

**KELLOGG RANCH SAFE HARBOR AGREEMENT**

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# **SAFE HARBOR AGREEMENT BETWEEN BARBARA R. BANKE, TRUSTEE, BARBARA R. BANKE REVOCABLE TRUST AND THE NATIONAL MARINE FISHERIES SERVICE FOR COHO SALMON AND STEELHEAD LOCATED ON THE KELLOGG RANCH, SONOMA COUNTY, CALIFORNIA**

## **1. INTRODUCTION**

This Safe Harbor Agreement for Coho Salmon and Steelhead on the Kellogg Ranch (“Agreement” Tracking Number 151422WCR2018SR00210) is made and entered into on July 1, 2019 by and among Barbara R. Banke, Trustee, Barbara R. Banke Revocable Trust (“Landowner,” unless the context dictates otherwise); and the National Marine Fisheries Service (“NMFS”), hereinafter referred to collectively as the “Parties” and each individually as a “Party”. Although the California Department of Fish and Wildlife (“CDFW”) has certain access and notice rights under this Agreement, it is not a Party to this Agreement. This Agreement is authorized under and in compliance with Endangered Species Act (“ESA”) Section 10(a)(1)(A), 50 C.F.R. Section 222 (Sub-Part C), and NMFS’ Final Safe Harbor Policy (64 FR 32717). Landowner also intends that this Agreement will satisfy the requirements of the California Endangered Species Act, California Fish and Game Code Section 2050 *et seq.*, (“CESA”), including the California State Safe Harbor Agreement Program Act (“SHAPA”), California Fish and Game Code Sections 2089.2 – 2089.26.

The Safe Harbor program encourages proactive management to benefit endangered and threatened species by non-Federal landowners, providing regulatory assurances in the form of an ESA Section 10(a)(1)(A) permit that, subject to the caveats identified in Section 11 of this Agreement, future property use restrictions will not be imposed through the incidental take provisions of Section 9 of the ESA and the extension of incidental take provisions to threatened species through protective regulations (adopted at the time of the issuance of the Enhancement of Survival Permit [“ESP”]) developed pursuant to Section 4(d) of the ESA under NMFS jurisdiction if those efforts attract Covered Species to their Enrolled Property or result in increased numbers or distributions of such species already present. This Agreement is a cooperative government/private effort to achieve biological goals for the Covered Species that are unlikely to occur on the Enrolled Property in the foreseeable future without such an Agreement.

The purpose of this Agreement is to promote the conservation, enhancement of survival, and recovery of the endangered Central California Coast (“CCC”) coho salmon (*Oncorhynchus kisutch*) and threatened CCC steelhead (*O. mykiss*) on the Enrolled Property. This purpose will be fulfilled through these biological goals: the enhancement of salmonid habitat, improving hydrological conditions during low flow months, and providing access for stocking

of coho salmon broodstock in Kellogg Creek and Yellowjacket Creek, as well as facilitating passage in Yellowjacket Creek, on the Enrolled Property.

## 2. RECITALS

2.1. The Parties have entered into this Agreement in consideration of the following facts:

- 2.1.1 As authorized by Section 10(a)(1)(A) of the ESA, NMFS may issue ESA Section 10(a)(1)(A) Enhancement of Survival Permits (“ESPs”); Pursuant to NMFS Safe Harbor Agreement Policy (64 FR 32717; “Policy”) and applicable regulations at 50 C.F.R. § 222.308, NMFS may issue Section 10(a)(1)(A) ESPs to property owners or appropriate collaborators who agree to participate in Safe Harbor Agreements which satisfy the criteria set forth in the aforementioned Policy and regulation;
- 2.1.2 Landowner owns the Enrolled Property and the water rights described in Section 5 below and subject to this Agreement. Jackson Family Wines, Inc., the lessee of the Enrolled Property, is responsible for the management and control of the Enrolled Property. Landowner has conferred upon Jackson Family Wines, Inc. the authority to implement the actions in this Agreement on behalf of the Landowner. Landowner may delegate certain obligations under this Agreement as provided in Section 24.9.
- 2.1.3 As authorized by California Fish and Game Code Section 2089.22, if a federal safe harbor agreement has been approved pursuant to applicable provisions of federal law and the federal safe harbor agreement contains species that are endangered, threatened, or are candidate species, then the entity that obtained the federal safe harbor agreement may notify CDFW, as specified in Fish and Game Code Section 2080.1, and CDFW will determine if the federal safe harbor agreement is consistent with the issuance criteria stated in Fish and Game Code Section 2089.2 *et seq.*
- 2.1.4 This Agreement is reasonably expected to provide a net conservation benefit for each of the Covered Species and contribute, either directly or indirectly, to the recovery of the Covered Species, which in turn supports the issuance of an ESP by NMFS pursuant to Section 10(a)(1)(A) of the ESA in accordance with 50 C.F.R. § 222.308;
- 2.1.5 The Landowner developed Management Activities identified in Section 10 of this Agreement that are reasonably expected to benefit the Covered Species.
- 2.1.6 Upon approval and subject to the satisfaction of any necessary conditions, a safe harbor agreement serves as the basis for NMFS to issue a landowner an ESP under Section 10(a)(1)(A) of the ESA. Such a permit authorizes certain incidental taking of covered species that have increased above the baseline established in an agreement as a result of a landowner’s beneficial management Activities.
- 2.1.7 When the Landowner meets all the terms of the Agreement, the ESP authorizes incidental taking of the Covered Species at a level that enables the Landowner ultimately to return the Enrolled Property back to the Baseline Conditions, defined

