Testimony of Douglas Cole

My wife, Heidi Cole, and I (collectively, "we") are the owners and operators of Marble Mountain Ranch (the "Ranch" or "MMR"), which is a guest ranch with nine cottages and two homes that can host up to forty-five guests at a time. MMR operates seasonally from April 1 through December 1. Guests stay in cottages and are taken on expeditions in the National Forests that abut my property and engage in other nature related recreational activities, such as horseback trail riding, whitewater rafting, kayaking, shooting, fly fishing, and boating activities. To occupy the Ranch as our home year-round and operate the Ranch seasonally as a nature-related dude ranch, we rely on our pre-1914 three (3) cubic feet per second ("cfs") water right to Stanshaw Creek to provide the facilities with water and power. Without this water, the Ranch will not be able to continue to operate and my family and I will not be able to continue to reside there as our home. The property will lose all value.

A. Brief Timeline of Events

1994	Purchased Ranch
March – August 2000; June 2001	Protests filed on water rights application beginning over 20-year stakeholder process
Early 2000s – Late 2010s	Stakeholder Meetings
Late 2014	Pre-1914 Water Right Established
December 17, 2014 and February 12, 2015	Inspections of Marble Mountain Ranch by State Water Resources Control Board and North Coast Regional Water Quality Control Board
August 4, 2016	National Marine Fisheries Service bypass flow recommendation issued by letter dated August 3, 2016
August 4, 2016	Cleanup and Abatement Order Issued
August 30, 2016	Draft Order Issued

B. Property Description

The Ranch is located along Highway 96 in Somes Bar, California (Latitude 41° 28' 00", Longitude 123° 30' 12"). It is identified by Siskiyou County Assessor Parcel Numbers ("APN") 026-290-200-000 (43.17 acres), 026-290-240-000 (4.20 acres), and 026-290-270-000 (0.00 acres).[1] The Ranch diverts water from Stanshaw Creek for consumptive and non-consumptive uses. The Ranch was formerly owned by Robert E. and Mary Judith Young (the "Youngs"). My wife and I purchased the Ranch and its accompanying water rights from the Youngs in 1994.

[1] APN 026-290-270-000 likely has an area between 0.05 and 0.10 acres, based on Assessor Parcel Maps and Google Earth parcel boundaries.

C. Water Rights History

We divert surface water from Stanshaw Creek, a tributary to the Klamath River, under a pre-1914 claim of right in two Statements of Water Diversion and Use ("Statements"), S015022 and S016375. MMR also has one Small Domestic Use Registration, D030945R, filed on December 1, 1998. The point-of-diversion ("POD") for all of the 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"). Photographs of the diversion and POD are included with this testimony as **Exhibit MMR-02**.

On March 27, 1989, the Youngs filed Application 29449 to appropriate 2,168 acre-feet per year of water, at a rate of three (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.

In 1994, my wife and I purchased the ownership of the Ranch and its water rights from the Youngs. In November 17, 1994, the State Water Resources Control Board ("State Water Board") Division of Water Rights ("Division") updated its records to reflect that my wife and I are the owner of the diversion pertaining to Application 29449.

On December 1, 1998, S015022 was filed with the State Water Board under the name of Douglas T. Cole for the following purposes of use: domestic, power, irrigation, fish and wildlife protection and/or enhancement, fire protection and stock watering. S015022 claims a right to divert 2.5 cfs with no seasonal restrictions and is limited to such water as shall be reasonably required for beneficial use.

On May 28, 2010, S016375 was filed with the State Water Board for irrigation and domestic uses under the name of Marble Mountain Ranch. S016375 claims 3.0 cfs with no seasonal restrictions and is limited to such water as shall be reasonably required for beneficial use.

In 2014, after extensive study and review, including the Marble Mountain Ranch Stanshaw Creek Water Rights Report prepared by Lennihan Law, P.C., our pre-1914 three (3) cfs claim of right was finally confirmed by the Division.

D. Water Uses at Marble Mountain Ranch

All of the water we divert is put to a beneficial use, as described below. These uses include domestic use for residents and guests at the Ranch, hydropower generation, irrigation, stock watering, and fire protection. The diversion originates on Stanshaw Creek and discharges to Irving Creek, near Somes Bar. Both Stanshaw and Irving Creek are tributaries to the Klamath River. Diversion flows from Stanshaw Creek provide the water necessary to operate MMR and serve onsite residences. The diversion conveys up to three (3) cfs of flow into the diversion canal using a hand constructed gravel and cobble dam. We use the water for consumptive and non-consumptive purposes. Consumptive uses include:

- Irrigation of three (3) pastures for livestock, a greenhouse, garden, orchard, and landscaping;
- Water supply for commercial and private kitchens, toilets, laundry facilities, and drinking water; and
- Evaporation and transpiration from water storage for periodic fire suppression.

