and kayaking.

On March 27, 1989, Robert E. and Mary Judith Young filed Application 29449 to appropriate 2168 acre-feet per year of water, at a rate of 3 cfs, from Stanshaw Creek, between January 1 to December 31, for the purposes of fish and wildlife protection and/or enhancement and power generation.

On November 17, 1994, the Division sent a letter to Mr. and Mrs. Cole, stating that the Division's records have been updated to reflect the Coles as the owners of the diversion pertaining to Application 29449.

On June 5, 1998, Division Staff, in a memorandum, described a site visit to Mr. Cole's diversion facility. The site visit was conducted to measure the rate of flow in Mr. Cole's diversion ditch.

Mr. Cole was not present during the visit but Division staff did not need consent to access Mr. Cole's diversion ditch since it was located on land owned by the USFS. Using a pygmy meter, Division staff measured the flow in the diversion ditch to be 2.4 cfs.

On September 15, 1998, Division chief Harry Schueller, sent a letter to Mr. Cole in which he attempted to quantify the rate of Mr. Cole's diversion under his pre-1914 claim of right. Mr. Schueller argued that the maximum rate of diversion under the pre-1914 claim was 0.49 cfs continuous flow and may appropriately be 0.11 cfs. He based this on information taken from a 1965 Department of Water Resources Bulletin, which described a flow measurement made, by a forest service hydrologist, in the ditch that supplies Mr. Cole's diversion. However, the hydrologist only made a single measurement using a leaf to calculate velocity. In the letter, Mr. Schueller also stated that Mr. Cole would need to provide evidence that water had been used continuously on his property since 1914.

On March 8, 2000, the National Marine Fisheries Service (NMFS) filed a protest against Application 29449. NMFS protest alleged that Mr. Cole's proposed project may adversely affect Coho Salmon. In their protest, NMFS recommended that a minimum bypass flows be established, that the project avoid the construction of a dam or other barrier on Stanshaw Creek, or provide fish passage around any such barrier and that all diversions cease between June 1 and October 1.

On March 17, 2000, the Department of Fish and Game (now the Department of Fish and Wildlife, or DFW) filed a protest against Application 29449. DFW's protest alleged that the project would cause a reduction in stream flow during critical periods that could adversely affect fish resources or other sensitive species in Stanshaw Creek. DFW requested that they be granted a time extension to conduct a field investigation to develop minimum bypass flow conditions and season of diversion restrictions.

On August 23, 2000, the California Sportfishing Protection Alliance (CSPA) filed a protest against Application 29449. CSPA objected to the proposed project, on the grounds that it would reduce stream flow in Stanshaw Creek and as a result adversely affect resident fish species.

On November 15, 2001, NMFS issued a letter to the Division summarizing their findings from the October 17, 2001 visit and listing their protest dismissal terms. NMFS stated that following conditions would be sufficient for the removal of their protest:

1. The existing diversion should be modified to limit the maximum amount of water diverted to 3 cfs. At the time of inspection there was no mechanism in place to control flow into the diversion facility.
2. The existing diversion should include a fish screen to prevent fish from entering into the diversion. At the time of the inspection an 8-inch Salmonid was observed in the flume of the diversion facility.

3. The diverted flow from Stanshaw Creek should be returned to Stanshaw Creek instead of to Irving Creek. Stanshaw Creek provides important thermal refuge for Salmonids in the summer. NMFS believes that returning the diverted flow to Stanshaw Creek can be accomplished without hindering the thermal refuge provided by Irving Creek, as the latter drains a larger watershed.
4. NMFS recommends that a minimum bypass flow of 1.5 cfs be maintained at all times, assuming that all tailwater from the hydroelectric plant is returned to Stanshaw Creek. NMFS believes that given the riparian cover, a bypass flow of 1.5 cfs will be sufficient to maintain low water temperatures in the creek. NMFS also requests that permanent staff gauges be installed at the POD to allow monitoring and to facilitate the release of bypass flows. Alternatively, Mr. Cole may perform a comprehensive biological and hydrological study to identify an alternate biologically based bypass flow.
5. Mr. Cole should provide DFW with access to the POD and all places of use for the purposes of conducting routine and random monitoring and compliance inspections.

On November 20, 2001, DFW issued a letter in response to the Division's ongoing complaint investigation into Application 29449. DFW reiterated their concern that Stanshaw Creek provides important summer thermal refuge for threatened and endangered Salmonids and that the reduced flow caused by Mr. Cole's diversion adversely impacts that habitat. DFW proposed instituting a year-round bypass flow of 2.5 cfs to be measured at the culverts below Highway 96 to mitigate potential impacts from the diversion on Stanshaw Creek. Additionally, DFW recommends that total flows be bypassed whenever stream flow falls below 2.5 cfs. DFW based the proposed bypass on field reviews conducted at Stanshaw Creek and best professional judgment. DFW also indicated that higher bypass flows maybe required if 2.5 cfs is too low to maintain Salmonid passage at the mouth of Stanshaw Creek.

On October 17, 2001, Division staff Charles Rich and Michael Contreras conducted an inspection of Mr. Cole's diversion facility located on Stanshaw Creek. During the inspection, Division staff met with representatives from NMFS, DFW, Karuk Tribe, Klamath Forest Alliance, Konrad Fischer and James Fischer (downstream property owners) and Mr. and Mrs. Cole, along with their attorney. Prior to the meeting, Division staff took a flow reading of 0.61 cubic feet per second (cfs) downstream of the point-of-diversion. During the meeting, several of the biologists stated that lower Stanshaw Creek provides a thermal refuge for juvenile fish when temperatures in the Klamath reach lethal levels.

On May 23, 2002, Division Staff completed their investigation of the Klamath Forest Alliance complaint against Mr. Cole and issued a letter with the following conclusions to all interested parties:

1. A court of competent jurisdiction would most likely confirm that Mr. Cole's has a valid pre-1914 appropriative right to divert water from Stanshaw Creek.

2. Evidence has not been submitted to substantiate a pre-1914 right for power purposes, but Application 29449 if approved would cover all diversions for power purposes.

3. With the current irrigation system, most diversions for power purposes during the low-flow periods of the year are incidental to domestic irrigation needs.

4. Prima facie evidence is available to indicate that lower Stanshaw Creek provides habitat for thermal refuge.

5. Bypasses similar to those present during the October 17, 2001 field investigation should provide adequate habitat for thermal refuge purposes.

6. Measuring flows on Stanshaw Creek on a regular basis is not practical. Any requirement to measure minimum bypass flows should not be established unless the requirement acknowledges that a sufficient diversion of water will be allowed into Mr. Cole's ditch to cover both the diversion and bypass requirement with subsequent measurement and release of a bypass back into the stream.

As a result of the conclusions, Division staff recommended that Mr. Cole cease all diversion of water whether pursuant to a pre-1914 appropriative right or post-1914 appropriative right derived from Application 29449 or Small Domestic Registration D030945R, unless sufficient flow is passed below their POD to maintain a flow in lower Stanshaw Creek, below the Highway 96 culverts, similar to that present during the October 17, 2001 field investigation (~0.7 cfs). Division Staff recommended that bypass flow be determined in one of two fashions:

1. If full diversion of the creek into Mr. Cole's ditch is not allowed, the flow should be visually estimated so that sufficient flow would be available to fill a small, hand-dug ditch between the terminal pool of Stanshaw Creek and the Klamath River.

2. If full diversion of the creek into Mr. Cole's ditch is allowed, a device should be installed capable of bypassing sufficient flow to maintain 0.7 cfs in the creek below the Highway 96 culverts before any water is passed down the diversion ditch to Marble Mountain Ranch.

Division Staff recommended that the complaint by the Klamath Forest Alliance be closed and provided 30 days from the date of the letter for interested parties to issue any protests. Klamath Forest Alliances' complaint was closed on August 22, 2002.

On January 7, 2013, the Division issued a letter to Stoel Rives LLP, Mr. Cole's agent, informing them of the cancelation of Application 29449.

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

On July 17, 2013 the Division received a complaint alleging that MMR was diverting water in excess of its pre-1914 claim of right, and that Stanshaw Creek was being dewatered in most summers as a result, causing impacts to public trust resources.

In September 2013, the Stanshaw Creek Coho Habitat Enhancement Project was completed by the Mid Klamath Watershed Council. The project restored approximately 4,500 square feet of high quality Coho rearing habitat at the mouth of Stanshaw Creek. Approximately 560 cubic yards of gravel and sediment was removed from the off-channel habitat near the confluence of Stanshaw Creek and the Klamath River. According to the Final Restoration report prepared by the Mid Klamath Watershed Council, the source of the sedimentation was partly attributed to a 2005/2006 flood event when the Marble Mountain Ranch diversion ditch failed which caused erosion.

On September 1, 2014 Lennihan Law in collaboration with Cascade Stream Solutions and the Mid Klamath Watershed Council completed the Marble Mountain Ranch Stanshaw Creek Water Rights Report. The report independently evaluates the water rights for the Coles' Stanshaw Creek diversion and uses of water for the purpose of informing stakeholders and to assist with the physical solution discussions. The report concludes that the Cole's pre-1914 appropriative water right is approximately 1.16 cfs, with varying seasons of use.

On November 17, 2014 Ross Taylor Associates (RTA) preformed a Habitat and Streamflow Assessment on Stanshaw Creek at the request of the Karuk Tribe. While conducting this assessment RTA observed nearly all surface water flow in Stanshaw Creek being diverted in MMR diversion ditch. RTA estimated that 80-90 percent of surface water flow was being diverted.

On December 17, 2014 Taro Murano and Skyler Anderson, Division staff met with Mr. Cole for a facility tour to document the diversion facility, diversion facility operation, conveyance system, place of use and water discharge to Irving Creek. After the MMR facility tour, Division staff attended a Stanshaw Creek Water Conservation stakeholders meeting in Orleans, CA. Stakeholders included DFW, NOAA, US Forest Service, Mid Klamath Watershed Council, Karuk Tribe representatives, the Coles and downstream land owner Konrad Fisher. The meeting provided a forum for stakeholders to ask questions and share opinions regarding the Marble Mountain Ranch Stanshaw Creek Water Rights Report and solicit discussion about the physical solution and the potential process for the physical solution project funding.

On February 12, 2015 Michael Vella and Skyler Anderson, Division staff, conducted a second site inspection to collect flow velocity at three locations in MMR's diversion conveyance system. Flow velocity that was collected can be found in Table 1. Division staff was accompanied by North Coast Regional Water Board Staff Stormer Feiler (Regional Water Board). Stormer Feiler was present to document any potential water quality concerns associated with MMR's diversion facility and conveyance system.

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

On February 13, 2015 Division staff received photographic evidence from Toz Soto, Fisheries Program Coordinator for the Karuk Tribe Department of Natural Resources of a Coho salmon and five juvenile steelhead fish kill found in a Coho rearing pond located off channel near the confluence of Stanshaw Creek and the Klamath River in late July 2009 (Photo 1 & 2). Mr. Soto believes that the fish mortality was due to a lack of flow entering the pond that led to a water temperature increase when Stanshaw Creek flows were reduced by MMR's diversion. The Karuk tribe was monitoring temperature in the Stanshaw Creek off channel pond in the summer of 2009, however; the water data logger was buried by sediment in the fall and lost. The basis for Mr. Soto's temperature findings are based on another data logger deployed a half mile upstream along the Klamath River in off channel ponds at Sandy Bar Creek that recorded 22.9 Celsius and 19.2 Celsius on July 30, 2009.

On March 18, 2015, Joey Howard, principle of Cascade Stream Solutions, informed Skyler Anderson that on August 27, 2013 MMR was using diesel generators to provide MMR with electrical power. According to Joey Howard there was insufficient flow in the diversion ditch to operate the hydro-power system and provide irrigation and domestic water for MMR. Under these conditions water should only be diverted for consumptive uses at MMR. If all water was being used for consumptive uses such as domestic and irrigation needs then there wouldn't be discharges from MMR to Irving Creek. Joey Howard informed staff that excess diverted water was leaving the MMR pond and flowing toward Irving Creek. Joey Howard measured flow velocity during this instance and was recorded at 1 cfs.

On April 13, 2015 the Division received instream flow recommendations for the MMR diversion from the NMFS. NMFS's instream flow analysis stated that Juvenile salmonids rely on the cold water refugia provided by off channel habitat and tributaries such as Stanshaw Creek. When the mainstem Klamath River temperature rises and flows recede, juvenile coho seek off-channel cooler habitat where they may remain throughout the warm season. The off-channel pond at the Stanshaw Creek confluence with the Klamath River provides important rearing habitat for juvenile coho, as well as for chinook and steelhead (Tauzer, 2015).

On April 27, 2015 DFW informed the Division that in 2009 DFW recommended a minimum in stream flow of 2.5 cfs at the highway 96 bridge. DFW feels that at this point in time there is no reason to rescind or change that recommendation.

Stanshaw Creek is a tributary to the Klamath River with a drainage area of approximately four square miles. Stanshaw Creek has a short but significant section of Coho habitat below the Hwy 96 crossing. An off-channel pond is located just upstream of the Stanshaw Creek mouth. This pool is filled by cold Stanshaw Creek water when high flows in the Klamath subside, creating a high quality summer and winter rearing habitat for non-natal juvenile Coho salmon migrating down the Klamath River corridor. NOAA fisheries (NMFS), the Department of Fish and Wildlife (DFW), and the Karuk Tribe, assert that MMR's water diversion adversely impacts Coho salmon in violation of the federal ESA and other laws (Lennihan, 2014, p. 20). While both Juvenile Coho salmon and steelhead have been documented in Stanshaw Creek, the creek's

moderate channel slope and relative lack of suitable-sized substrate diminishes its importance as a significant spawning stream within the Klamath River watershed. However, the off-channel pond located at Stanshaw Creek's confluence with the Klamath River provides excellent habitat for both summer and winter rearing of non-natal Coho salmon (Taylor, 2015).