in Section 3.6 and established in Section 6 of this Agreement. The Parties anticipate this level of take is unlikely to be realized except under unforeseen circumstances out of the reasonable control of NMFS and the Landowner. Nevertheless, for the purpose of determining whether a net conservation benefit is expected to result, the Parties assume that such a return to Baseline Conditions will occur.

THEREFORE, the Parties hereto agree as follows:

### 3. DEFINITIONS

- 3.1. **Terms Defined in Endangered Species Act and Regulations.** Terms used in this Agreement and specifically defined in the ESA or in regulations adopted by NMFS under the ESA have the same meaning as in the ESA and those implementing regulations, unless this Agreement expressly provides otherwise.
- 3.2. **Terms Defined in the Policy.** Terms used in this Agreement and specifically defined in the Policy (Part 2 at 64 FR 32722- 32723) have the same meaning as in the Policy, unless this Agreement expressly provides otherwise.
- 3.3. **“Affiliate”** means (i) any entity owned or controlled by, or under common control with an Original Landowner; or (ii) any entity which is owned or controlled by, or under common control with, Barbara R. Banke, members of Barbara R. Banke’s family, the children of Jess S. Jackson, or any of the foregoing individual’s respective spouse, heirs or devisees, including any estate planning trust or other vehicle of any of them, or any entity controlled by any such person.
- 3.4. **“Affiliate Interest Date”** shall mean, with respect to an Affiliate, the date by which all of the following shall have occurred with respect to such Affiliate: (i) the Affiliate has acquired an interest in the enrolled property; (ii) the Affiliate has agreed in a writing provided to NMFS to be bound by the terms of this Agreement; and (iii) NMFS has provided written confirmation of such Affiliate’s eligibility to hold the ESP as set forth in Section 22.2.2.
- 3.5. **“Barrier Remediation”** means a project to modify the existing concrete apron and diversion weir on Yellowjacket Creek on the Enrolled Property such that it is capable of supporting volitional, upstream and downstream passage for all life stages of coho salmon and steelhead that will include a fish screen.
- 3.6. **“Baseline Conditions”** are those conditions described in Section 6 of this Agreement. Initially the Baseline Conditions for this Agreement are those described in Present Baseline Conditions, in Section 6.2. Upon completion of the Barrier Remediation and Diversion Facility projects or once elements of the Elevated Baseline, in Section 6.3, are achieved (if achieved sooner), the respective Present Baseline parameters are superseded by it and the Baseline Conditions refers to the Elevated Baseline parameters and the Present Baseline components that do not have an Elevated Baseline.

- 3.7. **“Covered Species”** means those species identified in Section 4 of this Agreement.
- 3.8. **“Diversion Facility”** means a project to construct new diversion, streamflow gaging and flow bypass facilities on Yellowjacket Creek at the location of the existing diversion weir that will include equipment to measure streamflow and diversions, a pipeline connecting the diversion facilities with Twin Lakes and Ballpark Reservoir, an updated diversion weir at House Pond, and other improvements necessary to manage water diversion, storage and use in accordance with this Agreement.
- 3.9. **“Enrolled Property”** means the areas of land and water identified in Section 5 of this Agreement.
- 3.10. **“Land Use Activities”** means those activities described in Sections 8 and 9 that will be conducted by the Landowner during the life of this Agreement without the purpose of benefiting Covered Species, and which may cause incidental take of the Covered Species, but which also are not expected to diminish the established Baseline Conditions or inhibit the achievement of the Elevated Baseline Conditions when implemented in accordance with the avoidance and minimization measures described in Section 13.
- 3.11. **“Management Activities”** means those actions and measures that are reasonably expected to benefit the Covered Species carried out by the Landowner on the Enrolled Property described in Section 10.
- 3.12. **“Non-Covered Species”** means all species not identified in Section 4 of this Agreement.
- 3.13. **“Original Landowner”** means the Landowner who transfers all or part of its interest in the Enrolled Property to another entity (*e.g.*, to a Party Transferee or an Affiliate).
- 3.14. **“Party Transferee”** means a non-Federal entity, other than an Affiliate, that acquires an interest in the Enrolled Property from an Original Landowner.
- 3.15. **“Party Transferee Interest Date”** shall mean, with respect to a Party Transferee, the date by which all of the following have occurred with respect to such Party Transferee: (i) the Party Transferee has acquired an interest in the Enrolled Property; and (ii) the Party Transferee has agreed in a writing provided to NMFS to be bound by the terms of this Agreement; and (iii) NMFS has provided written confirmation of such Party Transferee’s eligibility to hold the ESP pursuant to Section 22.3.2.