The primary non-consumptive use is power generation. Some water is also diverted towards a small pond on the ranch for non-consumptive purposes, including recreation, aesthetics, fire suppression storage, and fish and wildlife. Since all the diverted water is put to beneficial use, the diversion is not a waste, an unreasonable use of water, or an unreasonable method of diversion. Photographs of the diversion are included with this tesimtony as **Exhibit MMR-02**.

E. Water Diversion System

The Ranch's diversion has been in place for over 150 years. 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). This diversion has been in place for over 100 years, since about the 1860s. The POD is located on Stanshaw Creek, about 0.68 miles upstream of the Highway 96 crossing, 0.87 miles upstream of the confluence with the Klamath River, and 8 miles north of Somes Bar. A gravel and cobble push-up dam diverts water from Stanshaw Creek to the Ranch. Photographs of the diversion dam at the POD are included with this testimony as **Exhibit MMR-02**.

Water from the diversion ditch is routed to the Ranch's seven 3,000 gallon plastic water storage containers via gravity by a two-inch PVC pipe. Water conveyed to the water storage containers are MMR's only source of water for domestic and consumptive uses. Photographs of the water storage tanks are included with this testimony as **Exhibit MMR-03**. We treat the domestic and consumptive use water at the Ranch by using slow sand filter technology and chlorination. This water serves as the Ranch's domestic and consumptive use water for residents and guests staying at the Ranch, in addition to limited irrigation.

The diversion ditch conveyance system continues below MMR's water treatment tanks and conveys water which is not used for domestic or consumptive purposes to a 14-inch diameter penstock pipe that is approximately 450 feet long with an approximate vertical distance of 200 feet. Water that is conveyed through the penstock is used for hydropower and is connected to MMR's irrigation system. The power generation facility consists of an 18" Pelton wheel that is powered by two pressurized jets. Photographs of the Pelton wheel and hydropower plant are included with this testimony as **Exhibit MMR-04**. Water flowing through the hydropower facility is then discharged into a diversion ditch that flows to MMR's pond. The pond serves as a recreational feature and provides fire protection. Photographs of the pond during a time when it was below capacity due to a reduced diversion are included with this testimony as **Exhibit MMR-05**. Water used for irrigation and fire protection is conveyed through a short run of 9-inch diameter steel pipe to a junction that reduces to a 4-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 flows into a ditch below the pond. The water continues across the property for approximately 850 feet to the south where it drops off a head cut to a ravine with a creek that is tributary to Irving Creek. Photographs of the outfall at Irving Creek are included with this testimony as **Exhibit MMR-06**. Irving Creek is a tributary to the Klamath River located approximately one mile downstream of the Stanshaw Creek and the Klamath River confluence. Both Stanshaw and Irving Creek are tributaries to the Klamath River. Thus, the water used for hydroelectric generation returns to the Klamath River, just as it would if the flow was returned to Stanshaw Creek.

The diversion system does not result in waste, an unreasonable use of water, or an unreasonable method of diversion. The diversion ditch uses unlined ditches, used throughout both the Klamath Basin and the state of California, generally, to convey water to the Ranch and is operated in a manner to keep conveyance loss to a minimum. These operational practices include regular monitoring and maintenance of the ditch to ensure any irregularities are quickly addressed to prevent excessive conveyance loss. All of the water the Ranch diverts is put to a beneficial use, as demonstrated above.

F. Stakeholder and Regulatory Agency Collaboration

I have been actively engaged with stakeholders, including the State Water Board and the North Coast Regional Water Quality Control Board ("Regional Board" and collectively, "Water Boards"), for over 20 years regarding the diversion at MMR. This more than 20-year period of collaboration has sought a permanent physical solution that benefits all stakeholders within the Stanshaw Creek system. Most of the resource improvements identified in the Water Boards' enforcement actions have been previously identified and agreed upon by all stakeholders, including myself, in the Stanshaw Creek system early on in the process. As part of those discussions, I indicated that I was willing to cooperate in the efforts to implement improvements, provided there was funding available to finance the costs associated with those improvements.

Throughout these 20 plus years, I continued to cooperate and seek a collaborative approach to improving the diversion at the Ranch. However, funding remains the main barrier to implementation of these solutions. As a small business owner, I lack the substantial capital necessary to fund these projects on my own. I have attempted to identify and obtain outside funding to implement these solutions. Unfortunately, the issuance of the enforcement orders disqualified the ranch from most funding sources. At this time, all the funding I obtained has been withdrawn and future funding remains elusive given the uncertainty in my pre-1914 three (3) cfs right.