INSPECTION:
Skyler Anderson conducted a site inspection at MMR on December 17, 2014 and February 12, 2015 in response to the July 2013 complaint. Division staff has also reviewed the file and records provided above, including the September, 2014, water rights report prepared by Martha Lennihan and Cascade Creek Solutions.

MMR's POD is located approximately three-quarters of a mile upstream of the Highway 96 crossing. The POD is located on United States Forest Service property. The POD consists of a handmade rock wing diversion dam located on the east creek bank of the Stanshaw Creek channel (Photo 3). Water is gravity diverted at the POD and conveyed approximately a half-mile in a partially lined and partially unlined diversion ditch to a juncture where water is routed to the water treatment facility and to the penstock for hydroelectric power generation.

The POD lacks a permanent control structure that would regulate the amount of water diverted from Stanshaw Creek and requires regular maintenance by augmenting the placement of rocks in the stream channel. MMR has constructed two outfall structures located within the diversion ditch downstream from the POD to relieve the diversion ditch from excess amounts of water that would overflow the diversion ditch that has little to no free board space.

The excess water from the two outfalls discharges water back to Stanshaw Creek. The first of two outfall structures is located approximately 50-feet downstream of the POD (Photo 4). The first outfall structure is operated in a similar manner as the POD and requires regular augmentation flash board risers and rocks in the diversion ditch to manipulate the amount of water conveyed by the diversion ditch. The second outfall structure is located approximately 300-feet downstream of the POD and occurs just before the diversion ditch narrows from approximately 60 inches in width to approximately 30 inches in width (Photo 5). Flash boards are used in the second outflow structure to manipulate the amount of excess water discharged from the diversion ditched. Water from the second outfall structure is discharged via a shotgunned culvert into a small unnamed tributary to Stanshaw Creek, then to Stanshaw Creek. The culvert appears to have caused a large erosion feature in the downslope channel (Photo 6 & 7).

The diversion ditch is located on a steep heavily treed hill slope. The diversion ditch resembles a narrow road cut on a steep hillside. The diversion ditch requires regular maintenance due to sediment deposition, cut bank slumps and landslides. The hillside above the ditch on the inner berm is prone to slumping in to the diversion ditch (Photo 8) due to the cut bank and removal of the slope base. Slope loading occurs during heavy rainfall events which increase the mass of

materials up-slope, resulting in slumps into the ditch (Photo 9). Division staff Skyler Anderson noted limited free board space along the majority of the diversion ditch (Photo 10). The elevation of the outer berm crest of the diversion ditch varies greatly. These variations can be attributed to flows in the diversion ditch historically overtopping the low berm crest areas, resulting in hill slope sloughing and landslides (Photo 11).

During the February 12, 2015 inspection Regional Water Board staff, Stormer Feiler walked the entire three quarters of a mile diversion ditch. Stormer Feiler identified 19 areas on this length where the diversion ditch has the potential to fail or has failed delivering the entire diversion onto native slopes causing the erosion of new stream channels delivering sediment towards or into Stanshaw Creek. For a more detailed description and corrective actions please see the North Coast Regional Water Quality Control Boards Notice of Violation.

Water from the diversion ditch is routed via gravity to MMR's (5) 3,000 gallon plastic water storage containers (Photos 13 & 14) via gravity by a two inch PVC pipe (Photo 12). Water conveyed to the water storage containers are MMR's domestic water supply that serves residents that live on the property and guests that stay at MMR. MMR treats its' domestic water by using slow sand filter technology and chlorination (Photo 15). This water serves a domestic use for residents and guests staying at MMR in addition to limited irrigation.

The diversion ditch conveyance system continues below MMR's water treatment tanks and conveys water to a 14-inch diameter penstock pipe that is approximately 450-feet long with an approximate vertical distance of 200-feet (Photo 16). Water that is conveyed through the penstock is used for hydropower and it is connect to MMR's irrigation system. The power generation facility consists of an 18'' pelton wheel that is powered by two pressurized jets (Photo 17). Water flowing through the hydropower facility is then discharged into a diversion ditch that flows to MMR's pond (Photo 18). The pond serves as a recreational feature and for fire protection (Photo 19).

Water used for irrigation and fire protection is conveyed through a short run of nine inch diameter steel pipe to a junction that reduces to a four inch diameter PVC pipe. The PVC pipe extends from the junction at the power plant to sprinklers located throughout the property.

Water discharged from the hydropower facility is not re-used for irrigation or domestic needs but rather flows into a ditch below the pond and continues across the property for approximately 850-feet to the south before water drops off a head cut to a ravine and into a tributary to Irving Creek. At the time of the inspection, it was calculated that approximately 1.23 cfs was flowing through the hydropower facility and discharged into Irving Creek. Irving Creek is a tributary to the Klamath River located approximately 1 mile downstream of the Stanshaw Creek and the Klamath River confluence.

During the February 12, 2014 inspection Division staff, Skyler Anderson took three flow measurements at three locations within MMR's diversion ditch: 1) in the diversion ditch

approximately 50-feet below the POD on Stanshaw Creek and below the first outfall structure; 2) in the diversion ditch approximately 100-feet downstream of the 2'' domestic water line intake; and 3) in the diversion ditch below the recreational pond and before flow is discharged to Irving Creek (Photo 20). Division staff estimates the ditch capacity is approximately 3-4 cfs. When the ditch is flowing at capacity Flow data and latitude and longitude coordinates for the data collections are summarized below in Table 1.

Table 1:

Location	Lat/Long	Flow in CFS
1. Downstream of the POD	41.480845, -123.498259	2.23 C.F.S.
2. Downstream of the domestic intake	41.474430, -123.503532	1.63 C.F.S.
3. Downstream of the pond outlet	41.471788, -123.499589	1.23 C.F.S.

Location # 1 is located within the MMR's diversion ditch just below the POD on Stanshaw Creek and Division staff, Skyler Anderson recorded a flow rate 2.23 cfs. Location # 2 is located within the diversion ditch 100-feet downstream of the 2-inch domestic water line intake and approximately 50-feet upstream of the terminus into the penstock. Division staff, Skyler Anderson recorded a rate of flow of 1.63 cfs at Location # 2. Division staff, Skyler Anderson calculated a ditch loss of approximately 0.6 cfs by subtracting the flow taken at Location # 2 from Location # 1. The rate of flow at Location # 3 was measured at 1.23 cfs and is located within the diversion ditch just below the pond. Flow was recorded at this location to determine the MMR's consumptive water demand for domestic and irrigation uses. MMR's domestic and irrigation water demand was calculated by subtracting Location #3 from Location # 2. At the time of the inspection, MMR's domestic and irrigation demand is approximately 0.4 cfs.

FINDINGS:

Based on the review of the documents described above and the site inspections, Division staff Skyler Anderson identified three areas of concern relating to MMR diversions: 1) diversions potentially in excess of the claimed pre-1914 appropriative water right; 2) potential waste and unreasonable use, or waste and unreasonable method of diversion; and 3) potential public trust impacts caused by MMR diversions.

The State Water Board has authority to investigate diversions made under pre-1914 appropriative water right claims to determine whether such diversions are within the scope of the claimed right. Diversions in excess of a pre-1914 appropriative right may be unauthorized diversions subject to enforcement action before the Board.

Pursuant to the California Constitution, Article 10, section 2 and California Water Code section 100, the right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.

Finally, the State Water Board also has the authority to protect public trust resources, such as fisheries, wildlife, aesthetics, and navigation. This investigation is being conducted as part of the State Water Board's continuing authority to protect public trust resources, including the threatened Coho salmon and steelhead fisheries.

The Division finds that although MMR may be diverting within the scope of its pre-1914 water right, MMR's diversion constitutes a waste and unreasonable use of water, an unreasonable method of diversion of water, and potentially harms public trust resources.

Scope of the Pre-1914 Water Right

MMR's claimed pre-1914 appropriative water right originates from an 1867 claim by Mr. E. Stanshaw for six hundred (600) miner's inches, or 15 cfs, to be used for mining, domestic and irrigation purposes on a large patented parcel that includes the present-day MMR property. MMR now claims only 3 cfs under the pre-1914 appropriative right, based on the estimated capacity of the existing ditch. The July, 2013, complaint received by the Division alleges that MMR diverts water in excess of the pre-1914 appropriative right.

The scope of the pre-1914 appropriative right available to MMR has been the subject of much contention, and at least two prior Division investigations. In a letter dated September 15, 1998, the Division concluded that the upper limit of the pre-1914 right available to MMR is 0.49 cfs, and could be as low as 0.11 cfs. In 2002, following a more detailed investigation, including review of evidence submitted by the legal counsel for the Coles, the Division concluded that a court of competent jurisdiction would most likely confirm that the Coles have a valid pre-1914 appropriative right for the full domestic and irrigation purposes at MMR, although there was no evidence to substantiate a pre-1914 appropriative right for power generation.

As noted above, Lennihan Law and Cascade Stream Solutions prepared a detailed report on the Marble Mountain Ranch Stanshaw Creek water rights in 2014. This report was prepared at the request of the Mid Klamath Watershed Council, and is an independent and neutral evaluation of the MMR water rights based on documents from several sources, including the Division of Water Rights. Various parties, including legal counsel for the Coles, and Konrad Fisher, commented on the draft report prior to finalization. Legal counsel for Mr. Fisher submitted additional comments to the Division in February, 2015.

The Division finds the Lennihan/Cascade Stream Solutions report to be an exhaustive and authoritative review of the available record. With the exceptions noted below, the Division incorporates the analysis and findings in Lennihan/Cascade Stream Solutions report here. Specifically, the Division agrees that there is sufficient evidence to allow a reasonable decision maker to conclude that power generation may have been initiated before 1914.

However, the Division disagrees with the Lennihan/Cascade Stream Solutions conclusion that periods of lower water use by MMR's predecessors since 1914 have resulted in forfeiture of some portion of the pre-1914 water right such that MMR retains only a pre-1914 appropriative

water right totaling 1.16 cfs (including 0.35 cfs for domestic and irrigation, 0.31 cfs for power generation, and reasonable losses of approximately 0.5 cfs). The Lennihan/Cascade Stream Solutions report fails to incorporate the recent appellate court decision in *Millview County Water District v. State Water Resources Control Board* (2014) 229 Cal.App.4th 879. The *Millview* court held that forfeiture of a water right claim only occurs when a claimant's use of less than the full appropriation lasts at least five years, and at least some of that period must be in the face of a conflicting claim, such as an actual appropriation or an application to appropriate. (229 Cal.App.4th at 903.) Although instream public trust resources may constitute a conflicting claim (see, e.g., *Millview*, 229 Cal.App.4th at 904-905), the law is sufficiently unsettled, and the evidence sufficiently undeveloped, to prevent the Division from assuming that public trust resources constitute a conflicting claim during any potential forfeiture period here.

There is no evidence in the record to suggest that there were any conflicting actual appropriations or applications during any of the forfeiture periods found in the Lennihan/Cascade Stream Solutions report (i.e., 1920s through around the mid-1950s). Similarly, although Konrad Fisher has more recently alleged a conflicting claim, there is no evidence of a decrease in the MMR diversion and use during that time.

Given the unsettled legal issues surrounding forfeiture, the State Water Board or a reviewing court could reasonably conclude that the MMR pre-1914 water right may be up to the full capacity of the ditch, which MMR claims to be 3 cfs. On that basis, the Division concludes that MMR's diversions do not appear to be in excess of its claimed pre-1914 water right.

The Division notes that Konrad Fisher and his legal counsel have submitted comments alleging that Mr. Fisher and the Old Man River Trust (OMRT), of which Mr. Fisher is a beneficiary, may claim some portion of the original pre-1914 water right because the OMRT property is also located on the Stanshaw property subject to the 1867 claim. Mr. Fisher also claims that MMR diversions interfere with his riparian rights. For purposes of determining whether MMR may be diverting in excess of its pre-1914 right, it is not necessary to determine if Mr. Fisher or OMRT retain any portion of the original Stanshaw pre-1914 water right. In any event, the State Water Board is not the proper venue to resolve disputes between pre-1914 water right claimants, or between pre-1914 claimants and riparian claimants.

Waste and Unreasonable Use of Water:
The Division finds that MMR's diversion may constitute a waste of water resources. Division staff observed a number of leaks in MMR's drinking water tanks (Photo 12 & 13). Division staff was not able to quantify the amount of water leaking from two of the three tanks used in the sand filtration process, although the leaks appear to be substantial. Quantities of water lost to leaks in the domestic water treatment plant system and not put to beneficial use constitute a waste.

Moreover, during the low-flow summer months, there are times when MMR cannot divert enough water to operate the hydro-power generation facility. During these periods, MMR relies on diesel generators for power generation. However, MMR does not restrict its diversion during

these periods to what is needed for domestic and irrigation needs only (approximately 0.35 cfs plus reasonable conveyance losses of approximately 0.5 cfs). The excess water diverted and not consumptively used is discharged to Irving Creek. Without a control mechanism on the POD, MMR lacks the ability to limit its diversion from Stanshaw Creek to an amount that can be beneficially used. All water that is diverted from Stanshaw Creek that is not consumptively used or put to beneficial use constitutes a waste and/or an unreasonable use of water.

Unreasonable Method of Diversion of Water

Division staff find that MMR's on-stream POD and the conveyance ditch constitute an unreasonable method of diversion of water based on the absence of a control mechanism to regulate the amount of water diverted at the POD; the absence of a fish screen to prevent fish entrainment and mortality; the amount of water loss that occurs from the POD to the place of use; and the potential water quality and public trust impacts from ditch failures.

During the Division's facility inspections on December 17, 2014 and on February 12, 2015, Division staff observed that the facility's POD intake did not have a control mechanism to manage flow through the open ditch system. Without a control mechanism, such as a diversion gate that has the ability to restrict flow through the POD, water may be diverted in excess of the diversion ditch capacity and in excess of what is reasonably required for beneficial use.

