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BEFORE THE STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

In the Matter of: DOUGLAS AND HEIDI COLE AND MARBLE MOUNTAIN RANCH	DECLARATION OF CAITLIN BEAN

I, Caitlin Bean, declare as follows:

1. My testimony, herein provided and offered into evidence as CDFW **Exhibit CDFW-13**,[1] describes my efforts to help bring the Coles into compliance with the Fish and Game Code.

2. I have been an employee of the California Department of Fish and Wildlife ("CDFW") since 1993. I am currently employed as a Senior Environmental Scientist in CDFW's Northern Region office ("region"). I was hired by the region as the Coho Recovery Coordinator to work on issues related to the recovery of Coho Salmon (*Onchorhynchus kisutch*) in Siskiyou County. One of my roles as the Coho Recovery Coordinator has been to participate in the review of grant proposals submitted to CDFW's Fisheries Restoration Grant Program ("FRGP"). My statement of qualifications is offered into evidence as **CDFW-14**.

3. Douglas and Heidi Cole divert surface water from Stanshaw Creek. Stanshaw Creek has a reach of refugial habitat for Coho Salmon below the Highway 96 crossing, including an off-channel pond located just upstream of the confluence with the Klamath River.

[1] Further references to CDFW exhibits will be "CDFW-[Exhibit Number]."

4. The Cole's diversion and use of water from Stanshaw Creek adversely impacts Coho Salmon habitat downstream for at least three reasons: 1) at times of low flow, the Cole's take much or most of the natural flow of Stanshaw Creek; 2) sediment bleeds from the ditch the Coles use to deliver water from the creek to Marble Mountain Ranch ("ditch") due to the fact that the ditch is cut into the slope of a steep hillside; and 3) the water the Coles divert from Stanshaw Creek for non-consumptive use in hydropower generation is transported to Irving Creek through a pond and an erosional gully, instead of being returned to Stanshaw Creek.

5. A report titled, "Findings Report for Stanshaw Creek Habitat and Instream Flow Assessment," prepared for the Karuk Tribe by Ross Taylor and Associates ("RTA") (January 2015), and offered into evidence as **CDFW-7**, states:

> Based on discussions with Karuk Tribal fisheries staff, extremely low flows to the Stanshaw Creek pond during the past three summers has led to reduced pond volume, poor water quality, and even direct mortality of juvenile coho salmon (Soto, pers.comm.) These observations coincided when measured flows in lower Stanshaw Creek were less than 1.0 cfs, typically between 0.4 and 0.7 cfs.

6. Coho Salmon in the Klamath River watershed were listed as a threatened species under the federal Endangered Species Act in 1996, and listed as a threatened species under the California Endangered Species Act in 2005 by the California Fish and Game Commission.

7. Prior to formally listing Coho Salmon, the Fish and Game Commission required a recovery strategy for the species. In February 2004, the "Recovery Strategy for California Coho Salmon" ("Recovery Strategy") was published. Due to concerns regarding impacts to Coho Salmon from water diversions in the Stanshaw Creek watershed, CDFW included a high priority recovery task in the Recovery Strategy, Task KR-UK-16. The task on page 9.34 of the Recovery Strategy states: "Request [the State Water Resources Control Board] to investigate the legality of diversions and use of water on Stanshaw Creek." A true and correct copy of page 9.34 of the Recovery Strategy is offered into evidence as **CDFW-15**.

8. I became aware of the concerns associated with the Cole's water diversion on Stanshaw Creek when I reviewed a copy of a letter by CDFW to Mr. Cole, dated July 5, 2005. The letter describes measures the Coles could take to minimize impacts of their "unauthorized" water diversion on Stanshaw Creek. The letter also describes CDFW's agreement with the Cole's proposal to return the effluent from hydroelectric generation to Stanshaw Creek. In

addition, CDFW supported proposals to maintain minimum instream flows in Stanshaw Creek past the Cole's point of diversion, to install a half-round culvert in the ditch to prevent berm failures and improve efficiency, and to install a solar power generation system. A true and correct copy of CDFW's July 5, 2005 letter is offered into evidence as **CDFW-16.**

9. In 2011, Will Harling, as Executive Director of the Mid Klamath Watershed Council ("Mid Klamath"), submitted a proposal to CDFW for FRGP funding for a coho habitat enhancement project on Stanshaw Creek (Proposal Identification Number-HI 154) ("HI 154 Proposal"). The purpose of the proposed project was to restore refugial habitat for Coho Salmon at the mouth of Stanshaw Creek.