For most of the past 20 years, resource improvement efforts were sidetracked while the State Water Board reviewed my pre-1914 three (3) cfs water right. Following extensive study and review by an outside consultant, my pre-1914 right was finally confirmed in 2014. After my pre-1914 right was confirmed, I focused my attention on seeking grant funding to implement the resource improvements previously identified at the collaborative stakeholder meetings. The grant funding process has been slow and arduous. Initially, I secured one grant to study the best approach to potential improvements to the diversion and water system, but was unable to obtain

additional grant funding to implement those improvements. Despite this lack of funding, I expended a significant amount of my own resources to take proactive steps in improving both the diversion and the Stanshaw Creek system generally.

1. Stakeholder Meetings

Since acquiring the Ranch, I have participated in numerous meetings with other stakeholders along the Stanshaw Creek system to find a permanent physical solution that benefits all stakeholders within the Stanshaw Creek system. These stakeholder meetings have included other property owners within the Stanshaw Creek system, regulatory agencies, local tribes, other interest groups, and myself. A brief description of the history of these stakeholder meetings is provided below.

- 2001 & 2002

All stakeholders, including myself, concurred that revising the path of return flow from discharge at Irving Creek, either by returning water to Stanshaw Creek above Highway 96 or directly to the Klamath River, could be an approach to improve the Stanshaw Creek system. I agreed to participate in a project to return flow if funding for that project was available to address the costs associated with it.

- May 5, 2005

A number of potential improvements to the diversion were identified. One of the identified improvements was a project that would return water used for hydroelectric power to Stanshaw Creek via a pipeline installed near Highway 96. That solution was identified based on the then existing circumstances. In 2005, there was both funding available and ongoing work near Highway 96, including ditches being dug to install fiber optic cable. These ditches could have been utilized to easily include a return flow pipe for the diversion. However, the work near Highway 96 is now complete and the ditches have since been filled. The funding opportunities that were available at that time are also no longer available. A similar improvement for returning flow to Stanshaw Creek through a piped conveyance along Highway 96 is estimated to cost millions of dollars and require extensive permitting and other regulatory approvals that could delay the project for years, if not a decade or more.

- December 17, 2014

Stakeholders present included Departing of Fish and Wildlife, National Oceanic and Atmospheric Administration, US Forest Service, Mid Klamath Watershed Council, Karuk Tribe representatives, downstream land owner Konrad Fisher, and the Coles. 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.

- January 14, 2016

This meeting further refined the ideas for managing the diversion into the future. NMFS presented initial instream flow recommendations, but did not provide a final recommendation. All stakeholders awaited a final recommendation to continue to access the approaches for improvements at the Ranch, including me and the team of consultants then assisting me.

- May 14, 2016

The Mid Klamath Watershed Council arranged this meeting. Various stakeholders, including the State Water Board, participated in the meeting, which continued discussions for resource improvements at the POD and Ranch. At the time, the NMFS had yet to issue its bypass flow recommendations. The stakeholders present agreed that future actions were contingent and dependent upon the NMFS bypass flow recommendation.

2. End of Voluntary Collaboration, Beginning of Enforcement Efforts

Initially, I entered into this process voluntarily, as a stakeholder within the Stanshaw Creek system seeking a collaborative, permanent physical solution. I continued to voluntarily participate in these efforts for 20 years, dedicating a significant amount of my limited time and resources allowing studies of the diversion and Stanshaw Creek as well as implementing improvements identified by stakeholder meetings.

The collaborative efforts of the last 20 years have been undermined by the sudden, successive issuance of two main enforcement actions by the Water Boards, namely Cleanup and Abatement Order No. R1-2016-0031 ("CAO"), issued by the Regional Board on August 4, 2016, and Draft Order 2017-00XX-DWR ("Draft Order"), issued by the Division on August 30, 2016. Within the span of a month, 20 years of collaboration have been replaced with directives and mandates from the Water Boards.

The issuance of the Water Boards' Draft Order and CAO was especially shocking given the timing between the issuance of the Draft Order and CAO and the issuance of NMFS' bypass flow recommendation. NMFS issued its recommendation on August 4, 2016, by letter dated August 3, 2016. The issuance of the CAO on August 4, 2016, and the Draft Order on August 30, 2016, gave us no time to assess, respond to, or evaluate whether we could comply with the recommendations NMFS made before the Draft Order and CAO were issued. Both the CAO and Draft Order required improvements at the Ranch that were based on complying with NMFS' recommendation.

Once we were able to assess NMFS' recommendation, it was clear that we would not be able to comply. The recommendation does not allow for the diversion of water when flow in Stanshaw Creek does not provide for a two (2) cfs bypass flow and requires that water diverted for hydroelectric power generation use be returned to Stanshaw Creek. I must divert water from Stanshaw Creek for domestic and consumptive uses even when flow in Stanshaw Creek does not provide the required bypass amount. Stanshaw Creek is the Ranch's only source of water. The second portion of NMFS' recommendation would require that I spend into the millions of dollars and would require years of regulatory approvals and permitting.