During winter months when flows in Stanshaw Creek are the highest water may be diverted in excess of the of the diversion ditch capacity which causes water to overtop the diversion ditch and results in slumps and landslides. In addition, the continuous deposition of sediment from Stanshaw Creek in the ditch reduces the ditch capacity and increases the risk of water overtopping the low berm areas. Similarly, when material from up-slope slumps into the ditch, it can result in partially damming or completely damming the ditch and diverting stream flow out of the ditch and downhill.

North Coast Regional Water Board staff observed and documented evidence of ditch failures at nineteen (19) locations along the diversion ditch downstream from the POD, as well as in the discharge channel leading to Irving Creek. Regional Water Board staff evaluated MMR's diversion facility for the potential threat to water quality and found that the ditch is a threat to water quality. Division staff concurs in these findings. For a more detailed description and corrective actions please see the North Coast Regional Water Quality Control Boards Notice of Violation. Due to the unstable nature of the diversion ditch that are described above, the ditch is prone to failing and overtopping. Quantities of water that have been historically lost to MMR's diversion ditch failures and overtopping the diversion ditch constitute a threat of unauthorized discharge to surface waters of the state.

Furthermore, Division staff find that the method of diversion is unreasonable based on the absence of a fish screen at the POD to prevent fish entrainment. MMR's POD intake does not have the ability to prevent fish from becoming entrained. Fish that become entrained in MMR's

diversion ditch are killed if the fish are caught in the faster moving water that enters the penstock that conveys water to the hydropower turbines.

Division staff also calculated approximately twenty-seven percent of water that is diverted at the Stanshaw Creek POD is lost in the conveyance system and seventeen percent of water diverted is consumptively used. Fifty-six percent of the water diverted is non-consumptively used for hydroelectric power generation and is discharged to Irving Creek.

It is reasonable to assume that MMR is diverting more water than necessary for the uses in order to compensate for the loss of water early in the conveyance system. Quantities of water resources diverted in excess of amounts that are beneficially used and the operation of a diversion facility that is prone to leaks, loss of water and failure is an unreasonable method of diversion of water.

Harm to Public Trust Resources

The National Marine Fisheries Service (NMFS) provided the Division on April 13, 2015 instream flow recommendations for Stanshaw Creek (Tauzer, 2015). Based on the NMFS flow recommendations and MMR's diversion facility operation, the Division finds that MMR's diversion may potentially impact public trust resources.

NMFS Stanshaw Creek flow recommendations specify flows need to be conserved on dry years to maximize the water quality and food supply to the off-channel pond and cold water seep to the Klamath. Because of the thermal sensitivity and connectivity needed throughout the summer, the diversion should be limited to zero or a small fraction of the flow as the flows recede and water temperatures rise. NMFS recommends that no more than 10% of the estimated unimpaired flow be diverted from Stanshaw Creek from May 15 through October 31 regardless of the water year type and that no diversion be allowed below 1.5 cfs to ensure water quality and food supply is maintained for the over-summering coho in the pond (Tauzer, 2015).

The lower reach of Stanshaw Creek provides rearing habitat for adults and juvenile coho in the November through April period as well as important macro-invertebrate production. Hydraulic analysis based on five cross sections surveyed in 2002 above the Highway 96 culvert, show an inflection in the water surface width as the flows drop below about 1.5 to 2.0 cfs. The inflection on the curve represents the low flow channel and the point where the wetted channel width drops off quickly with flow. It is important to maintain this base flow to protect macro-invertebrate production and to provide a minimum level of edge water rearing area. Two cubic feet per second bypass flow should protect the edge water during the November 1 – May 14 period when flows drop to these low levels.

NMFS recommends that MMR implement the bypass flows in addition to returning any hydroelectric portion of water to Stanshaw Creek to avoid unnecessary pubic trust resource impacts.

CDFW recommends a minimum in stream flow of 2.5 cfs at the Highway 96 Bridge.

NMFS, the Department of Fish and Wildlife (DFW), and the Karuk Tribe, assert that the diversions of water by MMR are adversely impacting Coho salmon in violation of the federal ESA and other laws (Lennihan, 2014).

CORRECTIVE ACTIONS:
The Division finds that the Coles must take the following corrective actions to prevent the waste and unreasonable use of water, unreasonable method of diversion of water, and harm to public trust resources.

1. Install a water diversion control mechanism at the POD. When Stanshaw Creek is under high flow conditions MMR will have the ability to restrict the amount of water entering the diversion ditch, limiting the risk of ditch failures and diverted water from overtopping the diversion ditch. When flow in Stanshaw Creek is insufficient to meet all of MMR's consumptive water demands, a control structure will limit the amount of water diverted to an amount that can be beneficially used. Provide a time schedule for installation of a water diversion control mechanism at your POD and photographic evidence that documents installation of the control mechanism, to be reviewed by the Division. MMR may need to consult with the Regional Water Quality Control Board concerning a 401 Certification Permit and DFW regarding a 1600 Lake and Streambed Alteration Permit to install a water diversion control mechanism.

2. Return diverted water to Stanshaw Creek that is not put to beneficial use or water put to non-consumptive use. The lack of flow that remains in Stanshaw Creek due to your diversion and the excess water that is discharged to Irving Creek is waste and unreasonable use of water based on impacts to public trust resources. Provide a time schedule that identifies a date for installation of a conveyance system that returns water back to Stanshaw Creek and photographic evidence of installation, to be reviewed by the Division. MMR may need to consult with the Regional Water Quality Control Board concerning a 401 certification permit and DFW regarding a 1600 lake and streambed alteration agreement for to install a water diversion control mechanism.

3. Fix all leaks associated with the MMR water treatment system. Provide photographic evidence to the Division that all leaks were repaired and confirmation that additional leaks are not present. The Coles must provide a time schedule that identifies a date for completion of the water treatment system repairs, to be reviewed by the Division.

4. Water diverted from the POD must be piped or conveyed in a lined ditch to prevent unnecessary ditch loss. Conveyance of water in a lined channel or a pipe will prevent, ditch failures, overtopping of berm crest, erosion of conveyance system and loss of water through seepage. Piping the diversion will help to prevent the unauthorized discharge of water and sediment to surface waters of the state and sedimentation impacts to the off

channel pond that is coho salmon and steelhead rearing habitat and reduce the chance of catastrophic ditch failures. The Coles musts submit a time schedule to the State Water Board that identifies a date for completion of the diversion system modifications, or provide alternatives to prevent unnecessary water loss, to be reviewed by the Division.

5. Immediately implement the NMFS and DFW by-pass flows and cease impacts to public trust resources and habitat.

6. The Coles must consult with CDFW to determine whether a fish screen to prevent fish entrainment should be installed or whether an alternative method or POD design could be modified to prevent fish entrainment.

Enclosures: NMFS instream flow recommendations for Marble Mountain Ranch Diversion

DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

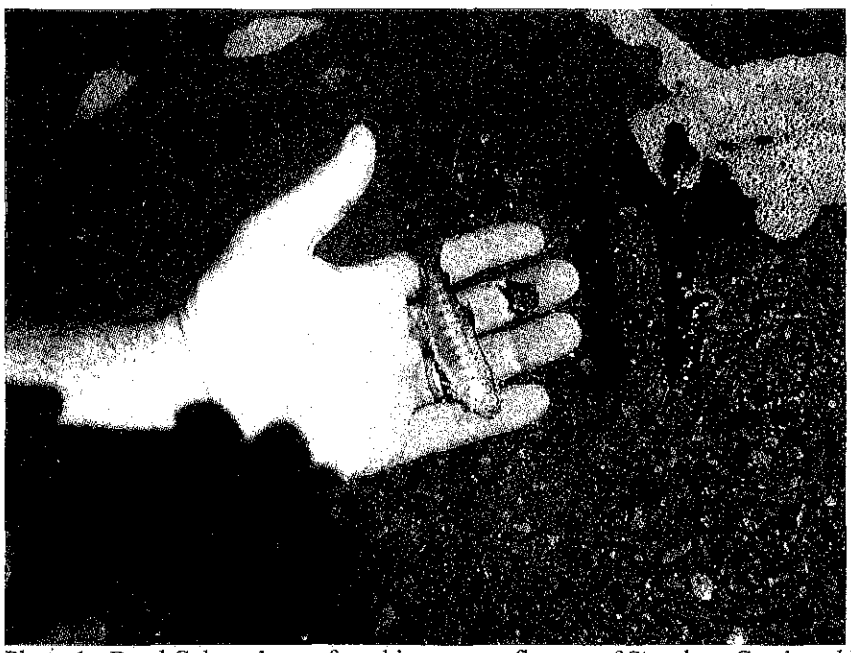

Photo 1 - Dead Coho salmon found in near confluence of Stanshaw Creek and Klamath river in the off channel pond that is supplied water from Stanshaw Creek.

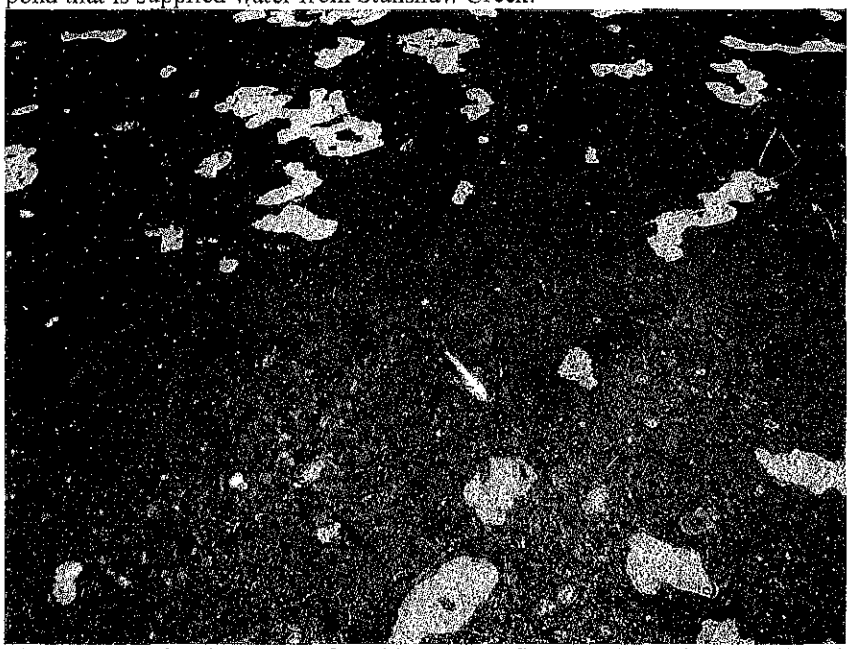

Photo 2 – Dead Coho salmon found in near confluence of Stanshaw Creek and Klamath river in the off channel pond that is supplied water from Stanshaw Creek.

DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

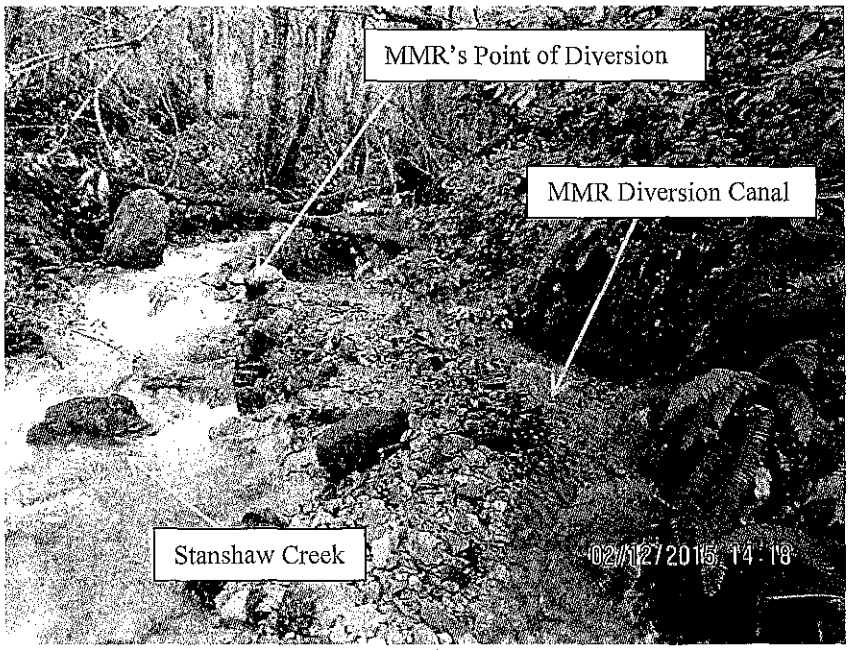

Photo 3 – MMR POD on Stanshaw Creek

Photo 4 – Outfall structure located 50-feet downstream of POD.

DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

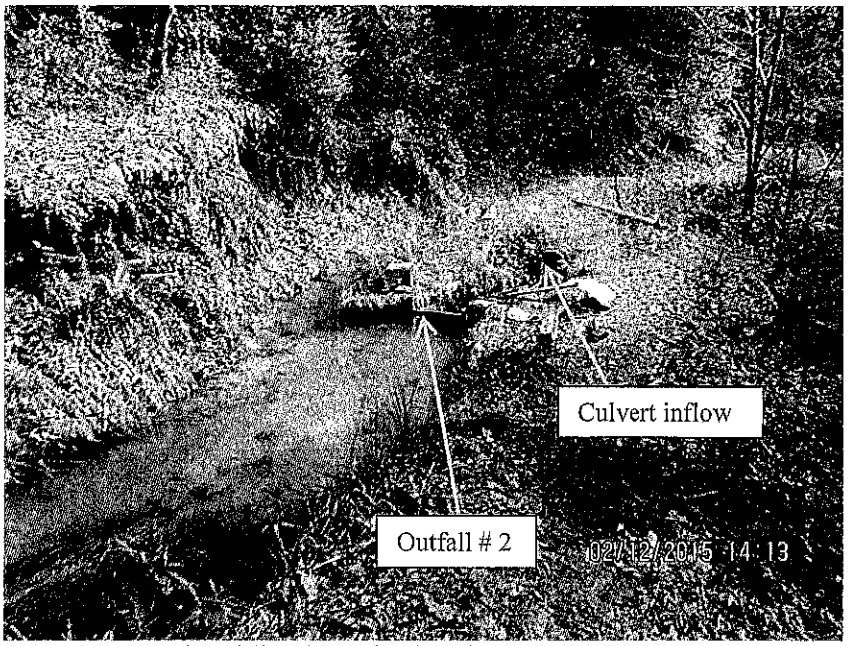

Photo 5 – Second outfall structure in diversion ditch.