#### 4. COVERED SPECIES

- 4.1. This Agreement covers the following species:

**CCC steelhead Distinct Population Segment (“DPS”)** (*Oncorhynchus mykiss*)  
threatened (71 FR 834; January 5, 2006)  
critical habitat (70 FR 52488; September 2, 2005)  
recovery plan (81 FR 70666, October 13, 2016)

**CCC coho salmon Evolutionarily Significant Unit (“ESU”)** (*O. kisutch*)  
endangered (70 FR 37160; June 28, 2005)  
critical habitat (64 FR 24049; May 5, 1999))

recovery plan (77 FR 54565; September 5, 2012)

4.2. **Covered Species Description.** A brief overview of the life history of the Covered Species is provided below in order to illustrate the importance of survivorship at each life stage in the overall abundance and productivity of each species. More detailed information is available in NMFS (2011a) and NMFS (2011b) and the NMFS final rule listing the CCC steelhead DPS (71 FR 834).

4.2.1. **Coho Salmon:** Adult coho may measure more than two feet (60 centimeters (cm)) in length and can weigh up to 35 pounds (16 kilograms (kg)); however, the average weight of adult coho is about eight pounds (3.6 kg). Adult coho salmon have dark metallic blue or greenish backs with silver sides and a light belly; their back and the upper lobe of their tail fin have numerous small black spots. The gumline in the lower jaw has grey pigment, a feature that distinguishes coho from Chinook salmon, which have distinctive black gums. Spawning adult coho salmon in inland rivers are dark with reddish-maroon coloration on their sides.

The life history of coho salmon in California has been well documented by Shapovalov and Taft (1954) and Hassler (1987). Coho salmon in California generally exhibit a relatively simple three year life cycle (Shapovalov and Taft 1954; Hassler 1987). Adult coho salmon typically begin the freshwater migration from the ocean to their natal streams after heavy late-fall or winter rains breach the sand bars at the mouths of coastal streams (Sandercock 1991). Adult migration continues into March, generally peaking in December and January, with spawning occurring shortly after the fish return to the spawning grounds (Shapovalov and Taft 1954).

Female coho salmon choose spawning sites usually near the head of a riffle, just below a pool, where water changes from a laminar to a turbulent flow and where there is small to medium gravel substrate. Preferred spawning grounds have nearby overhead and submerged cover for holding adults, and they have clean, loosely compacted gravel (1.3 to 12.7 cm diameter) with less than 20 percent fine silt or sand content. At suitable sites, the female creates a hollowed depression in the gravel into which she releases several hundred eggs. As they are deposited, the eggs are fertilized with milt from one or more attending males. The fertilized eggs are then covered with gravel by the female. Good spawning sites have subsurface flow that ensures good aeration of developing eggs and embryos, and the flushing of metabolic waste products. The lack of suitable gravel often limits successful spawning in many streams. Coho salmon are semelparous (spawn only once and then die).

Coho salmon eggs generally incubate for four to eight weeks, depending on water temperature. Egg survival and development rates depend on temperature and dissolved oxygen (DO) levels within the redd. According to Baker and Reynolds (1986), under optimum conditions, egg mortality can be as low as 10%, but under adverse conditions of high scouring flows or heavy siltation, mortality may be close to 100%. McMahon (1983) found that egg and pre-emergent fry survival drops sharply when fines make up 15% or more of the substrate. The newly-hatched fry remain in the gravel from two to seven weeks before emergence (Shapovalov and Taft 1954).

Upon emergence from the gravel, coho salmon fry seek out shallow water, usually along stream margins. As they grow, they often occupy habitat at the heads of pools, which generally provide an optimum mix of high food availability and good cover with low swimming cost (Nielsen 1992). Chapman and Bjornn (1969) determined that larger parr tend to occupy the head of pools, with smaller parr found further down the pools. As the fish continue to grow, they move into deeper water and expand their territories until, by July and August, they are in the deep pools. By early summer, juvenile coho salmon prefer well shaded pools at least one meter deep with dense overhead cover and abundant submerged cover composed of undercut banks, logs, roots, and other woody debris. Water temperatures supporting good survival and growth of juvenile coho salmon range from 10° Celsius (C) to 15°C (Bell 1973; McMahon 1983). Growth is slowed considerably at 18°C and ceases at 20°C (Stein *et al.* 1972; Bell 1973). Therefore, juvenile coho salmon are unlikely to occupy habitats that exceed 16.3°C maximum weekly average temperature (Welsh *et al.* 2001), though exceptions exist if food supplies are sufficient to sustain the higher metabolic rates associated with elevated water temperatures (Foott *et al.* 2014; Lusardi 2015, Bisson *et al.* 1988)