The financial impact and the time required to implement NMFS' recommendation make it an impossibility. Nevertheless, as discussed further below, I have implemented diversion management practices to address the NMFS recommendations while I seek out potential improvements at the Ranch to address the bypass flow and other requirements under the Draft Order and CAO.

The Draft Order and CAO undermine the voluntary, collaborative effort among the stakeholders up to the Draft Order and CAO's issuance by mandating studies and specific physical improvements within a timeline which I was simply unable to comply with due to lack of funding and consultant time constraints. Despite my inability to comply with the deadlines, I continued to make efforts to provide the information required by the Draft Order and CAO. I engaged consultants that began the process of completing water and energy efficiency studies and securing grant funding to implement the six-inch pipe project. I was and still remain strongly committed to working with the Water Boards to find a permanent solution for the Stanshaw Creek diversion.

G. History of Water Boards' Actions Against Marble Mountain Ranch

The Ranch has been the subject of several investigations, violations, and enforcement actions by the Water Boards over the years, including three (3) notices of violation, the CAO, and the Draft Order.

The Water Boards' enforcement actions against the Ranch began on December 3, 2015, with the issuance of the Regional Water Boards' Notice of Violation ("NOV No. 1"). The Regional Board issued NOV No. 1 after inspecting the Ranch on the December 17, 2014, and February 12, 2015. It alleged various violations of the federal Clean Water Act and state Water Code. Several months after issuing NOV No. 1, the Regional Board significantly increased its enforcement efforts against the Ranch.

On August 4, 2016, the Regional Board issued Cleanup and Abatement Order No. R1-2016-0031. As part of its requirements, the CAO required the Ranch to engage in various activities to maintain the integrity of the diversion ditch and limit downstream sedimentary pollution. As discussed above, many of the requirements in the CAO overlapped with the outcomes of the stakeholder meetings. Then within less than a month of the Regional Board's CAO, the State Water Board began its own enforcement action.

On August 30, 2016, the Division issued Draft Order 2017-00XX-DWR regarding the diversion at the Ranch. Among other requirements, the Draft Order required that the Ranch reroute its diversion outfall point from Irving Creek to Stanshaw Creek and decrease diversions to no more than 10% of the natural flow year-round. Again, many of the Draft Order's mandates overlap with the solutions discussed in the stakeholder meetings that I was agreeable to implementing, provided funding was available to address the costs of such improvements.

In response to the CAO, on September 6, 2016, we filed a Petition for Review and Stay of Cleanup and Abatement Order No. R1-2016-0031 (the "Petition") to the State Water Board. The Petition provided the following reasons the CAO was inappropriate or improper:

i. It was impossible to comply with the CAO's deadlines;
ii. The ditch assessment and slope stability studies are unnecessary;
iii. The recommendation to remove the berm if the conveyance is piped is not necessary; and
iv. The Coles will not be able to determine whether the diversion was the result of stored sediment deposits and erosion and study of those features will not provide additional information for improvement. (**Exhibit MMR-07**, at p. 2-6.)

Further, the Petition stated that the Ranch operates a small business with limited resources. The additional studies required by the CAO would be prohibitively expensive for a small business, such as MMR, to personally fund.

Two months after issuing the CAO, the Regional Board issued a second Notice of Violation ("NOV No. 2") on October 18, 2016, and a third Notice of Violation ("NOV No. 3") on June 27, 2017. Both NOV Nos. 2 and 3 noted that the Ranch was out of compliance with several of the directives in the CAO. Given the significant capital necessary and lack of funding, I am unable to implement major improvements to the diversion and conveyance system. However, I have continued efforts to comply with the requirements of the Water Boards' enforcement actions as much as possible and provided regular updates on those efforts.

H. Diversion Management

1. Regular Maintenance and Management Practices

As part of my regular maintenance activities at the Ranch, I inspect the entire length of the diversion ditch, noting any areas that may require attention or are in need of repair. Areas that show potential for erosion are noted and reinforced by removing sediment from the ditch bed and placing it on the ditch berm or through an otherwise available method. During those inspections, I also measure the amount of water that is present in the diversion and in Stanshaw Creek. When flows are low in Stanshaw Creek, I adjust the diversion to reduce the amount of flow entering the diversion or make other necessary adjustments.