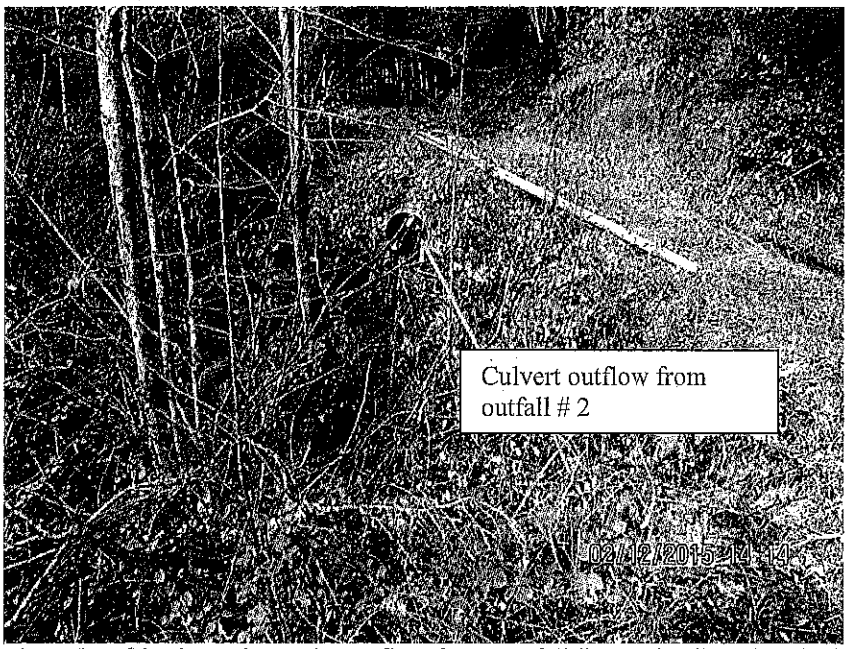

Photo 6 – This photo shows the outflow from Outfall # 2 on the diversion ditch.

DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

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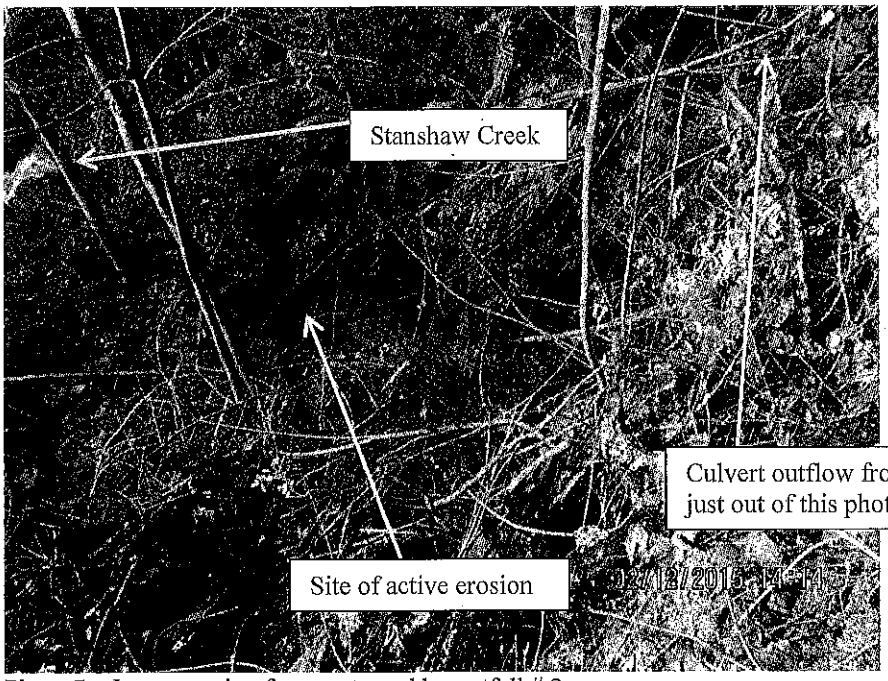

Photo 7 – Large erosion feature caused by outfall # 2.

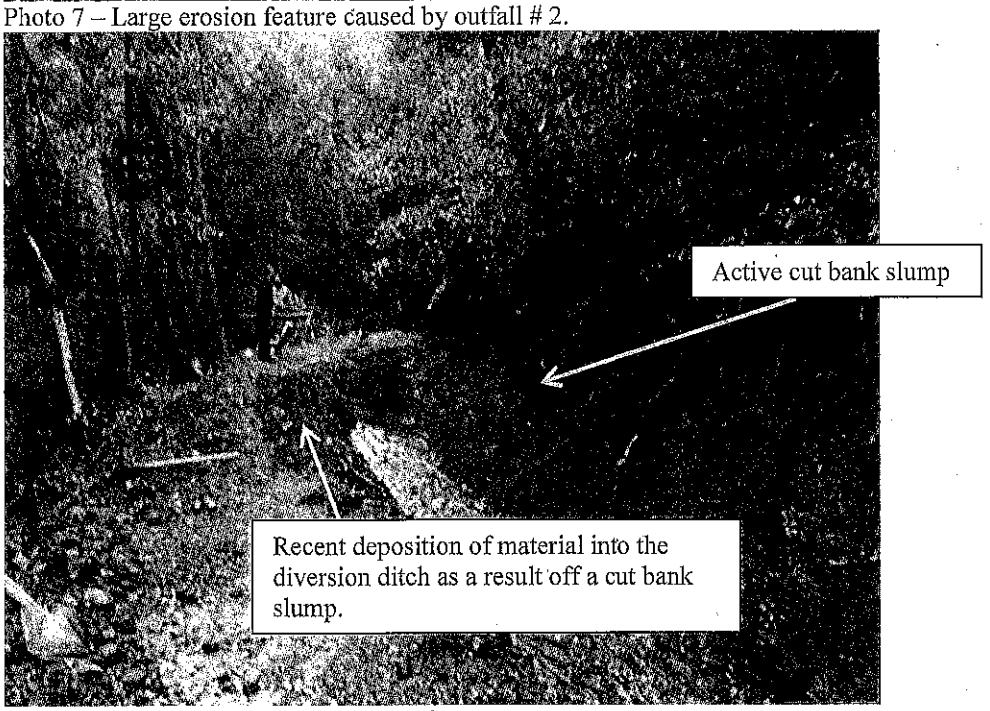

Photo 8 – Area of active cut bank slumping.

DIVISION OF WATER RIGHTS
REPORT OF INSPECTION

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

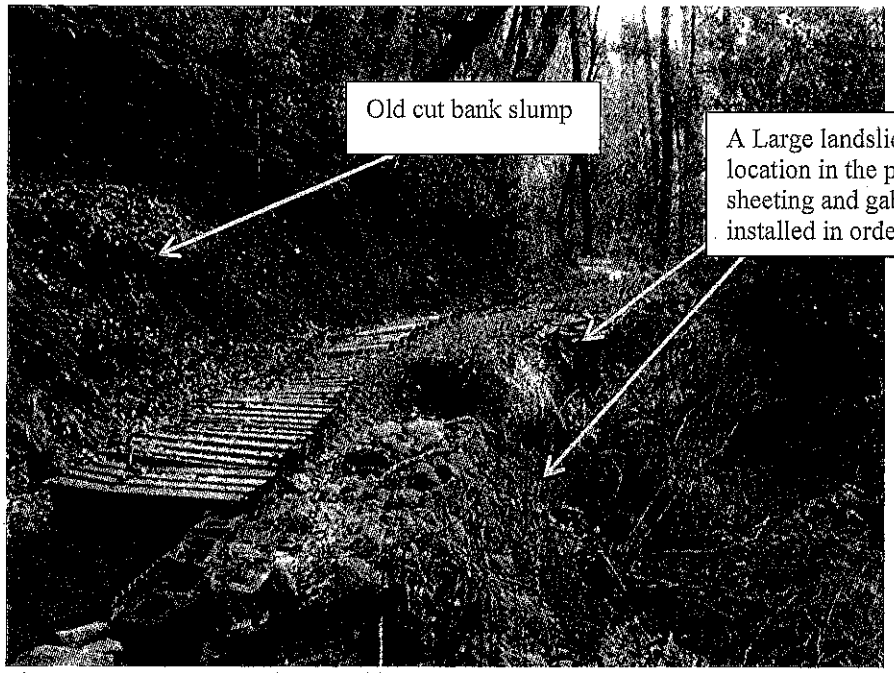

Photo 11 – Large landslide caused by cut bank slump damming ditch and redirecting diverted flow downhill..

Photo 12 – Intake for water treatment facility.

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

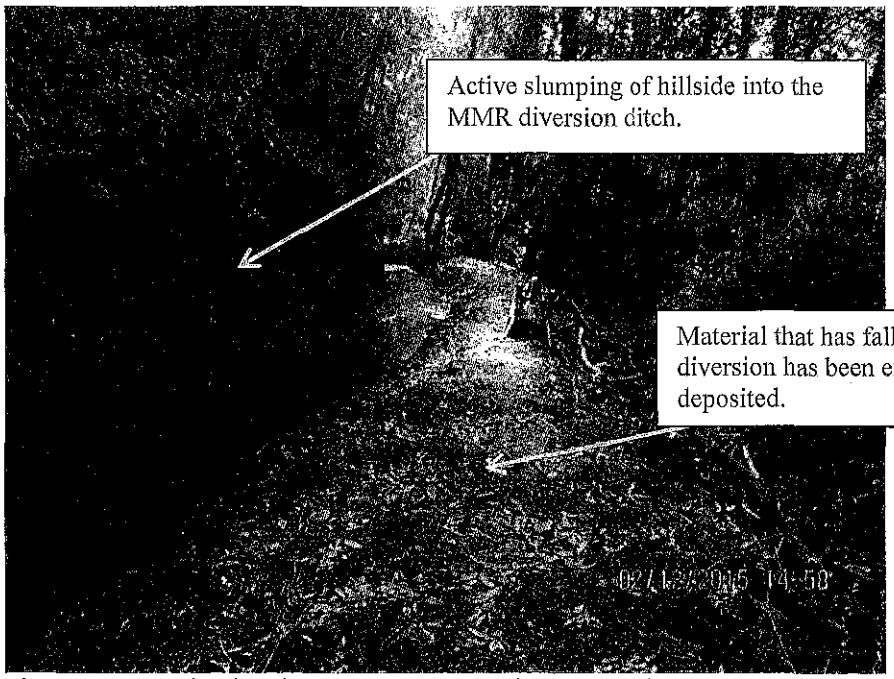

Photo 9 – Area of active slumping into MMR Diversion ditch.

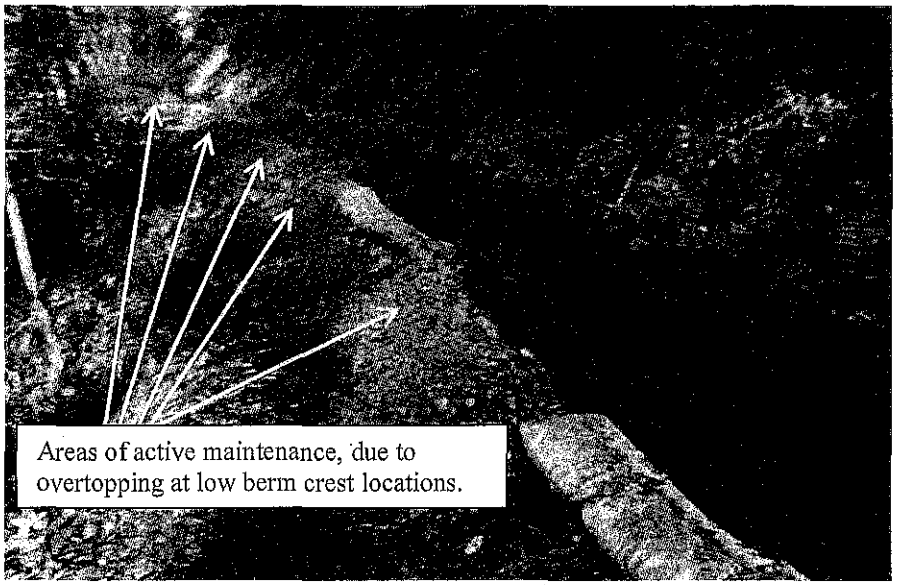

Photo 10 – limited free board space within the ditch.

Photo 15 – (2) 3,000 gallon storage tanks.

Photo 16 – 14-inch diameter penstock pipe.

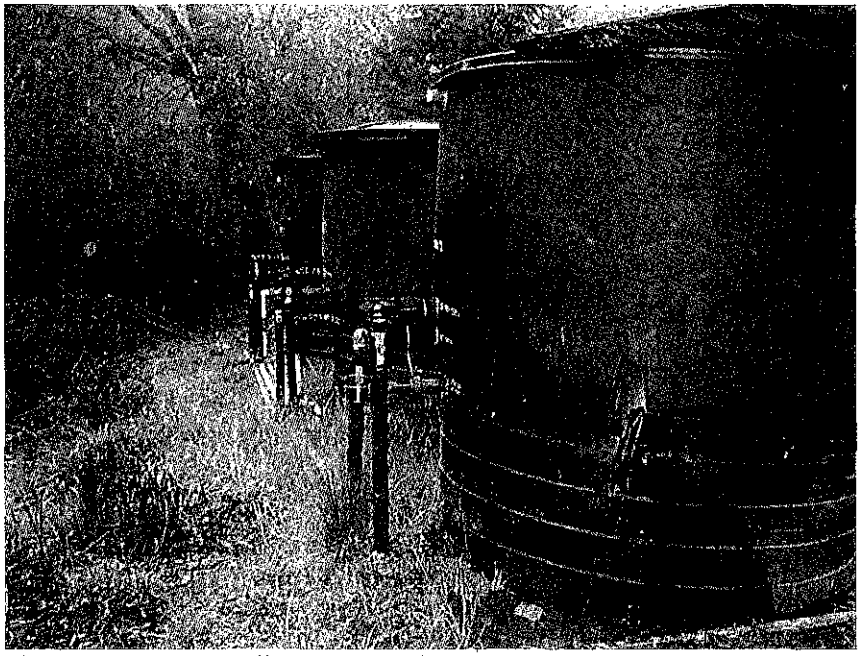

Photo 13 – (3) 3,000 gallon storage tanks.