10. The HI 154 Proposal, on page 2, states:

> The distribution, quantity, and quality of overwintering habitats are critically important in the freshwater life history of coho salmon (Peterson and Reid 1984; Solazzi et al. 1990; Brown 2002). Off-channel habitats are particularly good over-wintering sites–juvenile coho that over-winter in these areas commonly experience survival rates 2-6 times greater than those that use main channel habitats. This survival difference can have a tremendous influence on whether a population, either in its entirety or some of its components, is sustainable under prevailing environmental conditions. Immediately following emergence from spawning gravels during spring, some coho fry disperse downstream, facilitated in part in the Klamath River by spring runoff. Some of these fry move into the mainstem river and find low-velocity habitats to colonize. Within a mainstem river, these habitats are primarily edge units along the river shoreline or within backwater units (Beechie et al. 2005; Lestelle 2007). Some of these dispersing fry also move into off-channel habitats and the lower reaches of low gradient tributaries, if available (Soto et al 2008). Once this initial dispersal ends and fry find suitable habitats, movement to new locations slows significantly and most fish begin rearing within localized areas. Subsequently, as water temperatures increase, reaching levels causing stress, the juveniles can initiate another movement in search of thermal refugia. Such a pattern of movement has been

observed in the Umpqua River (Kruzic 1998) and the Klamath River (Soto et al 2008). Some juveniles are known to find areas that provide thermal relief (Deas et al. 2006), either at sites in the mainstem river or in the lower reaches of cold water tributaries.

The HI 154 Proposal, on page 3, continues:

> This project is needed to protect and enhance cold water refugia and coho rearing habitat at the mouth of Stanshaw Creek. The pool at the mouth of Stanshaw Creek currently provides excellent cold water refugia as well as winter refugia for juvenile coho. By removing a sediment slug that was deposited in the 2006 high water from a failed driveway (Fisher property) and diversion ditch (Marble Mountain Ranch property), we will restore the pool to its previous volume and prevent this sediment from degrading this important coho habitat. Additionally, this project will construct another pool adjacent to the existing one that will be less impacted by sedimentation and will increase the size and complexity of winter rearing and summer refugial habitat.

11. The HI 154 Proposal was approved for FRGP funding and successfully implemented. A true and correct copy of the HI 154 Proposal is offered into evidence as **CDFW-17**.

12. In June 2012, I participated in the field review of a FRGP proposal (Proposal Identification Number-PD 286) Mr. Harling submitted on behalf of Mid Klamath a proposal to develop design alternatives to the existing water system and associated hydropower system for Marble Mountain Ranch and to eliminate inter-basin water transfer from Stanshaw to Irving creek ("PD 286 Proposal").

13. The PD 286 Proposal, on page 2, stated that the Cole's "water diversion currently impacts rearing juvenile Coho Salmon in the section of Stanshaw Creek downstream of Highway 96 through decreased instream flows and potential sedimentation from ditch failure events."

14. The PD 286 Proposal, on page 3, also described the aquatic habitat values in Stanshaw Creek:

> Stanshaw Creek has a short but significant section of Coho habitat below the Highway 96 crossing. A lateral scour pool is formed just upstream of the Stanshaw Creek mouth when Klamath flood flows are

deflected by evulsed alluvium and streamflow from Stanshaw Creek. This pool is subsequently filled by cold Stanshaw Creek water when flooding subsides, creating a high quality summer and winter rearing habitat for non-natal juvenile coho salmon migrating down the Klamath River corridor. Coho ecology studies by the Karuk Tribe at this site, and in Stanshaw Creek upstream to the Highway 96 culvert barrier, over the past 10 years indicate that once coho young of the year (yoy), or 0+ fry, enter this habitat, they are likely to overwinter there until outmigration early the next spring. Growth rates for coho overwintering in this pool are high, likely leading to increased survival and numbers of returning spawners.

15. The proposed project in the PD 286 Proposal included a water rights evaluation, topographic surveys, an energy audit, and a water efficiency study with conceptual alternatives.

16. The PD 286 Proposal was not funded. A true and correct copy of the PD 286 Proposal is offered as evidence as **CDFW-18**.

17. During the field review on the Cole's property for the PD 286 Proposal, I observed the following: the Cole's water diversion on Stanshaw Creek was unscreened; the rock dam across the creek; low bypass flows in the creek; the ditch was bleeding sediment into Stanshaw Creek; the storage/trout pond; and the ditch that delivers water to Irving Creek is a steep erosional gully.