In addition to addressing flow and erosion concerns during my maintenance and inspection activities, I remove any debris from the ditch to ensure that there are no blockages that may result in overtopping or otherwise impact ditch operations. I also inspect and clean the box culvert and screen that precedes our domestic and consumptive use water treatment system and the hydroelectric system forebay. This removes debris that could otherwise enter those systems and hamper their efficiency. Photographs of the box culvert and screened area of the diversion are included with this testimony as **Exhibit MMR-08**.

2. Low Flow Periods

The Draft Order incorporates, in its public trust resources allegations, NMFS' recommended bypass flow as outlined in NMFS's letter dated August 3, 2016. (Draft Order ¶¶ 34(a) – (d).) NMFS recommends that the Ranch implement a 90% bypass flow year-round, with

no less than a 2 cfs bypass amount at the point of diversion, and return any flow used to generate hydroelectric power to Stanshaw Creek. (NMFS Bypass Flow Recommendation, p.11-12; **Exhibit MMR-09**.)

To benefit fishery resources in the Stanshaw Creek system, I forwent my full pre-1914 right to divert three (3) cfs of water during low flow periods to comply with the NMFS bypass flow recommendation during low flow periods in 2016 and 2017. The reduced diversion, that only diverts water for consumptive and domestic use during low flow periods, complies with the NMFS bypass flow recommendation, but this reduction in no way demonstrates an intention to waive or reduce the amount of the established pre-1914 right to divert three (3) cfs of water, nor does it waive my right to develop alternatives that ensure Ranch operations do not impact fishery resources in Stanshaw Creek.

As a consequence of this effort, the Ranch experienced water shortages during its busy summer tourist season. The impacts from this shortage are clearly evidenced in the recreational and storage pond at the Ranch. The level of the pond has been decreased to lower than normal levels during dry periods. This in turn has increased the presence of algae in and decreased the uses of the pond, which negatively impacts Ranch's guest experience—*i.e.*, the focus of my business as a dude ranch. Pictures of the pond with reduced water levels are included with this testimony as **Exhibit MMR-05**.

In addition to water shortages, the reduced amount of water diverted during low flow periods has significantly increased operational costs at the Ranch. The reduction in the amount of water diverted means that the I am unable to operate the hydroelectric facilities for electricity generation. Instead, I must use a diesel generator to provide electricity for refrigeration, lights, and related electrical needs of the guests and residents at the Ranch. Operating the diesel generator is a costly enterprise for the Ranch that has resulted in significant financial losses both for my business and for me, personally. These losses are demonstrated in the financial information included in **Exhibit MMR-16**. To offset some of these costs, I have decreased the number of staff at the Ranch, but that has not resulted in enough cost savings to prevent the Ranch from operating at a loss. Continuing to operate at the losses demonstrated in the attached financial information is not sustainable for my business.

I have previously engaged alternative energy experts to review the Ranch's electrical options. Those experts determined that it is impractical to either expand the conventional electricity grid to the Ranch or to rely on alternative sources, such as solar or wind. Hydroelectric power generation remains the most efficient source of power at the Ranch. Cost estimates to install alternative energy sources at the Ranch are Included with this testimony as **Exhibit MMR-19**.

3. Diversion Management during Fire Events

The summer and early fall of 2017 has been marked by ongoing large wildfires in the Six Rivers National Forest, where the Ranch is located. These fire events have twice put the Ranch in danger and advanced close enough to require evacuation of all guests and non-essential personnel. During those times, the Ranch was reconfigured as a camp for firefighters. I

remained at the Ranch to house and assist firefighters with their fire suppression efforts. As part of that effort, firefighters used the diversion flowing at its full three (3) cfs capacity to fill their tanks and fight the fire. Based on the Ranch's well-maintained greenspace, despite the fire coming within one half mile of the Ranch, the Ranch did not burn. Photographs of the fires, the Ranch during those fires, and the firefighters at the Ranch during those times are included with this testimony as **Exhibit MMR-10**. Declarations of the firefighters at the Ranch during this summer's fires discussing the Ranch's use of its full pre-1914 three (3) cfs right for fire suppression efforts is included with this testimony as **Exhibit MMR-11.** Providing a source of water to serve fire suppression efforts and using water to maintain the greenspaces at the Ranch at a level greater than those assumed under the State Water Board's irrigation estimates resulted in the Ranch surviving this very active fire season intact. It also demonstrates my intention to continue using the full pre-1914 three (3) cfs right to water as established in 2014.

4. Impacts to Waters of the State

The reduced diversion amount during low flow periods means that I am only diverting water for consumptive and domestic use at the Ranch and am not operating the hydroelectric generation facility. Consequently, I am not discharging water to waters of the state during low flow periods and am electing to forgo exercising my full water right to benefit public trust interests. However, this election to decrease my diversion is not an election to abandon any portion of the vested pre-1914 water right to divert three (3) cfs year-round.