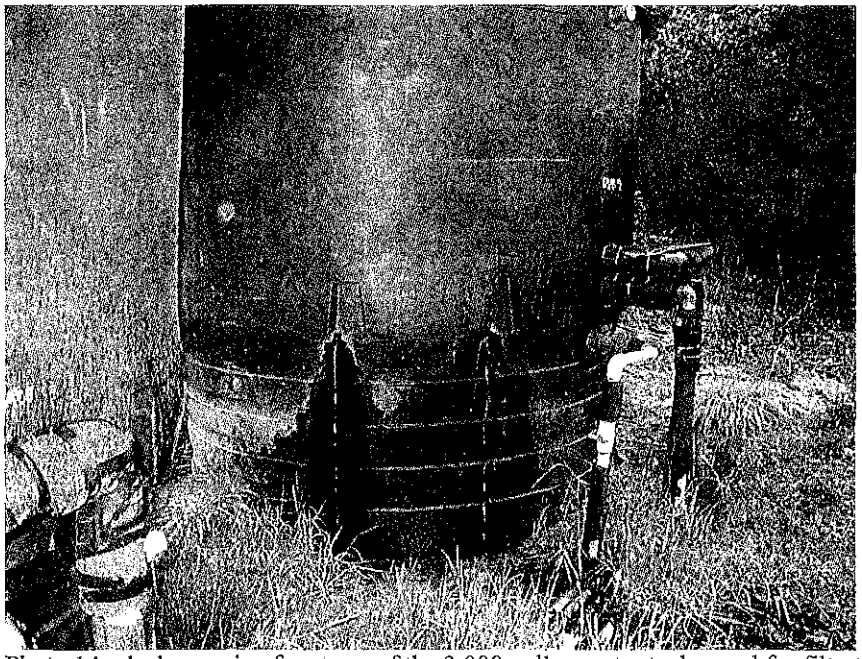

Photo 14 – leaks coming from one of the 3,000 gallon water tanks used for filtration.

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REPORT OF INSPECTION

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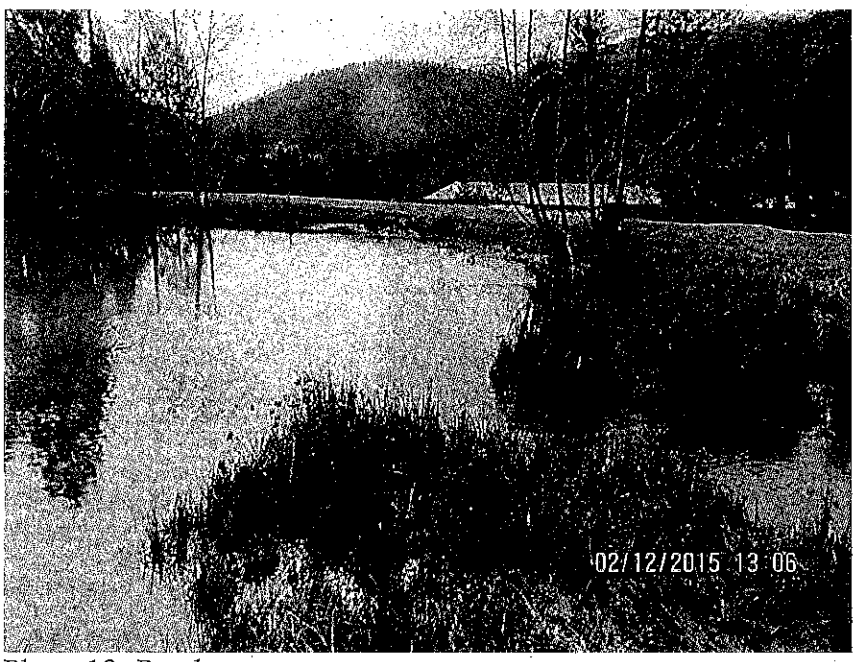

Photo 19- Pond

Photo 20- Discharge to Irving Creek.

REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

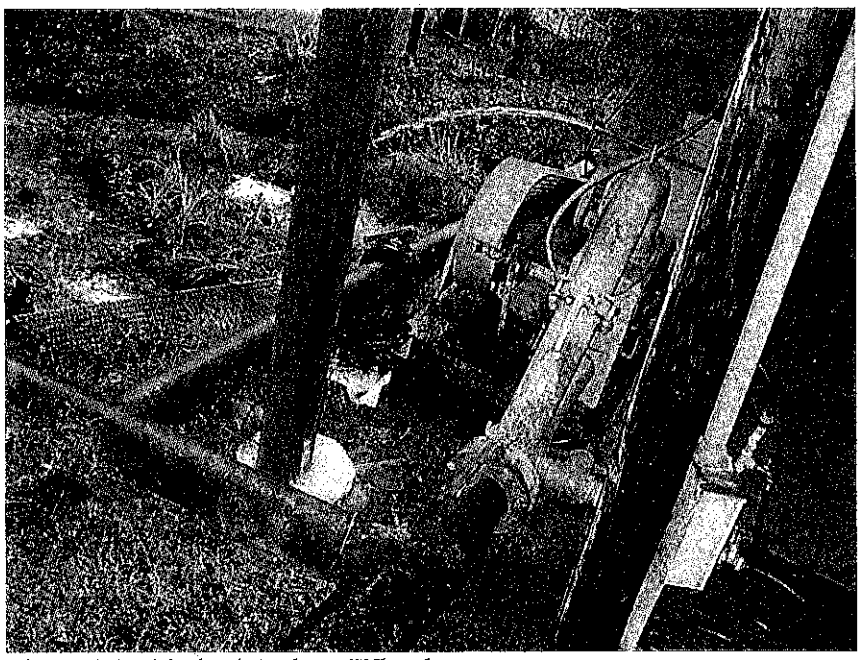

Photo 17 - 18- inch Pelton Wheel

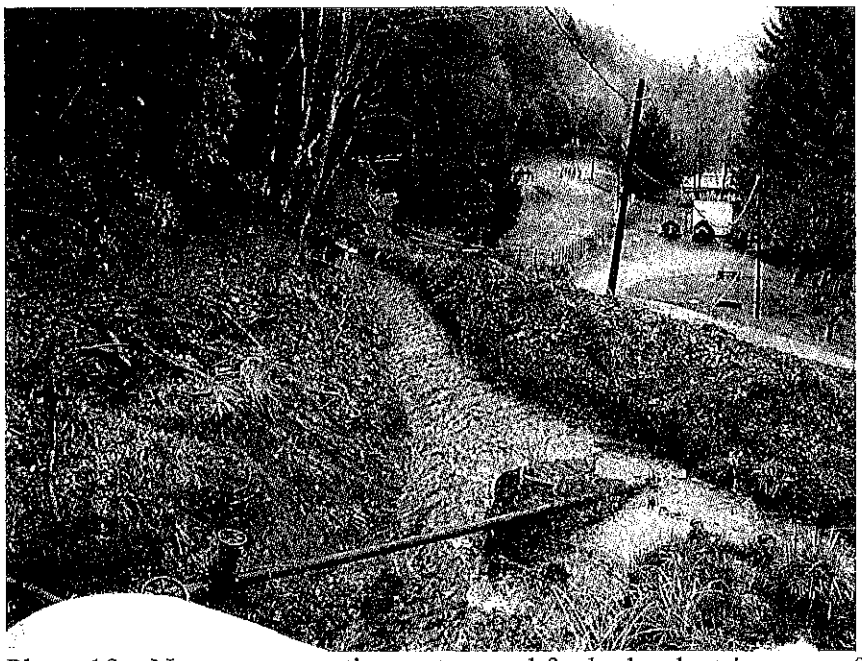

Photo 18 – None consumptive water used for hydroelectric power flowing towards the Coles' pond.

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REGISTRATION: D030945 **STATEMENTS: S015022 & S016375**

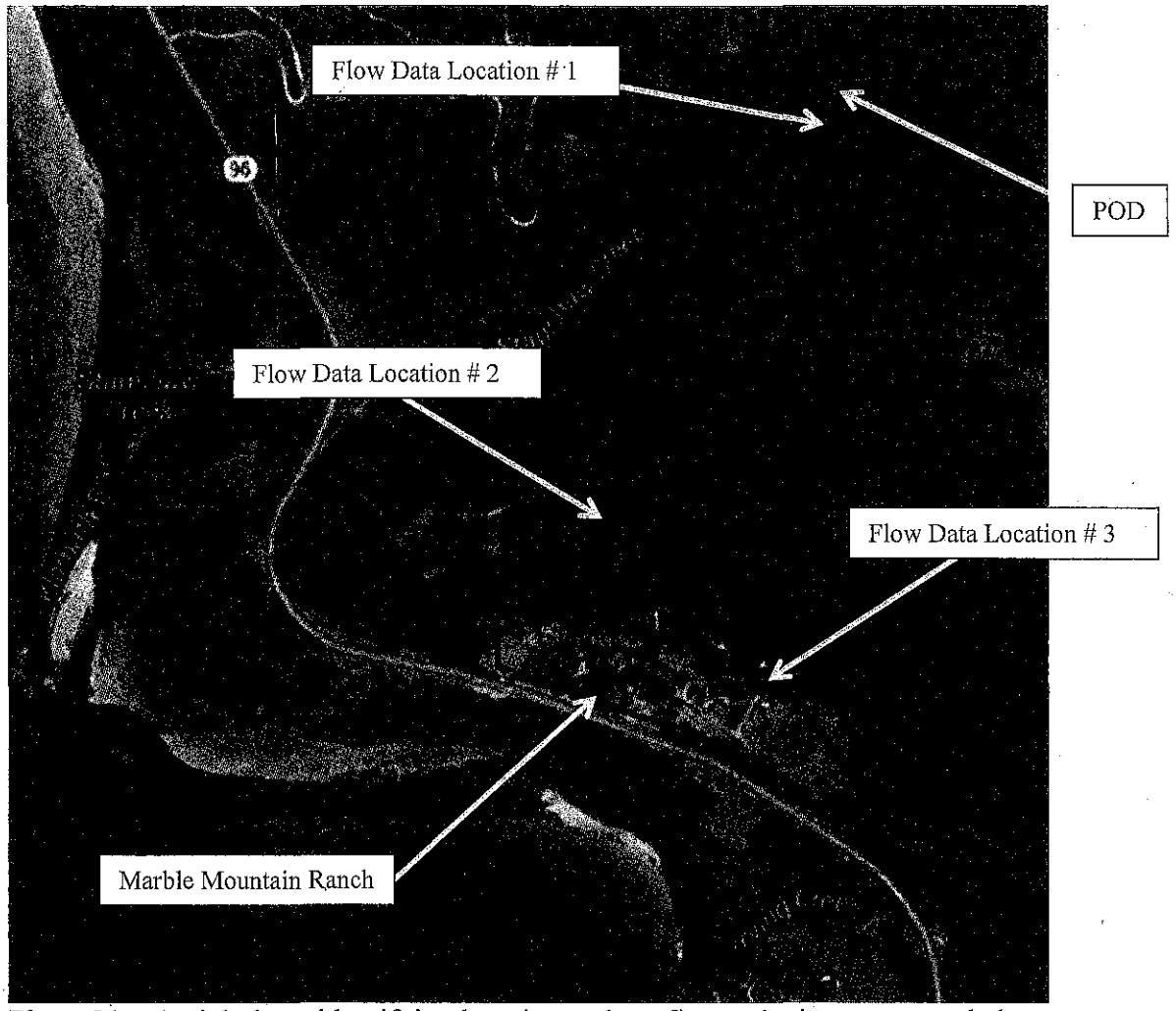

Photo 21 – Aerial photo identifying locations where flow velocity was recorded.

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CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

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

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 Henrioulle, by email at Diana.Henrioulle@waterboards.ca.gov, or by phone at (707) 576-2350.

Sincerely,

Digitally signed by Joshua R. Curtis
Date: 2015.12.03 12:24:53 -08'00'

Water Boards

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

151203_SRF_ef_Marble_Mountain_NOV

Enclosures: Inspection Report
Draft Cleanup and Abatement Order

California Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

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 Henrioulle – 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 crossing[1]. 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.