18. Also in 2012, Mr. Harling on behalf of Mid Klamath submitted a proposal for funding through the Coho Enhancement Fund ("CEF") ("CEF Proposal"), a fund source for coho restoration projects in the Klamath River watershed managed by the National Fish and Wildlife Foundation ("NFWF"). The project, the "Stanshaw Creek Water Conservation Assessment," described the same tasks as the PD 286 Proposal, described above. As a member of the CEF review committee, I reviewed the CEF Proposal and agreed that the project, and in particular the water rights evaluation was a very high priority. The proposal was funded by NFWF with the caveat that funding for the water rights evaluation task would be released first and that funding for other tasks would be made available after the water rights were verified, and upon agreement of the proposal review committee. A true and correct copy of the CEF Proposal is offered into evidence as **CDFW-19**.

19. Two deliverables were developed as part of the CEF contract: 1) "Marble Mountain Ranch

Water Right Investigation: Water Use Technical Memorandum," prepared by Cascade Stream Solutions," November 18, 2014 ("Cascade Report"); and 2) "Marble Mountain Ranch Stanshaw Creek Water Rights Report," prepared by Lennihan Law, P.C., September 1, 2014 ("Lennihan Report"). True and correct copies of the Cascade and Lennihan reports are offered into evidence as **CDFW-20** and **CDFW-21**, respectively.

20. The Cascade Report assessed the Cole's beneficial use of water. The report stated that the Cole's put approximately 0.353 cfs of water to consumptive beneficial use (see Cascade Report, Table 7, page C-11).

21. The Lennihan Report on pages 23 and 24 states: "The pre-1914 appropriative water right supports diversion and use of up to 0.35 cfs for domestic and irrigation, 0.31 cfs for power generation, plus reasonable losses in the range of 0.5 cfs, for a total water right of 1.16 cfs."

22. In 2013, Will Harling on behalf of Mid Klamath submitted another proposal to CDFW's FRGP on the Cole's behalf (Proposal Identification Number-PD 169) ("PD 169 Proposal"). The purpose of the proposed project was to create physical design alternatives and projects (65% level) that address the inter-basin (Stanshaw to Irving creek) transfer of water, gauging, and efficiency of the Marble Mountain Ranch water system. The alternatives were to be based on the flow amount estimated from the two deliverables from the CEF Proposal described above. A true and correct copy of the PD 169 Proposal is offered into evidence as **CDFW-22**.

23. In my capacity as the Coho Recovery Coordinator for the region, I reviewed the grant application for the PD 169 Proposal, and I reported on the Technical Review worksheet, "Yreka Fisheries is very supportive of finding a solution to the issues with the Marble Mountain Ranch Stanshaw Creek diversion." However, the PD 169 Proposal did not receive funding. A true and correct copy of the PD 169 Proposal Technical Review worksheet is offered into evidence as **CDFW-23**.

24. In early 2016, the State Water Resources Control Board ("State Water Board") requested that CDFW and NOAA's National Marine Fisheries Service ("NMFS") work together to estimate bypass flow needs for the Cole's diversion. I coordinated with Margaret Tauzer, a hydraulic engineer with NMFS, who proposed a methodology by which an instream flow needs assessment could be completed for Stanshaw Creek using available data.

25. I requested Robert Holmes, CDFW's Instream Flow Program Coordinator, to review Ms. Tauzer's proposed approach. In May 2016, Mr. Holmes stated in a telephone call with

myself and Ms. Jennifer Bull with CDFW that Mr. Holmes supported the methodology and results of Ms. Tauzer's instream flow needs evaluation.

26. DFW's coordination process with NMFS was complete after submittal of NMFS's flow recommendation to the State Water Board by letter from Alicia Van Atta to Barbara Evoy, dated August 3, 2016 ("NMFS's Flow Recommendation"). A true and correct copy of the NMFS flow recommendation is offered into evidence as **CDFW-12**.

27. In or around May 2017, Michael Harris, Senior Environmental Specialist (Supervisor) in the region, requested me and Ms. Bull to review a draft Streambed Alteration Agreement Mr. Harris had prepared for the Cole's diversion on Stanshaw Creek (Notification No. 1600-2017-0135-R1) ("draft SAA"). Ms. Bull and I recommended that Mr. Harris include in the draft SAA the flow prescriptions in NMFS's Flow Recommendation. Mr. Harris agreed by including in the draft SAA Measure 2.7, "Instream Bypass Flow/Critical Riffle Criteria." A true and correct copy of the draft SAA is offered into evidence as **CDFW-37**.

I declare under penalty of perjury to the laws of the State of California that the foregoing is true and correct. Executed October 6, 2017, in Yreka, California.

Caitlin Bean

CAITLIN BEAN