I have previously submitted reports to the Water Boards from Rocco Fiori of Fiori Geosciences, dated September 30, 2016 and April 4, 2017, demonstrating that sedimentation impacts to waters of the state from the diversion are not significant threats requiring further study and investigation at this time. The reports are included with this testimony as **Exhibit MMR-12**. Based on Lidar mapping and inspections of the diversion, many of the erosion features along the diversion are legacy features that deliver sediment to a bench on the hillside of diversion. Those erosion features do not pose a threat to waters of the state because no discharge is occurring from that pathway. Thus, any impacts to waters of the state or fishery resources during low flow periods have been addressed and minimized through the recent management of the diversion.

During high flows periods on Stanshaw Creek, I am entitled to divert up to my full pre-1914 three (3) cfs right. However, in order to address concerns under the Regional Board's CAO with regard to the Irving Creek outfall, I elected to forego diverting water for hydroelectric power generation use during the 2016-2017 winter season. Despite foregoing the full extent of my diversion right, I have no intention of waiving, abandoning, or forfeiting my full pre-1914 three (3) cfs right. During the 2016-2017 winter season, no water exited Ranch property at the Irving Creek outfall. All power for the Ranch during the 2016-2017 winter period was supplied through its diesel generators. This forbearance came at significant personal financial cost to operate the generators and pay for diesel fuel. I have submitted a report of waste discharge to the Regional Water Board to implement an improvement plan at the Irving Creek outfall in June of 2017. The report of waste discharge is included with this testimony as **Exhibit MMR-13**. The Regional Water Board has not responded to that proposal. Once the Regional Water Board

approves the plan proposed in the report of waste discharge, I intend to divert my full three (3) cfs right and resume operating the Pelton wheel during high flow periods.

5. Fisheries Improvements

In addition to improving sedimentation and flow issues, I have expended significant efforts to improve and avoid impacts to fishery resources. I retained a fish biologist, Steven Cramer of Cramer Fish Sciences, to assist with avoiding impacts to fishery resources. Based on Mr. Cramer's initial review of NMFS's report, he concurs the base flows maintained through my diversion management practices during low flow periods appear reasonable. With Mr. Cramer's assistance, I will continue to take actions to support the cold-water refuge at the Stanshaw Creek confluence with the Klamath River during higher temperature periods in the Klamath River typically associated with low flows in Stanshaw Creek, provided the activities are not cost prohibitive.

Mr. Cramer will be studying the site-specific circumstances relevant to the diversion that were not considered in the NMFS recommendation during the first week of October 2017. After his study, I intend to implement any additional diversion management practices he identifies that would be beneficial to the Stanshaw Creek and Klamath River confluence's aquatic habitat, provided those recommendations are not cost prohibitive.

6. Diversion Management During the Wet Season

In addition to reducing the Ranch's diversion during low flow periods, I have implemented measures to manage the diversion during the wet season and high flow periods. In the last 15 years of operating and managing the diversion at the Ranch, I have not experienced an overtopping event or significant erosion. Since I took ownership of the Ranch in 1994, I have been deepening and improving the diversion ditch by removing sediment from the ditch bed and placing that material along the berm for reinforcement. This maintenance effort has proven successful to avoid erosion and overtopping.

The Ranch is located in an area that does not generally experience a large accumulation of snow which results in a subsequent snow melt and drainage. As a result, the ditch transporting water to the Irving Creek outfall point and the outfall point itself does not usually experience an influx of water from snowmelts or rain events. The especially wet winter in 2016-2017 did result in heavy snow and rain events than are not normally experienced at the Ranch. Despite this, the ditch still did not experience adverse impacts from drainage as a result of the storms or snowmelt.

Additionally, with the recent addition of extra storage at the Ranch, discussed below, I can completely shut down the diversion during significant storm events. When the ditch is dewatered, it does not collect rainwater, seepage or groundwater. For example, during a storm event on October 14-18, 2016 and throughout the unusually wet 2016-2017 winter season, I implemented the diversion management practice of ceasing all diversion during any significant storm event. The ditch did not collect rain water and the storm did not result in any flow within the ditch.