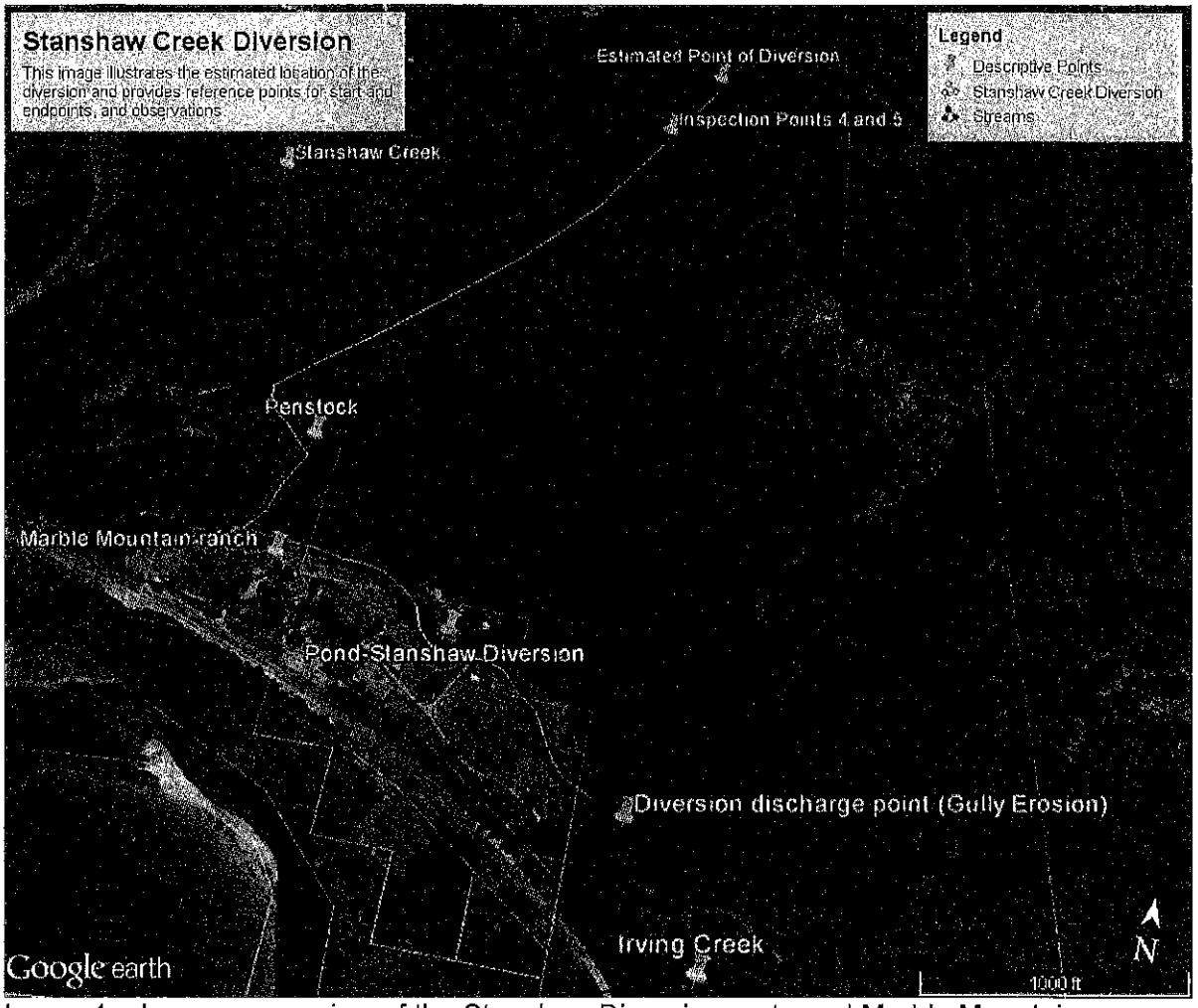

Image 1- shows an overview of the Stanshaw Diversion route and Marble Mountain Ranch. The locations identified are estimated based upon visual observation of the area during the inspection and through subsequent comparison with existing 6/6/2013 Google Earth Pro imagery, Arcview GIS topographic maps,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

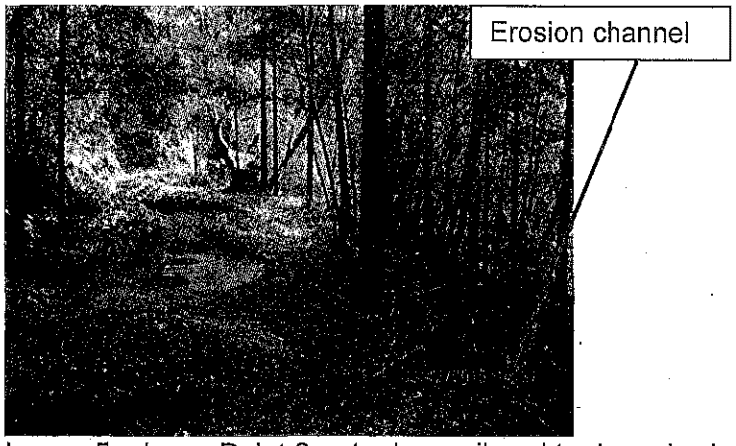

Image 5- shows Point 3, a tank or railroad tank car buried in the ditch channel, likely intended to trap sediment. The tank car is full of sediment. Water flowing in the ditch appears to have overtopped the outboard berm at this location and caused some erosion on the slopes below. (Photo 8467)

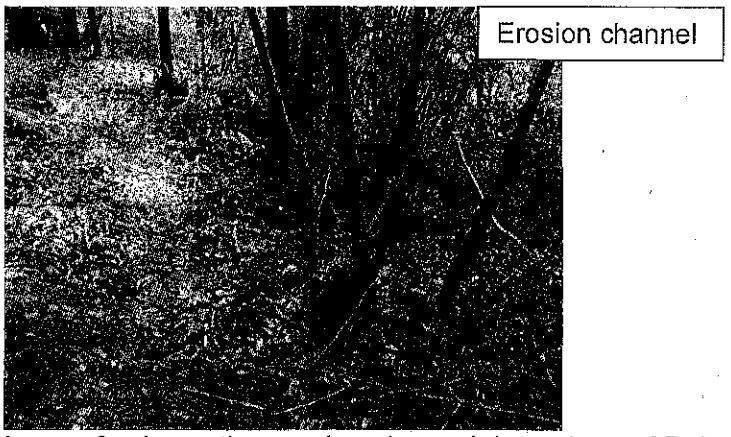

Image 6- shows the erosion channel downslope of Point 3.

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.

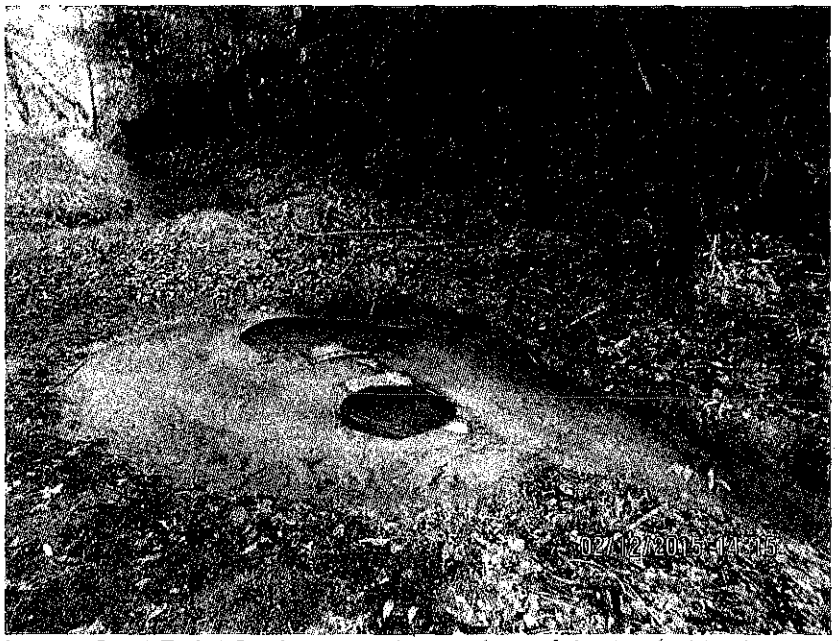

Image 8- at Point 3, shows a closer view of the buried tank car with stored sediments visible. (Photo 8450)

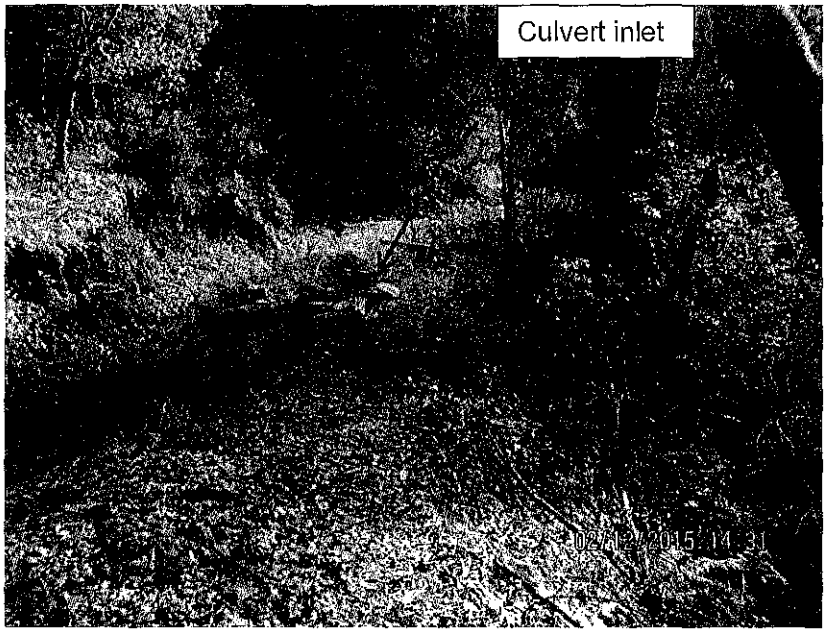

Image 9- at Point 4, shows the partial diversion of the ditch into an unnamed tributary to Stanshaw Creek through the inlet of a 12-inch culvert, before the diversion ditch is routed across the stream in a lined ditch. The culvert is shotgunned, which appears to have caused significant instream erosion 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)

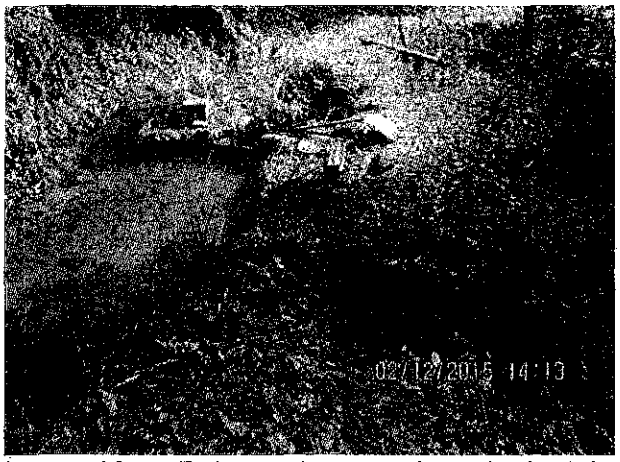

Image 10- at Point 4, shows a closer look at the seepage in the berm; note the muddy soils in the foreground. (Photo 8441 cropped)

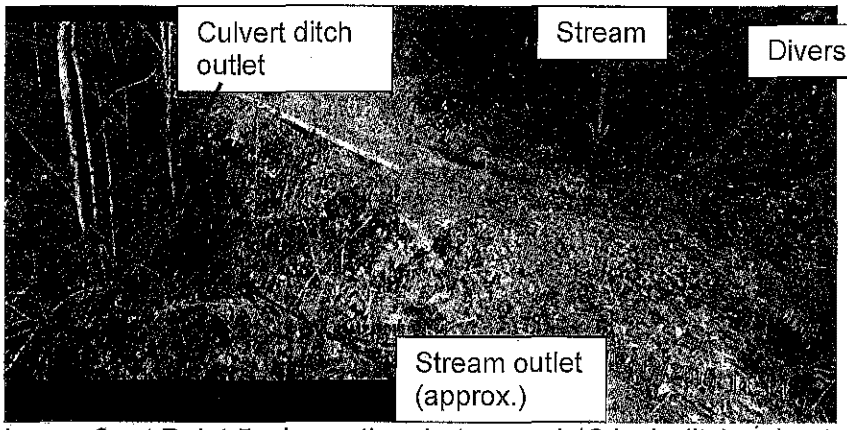

Image 9- at Point 5, shows the shotgunned 12-inch ditch culvert outlet, diversion ditch and native stream channel flowing under the diversion ditch. (Photos 8442, 8443, 8444, 8445 composite)

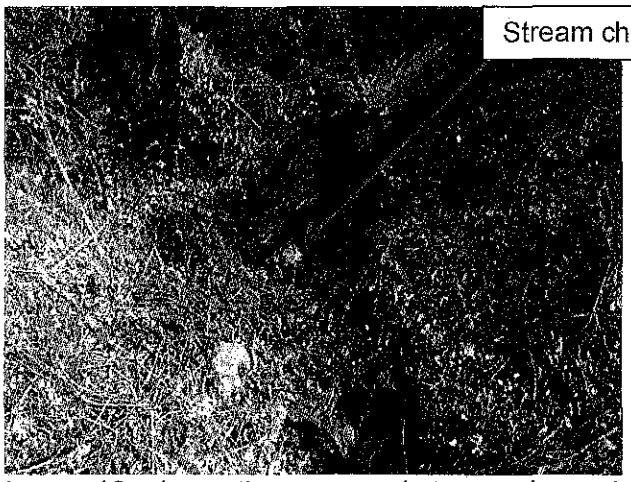

Image 10- shows the unnamed stream channel above Points 4 and 5; the upslope active bankfull stream channel width is approximately 3-4 feet.