7. Implemented Improvements

I have implemented a number of projects at the Ranch to further improve the conveyance and reduce the diversion's impact on trust resources.

i. Drinking water filtration and storage

I installed new water storage tanks and continue to manage the water filtration system to efficiently provide the Ranch's residents and guests with potable water. I also increased the number of storage tanks at the Ranch, which significantly increased our storage capacity to facilitate the diversion management practices necessary to address storm events. This improvement alone has cost over $60,000. The system involves a staged filtration process with several tanks to treat and hold consumptive use water at the Ranch. The water is then conveyed to the residences and guest quarters for consumptive and domestic uses. The Ranch's water quality is monitored by the Siskiyou County Public Health Department, with quarterly bacteriological sampling and annual inspections. Pictures of the storage tanks are included with this testimony as **Exhibit MMR-03**.

ii. Installation of a culvert for hydroelectric return flow

As part of my efforts to comply with the requirements under the CAO and Draft Order, I sought solutions that will reduce the exposure of the water diverted for hydroelectric power generation to potential contamination, thereby reducing the need for frequent and expansive water quality testing. To that end, I installed a 24-inch culvert that redirects flow from the hydroelectric power plant to avoid the pond on the Ranch property. This revised path ensures that the water used to operate the hydroelectric power plant spends the least amount of time on the Ranch possible. Water used for hydroelectric power generation leaves Stanshaw Creek at the point of diversion, travels through the diversion to the hydroelectric plant, is used in the hydroelectric plant, and then travels through the culvert to the outfall point at the tributary to Irving Creek. This path results in water no longer standing on the Ranch property between the time it is diverted and the time that it is discharged at the Irving Creek outfall point, avoiding any temperature impacts to the Klamath River from the return flow. (Photo of the Culvert)

iii. Water Quality Monitoring Plan

The CAO required a water quality monitoring plan to be submitted to the Regional Board by September 10, 2016, if any water from the diversion is discharged into waters of the state. Despite a then pending appeal of the CAO to the State Water Board, I complied with this directive and submitted a water quality monitoring plan to the Regional Board on September 9, 2016. A copy of the water quality monitoring plan is included with this testimony as **Exhibit MMR-14**.

iv. Report of Waste Discharge for the Irving Creek Outfall

On June 27, 2017, ECORP Consulting submitted on my behalf a report of waste discharge to implement a proposed improvement at the Irving Creek outfall. Mr. Fiori's report

of the sediment impacts from the diversion included an assessment of the Irving Creek outfall, indicating that the outfall was evolving to a state of equilibrium that would best be served by low cost erosion control activities. To that end, the report of waste discharge was submitted to the Regional Water Board discussing a proposal to install a culvert at the top of the outfall point to move water away from the hillside of the outfall and to place rootwads at the base of the outfall to act as energy dissipaters for the flow from the outfall. As of the date of this testimony, October 2, 2017, I have received no response to that proposal. Once the proposal is reviewed and approved, I will implement the improvement plan and then can begin diverting the full complement of my pre-1914 three (3) cfs water right during high flow periods and resume operating my Pelton wheel to generate electricity through hydropower means.

8. Continuing Diversion Improvement Efforts

In addition to the previously discussed implemented improvements, I plan on completing a number of other projects that will improve resources and fisheries management at the diversion, provided the outcome of the public hearing results in the continued use of my full pre-1914 three (3) cfs water right. These improvements will require several years to implement because financing the improvements is costly and permitting and regulatory approvals need to be secured.

i. Piping of the diversion for consumptive use water

As a voluntary measure, I sought to install a six-inch pipe in the diversion ditch to convey consumptive use water to the Ranch. The six-inch pipe and headgate would have provided an interim solution while a permanent improvement could be designed and installed. The proposed piped system would have included a temporary headgate to prevent entrainment into the pipe. Once installed, the point of diversion that feeds the interim six-inch pipe would have been monitored and partitioned once every two weeks during low flow periods to adjust the diversion to reflect the NMFS recommended instream flow. Upon implementation of the piped system, monitoring flows would have been taken with a swoffer meter in Stanshaw Creek above and below the point of diversion, and in the diversion ditch just before the headgate. The Mid Klamath Watershed Council would have measured the instream flows and shared the results with stakeholders within one week of the flow measurement. With the issuance of the Draft Order and CAO, the grant funding and assistance from the Mid Klamath Watershed Council was withdrawn.

In addition to the withdrawal of funding for the project as a consequence of the Draft Order and CAO, my voluntary efforts to install the six-inch pipe was met with agency resistance that further complicated and delayed implementation of any improvements or a permanent solution for piping or lining the diversion. As an example of the regulator caused complication and delay, the Water Boards insisted that I seek 1600, 401, and 404 permitting for the installation of a six-inch pipe within the diversion ditch to convey consumptive use water to the Ranch. I previously submitted plans to all permitting agencies to install a six-inch pipe in the diversion ditch to convey consumptive use water to the Ranch during stakeholder discussions.

Following the recommendations of the Water Boards' staff and submitting the permitting applications resulted in each of the permitting agencies determining that the proposed project did not require permitting under their authority. The United States Army Corps of Engineers confirmed that the project is exempt from 404 jurisdiction. While I also submitted a 401 permit application to the Regional Water Board, the project is exempt under the Regional Water Board's 401 jurisdiction based on the United States Army Corps of Engineer's determination. Finally, the California Department of Fish and Wildlife ("CDFW") confirmed that a 1602 permit is not required because all of the work to install the six-inch pipe would have occurred within the diversion ditch.