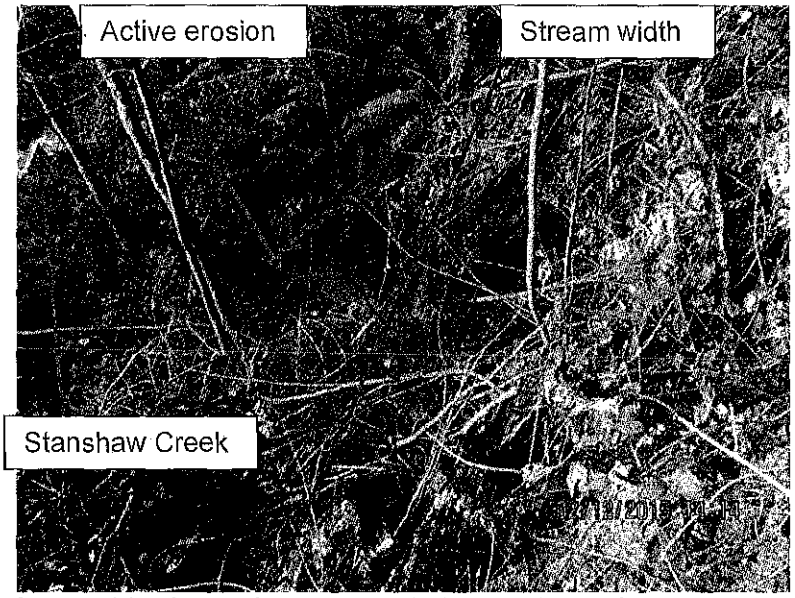

Image 11- shows the unnamed stream channel downstream of Point 5, and the erosion caused by water draining from the shotgunned culvert. Stanshaw Creek can be seen a short distance downslope. I conservatively estimate that this site has delivered 150-300yds^3 of sediment and debris to Stanshaw Creek over 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)

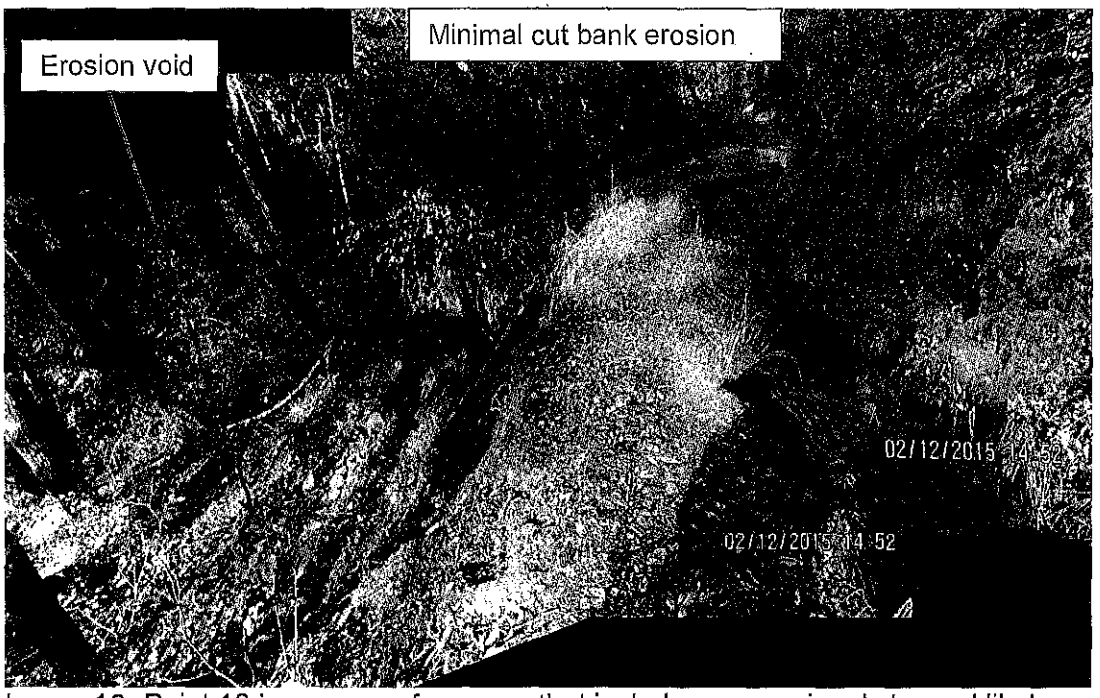

Image 16- Point 10 is an area of concern that includes an erosional channel likely formed by a berm failure and active erosion visible on the cut bank. I observed active cut bank erosion on many of the upper slopes above the diversion ditch and expect that bank slumps have and are contributing significantly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

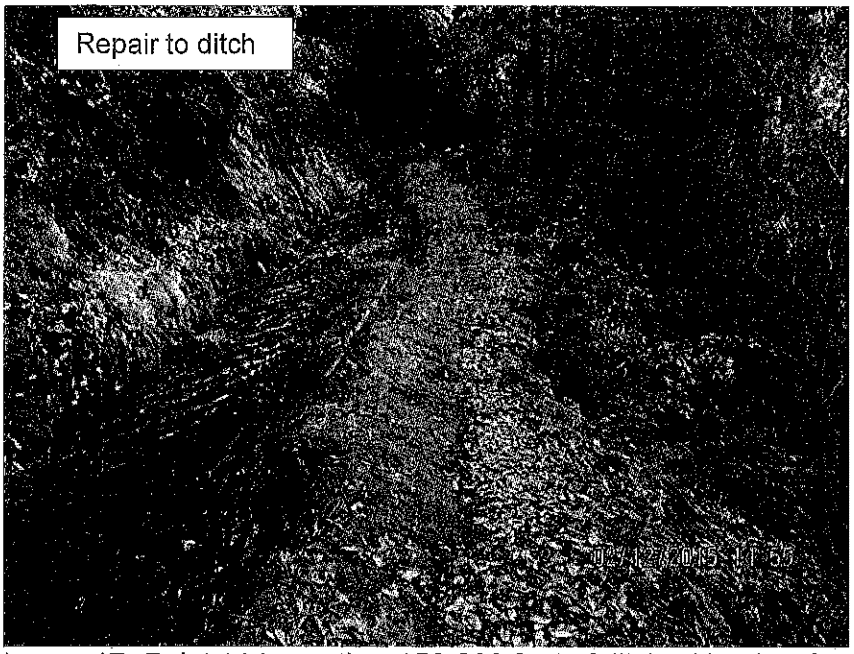

Image 17- Point 11 is another 150-200 feet of ditch with a low freeboard and evidence of past failures; this ditch segment leads to a section of ditch subject to a recent bank failure. I observed erosion scars on the lower slopes that are now overgrown with ferns and small shrubs. (Photo 8499)

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 yds^3 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)

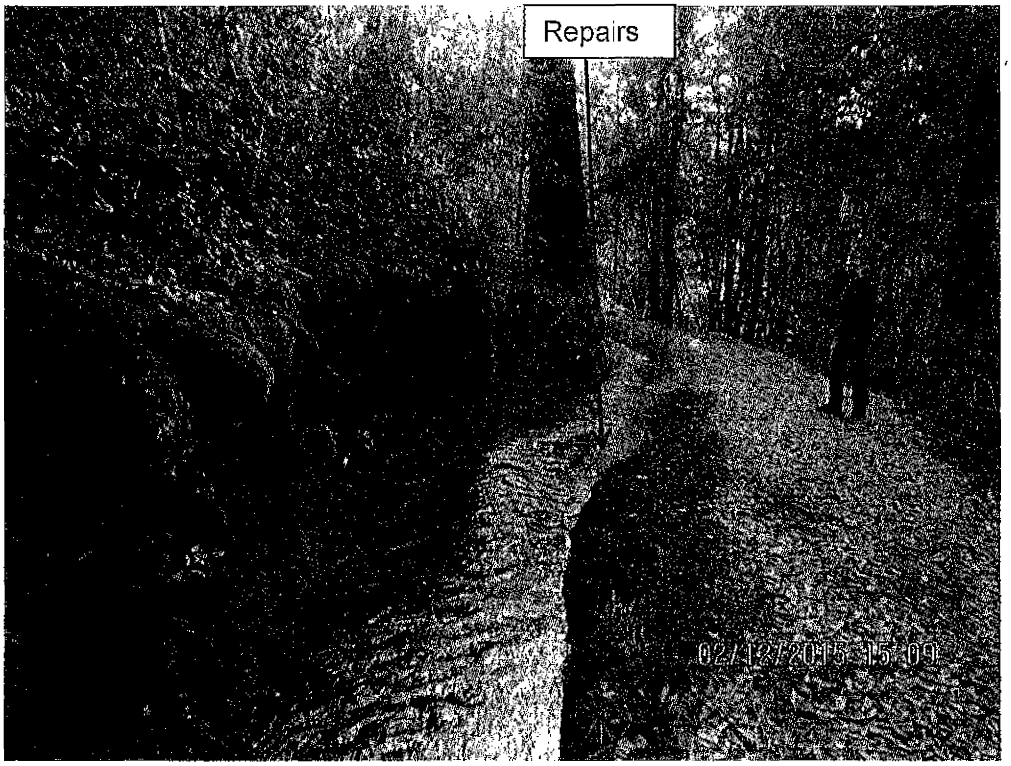

Image 22- Point 15 shows an active cut bank slump, and evidence of recent repairs to the ditch and berm. (Photo 8523)

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.

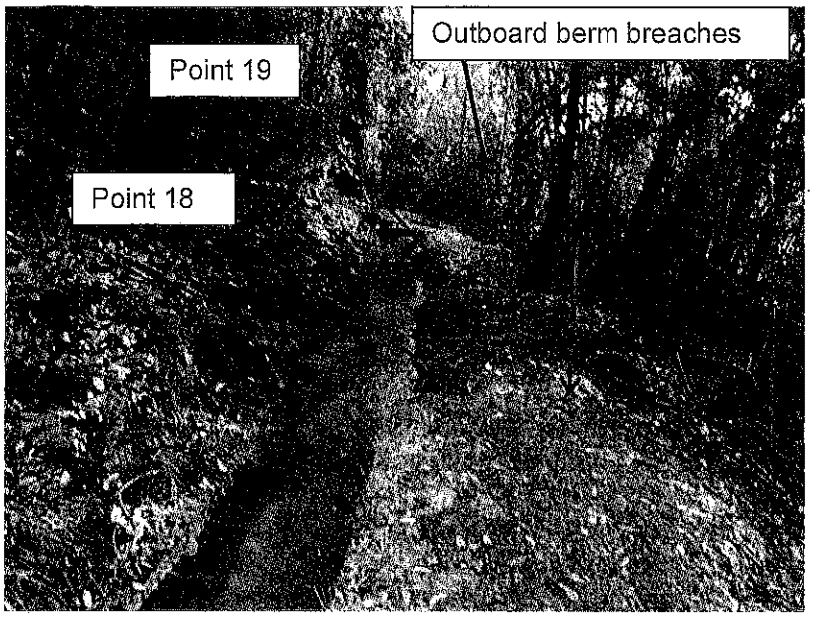

Image 25- shows two locations, points 18 and 19, where the outboard berm has apparently breached in the past, resulting in gully erosion on lower slopes. The failure at Point 19 resulted in the formation of a gully channel for a long distance down the slope, and may have contributed a significant sediment 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 yds^3 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.

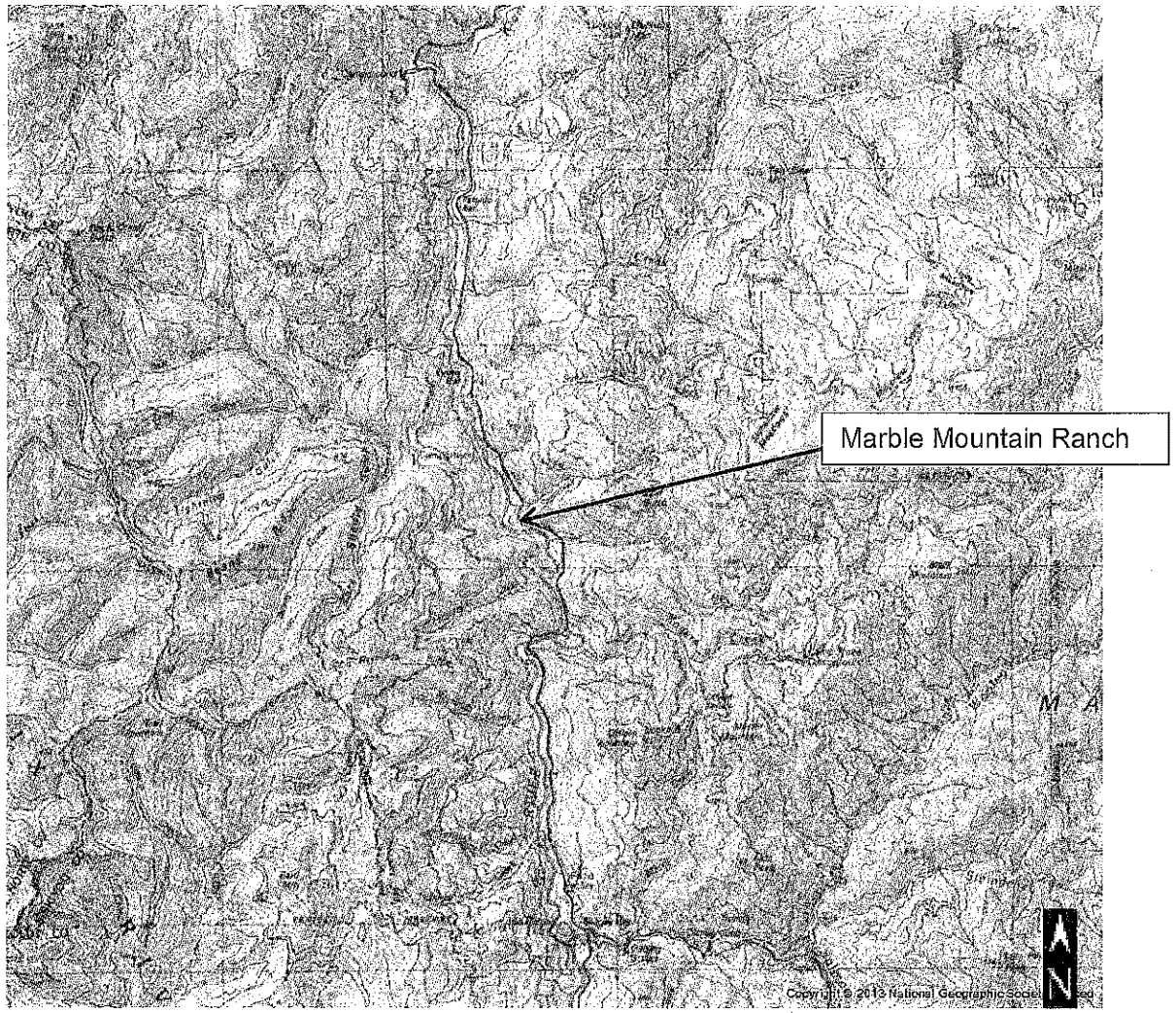

Image 27 shows the general location of the Marble Mountain Ranch.

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.FR. 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:

i. The waters for beneficial uses;
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):

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 flows in the ditch chronically overtop portions of the 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 a location where it can 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 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 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.

Shin Roei- Li
Assistant Executive Officer

151203_SRF_ef_MarbleMountainRanch_CAO_Draft

July 1, 2015

NMFS INSTREAM FLOW RECOMMENDATIONS FOR MARBLE MOUNTAIN RANCH DIVERSION

Coho use of Stanshaw Creek flows:

Juvenile salmonids rely on the cold water refugia provided by off channel habitat and tributaries such as Stanshaw Creek. When the mainstem Klamath River temperature rise and flows recede, juvenile coho seek off-channel cooler habitat where they may remain throughout the warm season. The off-channel pond at the Stanshaw Creek confluence with the Klamath River provides important rearing habitat for juvenile coho, as well as for chinook and steelhead. In the Klamath River, mainstem temperatures can range from 21 – 27 ºC in July and August with daily extremes as high as 29.5 ºC (Belchick 1997; Bartholow 2005). Preferred temperature ranges for juvenile coho salmon rearing have been reported from 11.4 - 14.6 ºC (Brett 1952; Coutant 1977; Beschta, Bilby et al. 1987) with lethal temperatures occurring at 25.8 ºC (Beschta et al 1987) and cessation of growth at a temperature of 20.3 ºC (Brett 1952; Reiser and Bjornn 1979). Besides directly causing physiological stress, elevated water temperatures in the Klamath River are correlated with prevalence of diseases including *Ceratomyxa shasta* that cause mortality in Klamath River coho salmon (Hallett, Ray et al. 2012; Ray, Holt et al. 2012)

The flow volume in Stanshaw Creek is important during the late spring and summer to provide access and also to provide the attraction flow to help the juvenile coho locate the cold water refugia. Access to tributaries becomes increasingly important as water temperatures in the Klamath River begin to reach levels that cause stress and limit juvenile coho growth, typically starting in mid-May and continuing through October (Bartholow 2005, Belchik 1997). Lethal water temperature occur in the mainstem Klamath in July and August, reaching exceedence levels of over 50 percent (Asarian 2013). It is important that coho have a chance to get out of the mainstem before it reaches these levels, so it is critical that the tributaries remain connected before the mainstem reaches the lethal levels.

The connectivity between the Klamath and the off-channel pond and stream is most important to coho in this warm transition period, but coho may continue to utilize the mainstem Klamath River for feeding opportunities even as the mainstem reaches the extreme temperatures throughout the summer. Witmore documented a daily migration pattern of juvenile coho salmon from Tom Martin Creek (a cold water tributary) into the mainstem Klamath River; presumably to access food resources(Witmore 2014). This migration pattern continued throughout the summer season due to flows from Tom Martin Creek creating a cold water plume in the mainstem.

In the period of record analyzed, the estimated 7-day low flow dropped below 1.9 cubic feet per second (cfs) sometime within the August-October period in each of the four years analyzed. The period analyzed represents an average hydrologic period for Stanshaw Creek. The data indicate that even without a surface water diversion, the flows in Stanshaw Creek may naturally decrease

to the point of disconnection with the mainstem. However, during the times of disconnection, Stanshaw Creek flows continue to flow subsurface to the pond and to the Klamath River, providing critical cold water refugia and a source of good water quality vital to the survival of juvenile coho in the warm low flow period. During the summer of 2012, Witmore documented water temperatures averaging 16ºC in Stanshaw Creek pond, and a population estimate of 140 juvenile coho salmon, with high rates of growth at 0.004 g/g/day (Witmore 2014).

Instream flow recommendation:

There is no single flow identified as a "tributary connection flow" since the connection depends on groundwater flow, water level in both the Klamath and Stanshaw Creek, and the size of the sediment berm at the confluence. Though connection to the pond would be beneficial at all time, it is most important at flows that occur in May and June. Based on the flow analysis using the Ti Creek station, the estimated minimum unimpaired 7-day average low flow in Stanshaw Creek for both May and June is 3.1 cfs. Observations by Taylor estimated a Stanshaw Creek flow of 1.3 cfs when the pond was not connected to the mainstem on November 17, 2014 (Taylor 2015). A lowest flow in Stanshaw that ensures connectivity is probably between 2.0- 3.0 cfs considering the annual variation in the groundwater and berm configuration. There is a large range of the annual 7-day low flow minimum and maximum flow in May and October; the beginning and end of the warm season (Table 1).

Table 1 Stanshaw Creek 7-day low flow range for the 1961-1964 period analyzed (estimated as an average hydrologic period).

	Range of 7-day low	
	minimum (cfs)	maximum (cfs)
May	3.1	16.8
June	3.1	9.3
July	2.2	6.0
August	1.9	3.8
September	1.7	2.9
October	1.0	15.1

The variability of streamflow from year to year is large but each component of the receding hydrograph has an important biological role whether to provide good water quality to the Klamath, to provide an attractive flow for juvenile coho before temperatures rise in the mainstem, or to provide connectivity to Stanshaw Creek. Flows need to be conserved on wet years to provide the tributary connection, improved water quality, and cold water attractive flow into the Klamath. Flows need to be conserved on dry years to maximize the water quality and food supply to the off-channel pond and cold water seep to the Klamath. Because of the thermal sensitivity and connectivity needed throughout the summer, the diversion should be limited to zero or a small fraction of the flow as the flows recede and water temperatures rise. NMFS

recommends that no more than 10% of the estimated unimpaired flow be diverted from Stanshaw Creek from May 15 through October 31 regardless of the water year type and that no diversion be allowed below 1.5 cfs to ensure water quality and food supply is maintained for the over-summering coho in the pond. Based on stream flow estimates shown in Table 1, an unimpaired stream flow below 1.5 cfs likely occurs only in very dry years in the late part of the low flow season.

A diversion of 10% would allow a variable diversion throughout the summer season (Table 2). A variable diversion can be difficult to manage and is dependent on constant stream flow measurement. Stanshaw Creek has no other known diversions above the Marble Mountain ranch diversion, so the stream flow above the diversion is assumed to be unimpaired flow. Because Stanshaw Creek has several steep areas limiting fish access and steepens to over a 6% slope in the vicinity of the diversion, the upper part of the stream is not expected to provide much if any spawning or rearing habitat for salmonids. Because of the limited habitat above the diversion, NMFS recommends that a flume type diversion structure be designed to control the diversion rate to 10% of the existing flow. The structure would be designed to allow 10% of the flow to be diverted so that the following diversion rates would occur between May 15 and October 31

Table 2 Table of diversion rates using 10% rule and 1.5 cfs minimum bypass

Flow rate above diversion (cfs)	Diversion(cfs)
10	1
5	0.5
3	0.3
2	0.2
1.5	0

Diversions that occur from November 1 through May 14 could utilize the same weir structure with an upper limit based on the maximum water right. The lower reach of Stanshaw Creek provides rearing habitat for adults and juvenile coho in the November through mid-May period as well as important macro-invertebrate production. Hydraulic analysis based on five cross sections surveyed in 2002 above the Highway 96 culvert, show an inflection in the water surface width as the flows drop below about 1.5 to 2.0 cfs (Figure 1, Figure 2, Figure 3). The inflection on the curve represents the low flow channel and the point where the wetted channel width drops off quickly with flow. It is important to maintain this base flow to protect macro-invertebrate production and to provide a minimum level of edge water rearing area. Two cubic feet per second bypass flow should protect the edge water during the November – mid-May period when flows drop to these low levels. Table 3 shows the estimated range of flows that occur in the November through May period. The minimum flows in this period generally occur between storms and do not represent the spring recession flows typical in May.

The habitat identified for this recommendation is based on food supply but change to the recession part of the hydrograph in this period is abrupt and may adversely affect species that are not currently listed under the Endangered Species Act. NMFS recommends that diversions occurring using this recommendation return any hydroelectric portion to the stream after use to avoid unnecessary impacts.

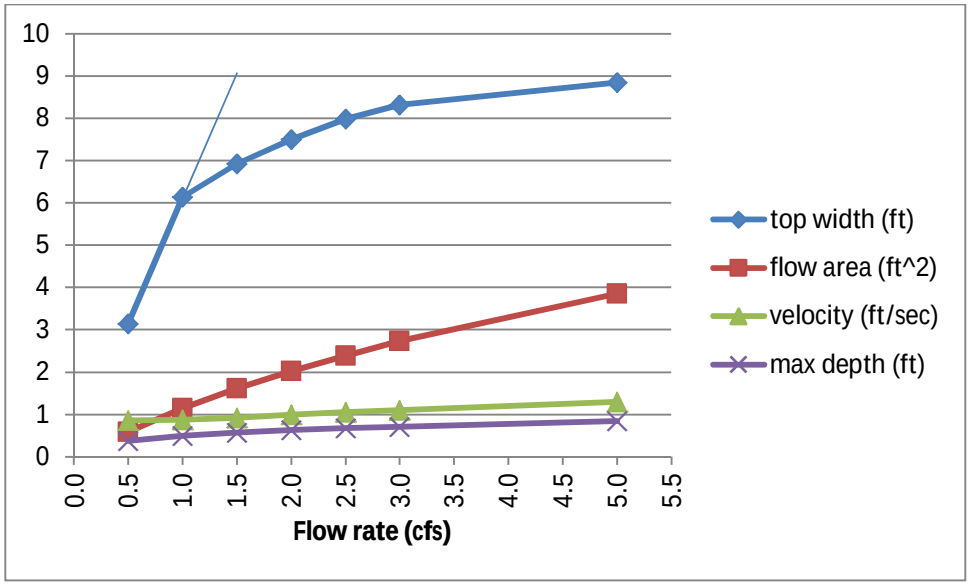

Figure 1 Cross Section 2 (sta 89.83)

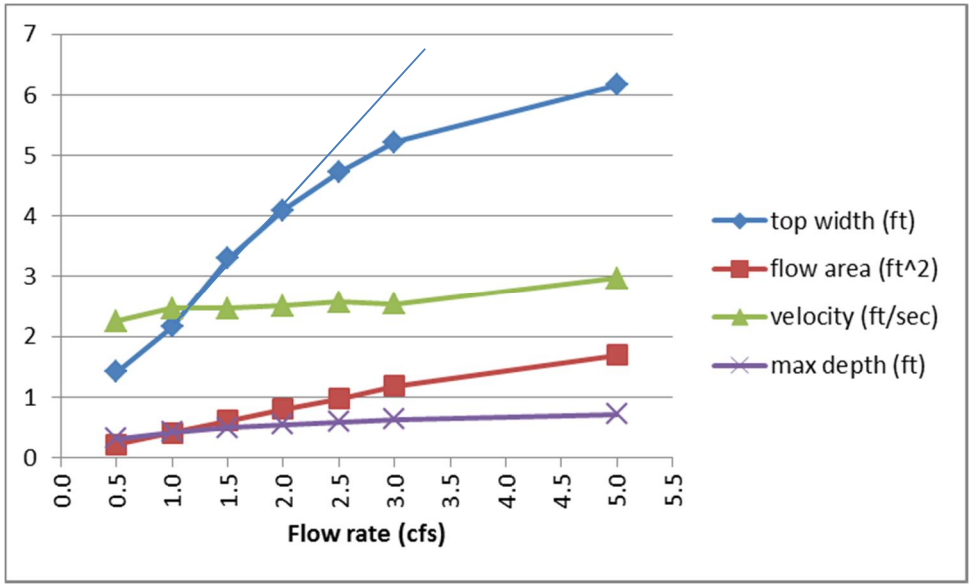

Figure 2 Cross Section 3 (sta 75.33)

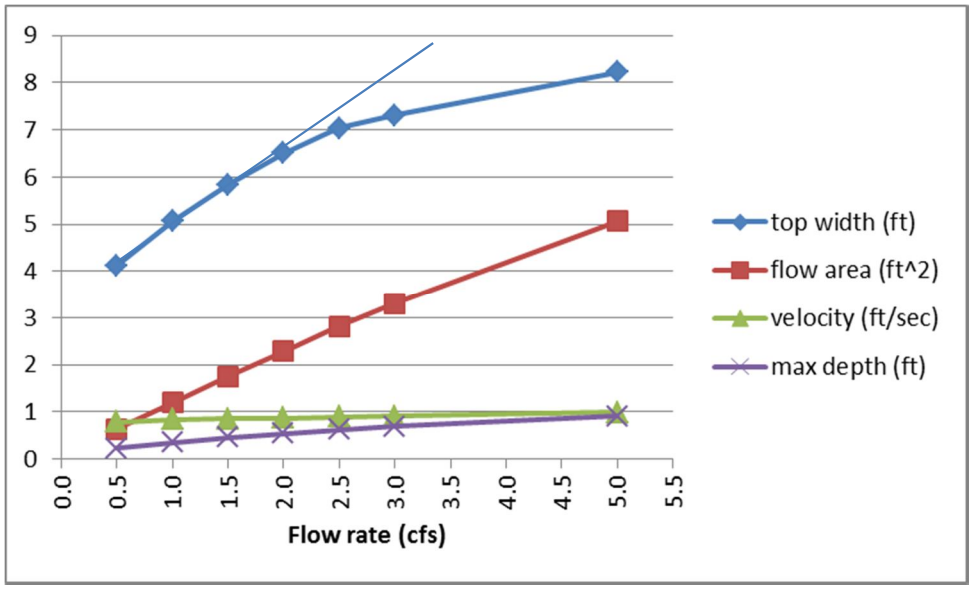

Figure 3 Cross Section 4 (sta 54.13)

Table 3 Estimated range of flow from November to May

	November - May		
Month	average(cfs)	minimum(cfs)	maximum(cfs)
January	7.5	2.3	84.2
February	13.5	4.6	47.9
November	6.1	0.9	42.5
December	7.7	2.9	62.5
March	11.3	5.4	31.7
April	11.9	5.7	34.2
May	8.1	2.3	17.4

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