With the abandonment of support from the Mid Klamath Watershed Council and the issuance of the CAO and Draft Order, I was forced to abandon any interim solution and turn my efforts to complying with the Orders. Those Orders included additional studies of the diversion and mandated implementation of the projects identified through stakeholder meetings. The very same projects I maintained I was willing to implement provided funding was available to address the costs of such projects during the twenty (20) years stakeholder process.

ii. Piping or lining at least the first 1,000 feet of the diversion

With the issuance of the Orders, I retained Rocco Fiori of the Fiori Geosciences to complete a sedimentation assessment of the diversion. His report, issued on April 4, 2017, identified the piping or lining of at least the first 1,000 feet of the diversion as a practical approach to improving the diversion and addressing sediment and stability concerns regarding the diversion. The six-inch pipe was proposed as an approach to comply with the NMFS bypass flow recommendation and would have only allowed MMR to divert enough water for its consumptive use needs. For the Ranch to divert the full complement of its pre-1914 three (3) cfs right, the size of the pipe would need to be increased, but the approach of piping or lining the diversion remains the recommended alternative to convey water from the POD to the Ranch.

To implement this recommendation, I have sought out engineering assistance in Siskiyou County, but have not been able to identify an engineering or construction firm that is available to take on the project. Instead I have identified KASL Consulting Engineers in the Sacramento area as a potential consultant to assist me in the piping or lining effort. They have provided an estimate for the costs of their services in the amount of nearly forty-five thousand dollars (~$45,000). Their proposal is included with this testimony as **Exhibit MMR-15**. The proposed piping project would include a flow monitoring device and diversion control mechanism subject to the engineer's recommendation and based on the remote nature of the diversion. The flow monitoring device is unlikely to be remotely controlled or operated given the lack of access to that technology in the Ranch's remote location.

iii. Irving Creek Outfall

As previously discussed, I await the Regional Water Board's response to the Report of Waste Discharge to implement an improvement plan at the Irving Creek outfall. That plan will ensure that any erosion or impacts to waters of the state at the outfall are no longer a concern. This improvement would complete the efforts that began with the installation of the culvert to

expediently move hydroelectric return flow water off Ranch property thereby avoiding any temperature or sediment impacts to waters of the state from that return flow.

9. Financial Constraints on Resource Improvements

As small business owners, we support our family through income from Ranch operations during its operational season of April 1 through December 1. We have submitted financial information to the State and Regional Water Boards demonstrating our lack of financial resources to fund the large-scale improvements at the Ranch. The operational adjustments we have made to address the requirements under the Orders, such as foregoing diverting water for hydroelectric power generation as provided under our full pre-1914 three (3) cfs water right and operating our diesel generator year-round, have been costly. This has further hampered our ability to independently implement any large-scale resource improvements at the Ranch. The previously submitted financial information demonstrating the losses our business has experienced as a result of our adjustments to our operations is included with this testimony as **Exhibit MMR-16**. To date, we have spent in excess of $100,000 on stakeholder efforts and to comply with requirements under the State and Regional Water Board Orders.

In order to fund further improvements at the Ranch, we will likely have to increase the number of guest we serve during the operational periods of each year. Increasing the number of guests we serve will allow us to begin covering the losses we have experienced over the last several years and start the process of funding the project to line or pipe at least the first one thousand feet of the diversion from the POD to the Ranch. While the increase in guests will address the financial strain of these Orders, it carries with it a number of complications that we must address. More people will require more water. This will in turn require that we address our diversion management practices and depends upon our continued use of our full pre-1914 three (3) cfs right. More people will also require more facilities operate at the Ranch. This too may hamper our ability to implement improvements at the Ranch while we try to address serving more guests with a limited staff to meet those needs.

I. Conclusion

At the beginning of this over twenty (20) year process to identify and implement improvements at the Ranch, I was agreeable to the suggested proposals, provided there was funding available to address the costs associated with any of those projects. With the issuance of NMFS' recommended bypass flow, the CAO, and the Draft Order, all in August of 2016, the tone changed. I was no longer a stakeholder in a collaborative effort to serve all users in the Stanshaw Creek system. Instead, I was subject to mandates and orders that threatened my ability to continue to operate my business and remain at my home. We have made our best efforts to implement improvements and change our operating procedures to comply with the Draft Order and CAO's requirements based on the resources we have available. It is impossible to comply with all of the requirements under the Draft Order based on the costs and time required to return flow to Stanshaw Creek. Nevertheless, I remain a committed partner in the management and use of the Stanshaw Creek system and Klamath Basin.