Preferred rearing habitat has little or no turbidity and high production of invertebrate forage. Juvenile coho salmon feed primarily on drifting terrestrial insects, much of which are produced in the riparian canopy, and on aquatic invertebrates growing in the interstices of the substrate and in the leaf litter within pools. As water temperatures decrease in the fall and winter months, fish stop or reduce feeding due to lack of food or in response to the colder water, and growth rates slow down. During December-February, winter rains result in increased stream flows and by March, following peak flows, fish again feed heavily on insects and crustaceans and grow rapidly.

To prepare for the marine environment, subyearlings undergo a physiological transformation called smoltification. Smolt out-migration to the ocean typically

occurs from April through June (Shapovalov and Taft 1954). Emigration timing is correlated with peak upwelling currents along the coast. Ocean entry at this time facilitates more growth and, therefore, greater marine survival (Holtby *et al.* 1990). At this point, the smolts are about 10 to 13 cm in length. After entering the ocean, the immature salmon initially remain in nearshore waters close to their parent stream. They gradually move northward, staying over the continental shelf (Brown *et al.* 1994). Although they can range widely in the north Pacific, the oceanic movements of California coho salmon are poorly understood.

- 4.2.2. **Steelhead:** Steelhead can reach up to 55 pounds (25 kg) in weight and 45 inches (120 cm) in length, though the average size is much smaller. They are usually dark-olive in color, shading to silvery-white on the underside with a heavily speckled body and a pink to red stripe running along their sides.

Steelhead spend anywhere from one to five years in saltwater, however, two to three years are most common (Busby *et al.* 1996). Some return as "half-pounders" that over-winter one season in freshwater before returning to the ocean in the spring.

Only "winter" steelhead are found in the CCC steelhead DPS. The timing of upstream migration is correlated with seasonal high flows and associated lower water temperatures. Steelhead begin returning to the Russian River in December, with the run continuing into April. The minimum stream depth necessary for successful upstream migration is about 18 cm (Thompson 1972). The preferred water velocity for upstream migration is in the range of 40-90 cm/s, with a maximum velocity, beyond which upstream migration is not likely to occur, of 240 cm/s (Thompson 1972). Most spawning takes place from January through April. In contrast to other species of the genus *Oncorhynchus*, steelhead may spawn more than one season before dying (*i.e.*, they are iteroparous). Most adult steelhead in a run are first time spawners, although Shapovalov and Taft (1954) reported that repeat spawners are relatively numerous (about 17%) in California streams.

Steelhead spawn in cool, clear streams featuring suitable water depth, gravel size, and current velocity. Reiser and Bjornn (1979) found that gravels of 1.3-11.7 cm in diameter were preferred by spawning steelhead. The survival of embryos is reduced when fines smaller than 6.4 millimeters (mm) comprise 20 to 25 percent of the substrate. Fry typically emerge from the gravel two to three weeks after hatching (Barnhart 1986).

Upon emerging from the gravel, fry rear in edgewater habitats and move gradually into pools and riffles as they grow larger. Instream cover is an important habitat component for juvenile steelhead both as velocity refuge and as a means of avoiding predation (Meehan 1991). However, steelhead also use riffles and other habitats not strongly associated with cover more than other salmonids during summer rearing. Young steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. In winter, they become inactive and hide in any available cover, including gravel, adjacent floodplains or woody debris.

Because rearing juvenile steelhead reside in freshwater all year, adequate flow, water quality and temperature are important to the population at all times. Water temperature influences juvenile steelhead growth rates, population density, swimming ability, and their abilities to capture and metabolize food, and withstand disease (Barnhart 1986; Bjornn and Reiser 1991). Rearing steelhead juveniles prefer water temperatures of 7.2-14.4°C and have an upper lethal limit of 23.9°C. However, they can survive short periods up to 27°C with saturated DO conditions and a plentiful food supply. Fluctuating diurnal water temperatures also aid in survivability of salmonids (Busby *et al.* 1996). DO levels of 6.5-7.0 milligrams per liter (mg/l) affect the migration and swimming performance of steelhead juveniles at all temperatures (Davis *et al.* 1963). Reiser and Bjornn (1979) recommended that DO concentrations remain at or near saturation levels with temporary reductions no lower than 5.0 mg/l for successful rearing of juvenile steelhead. Low DO levels decrease juvenile steelhead swimming speed, growth rate, food consumption rate, efficiency of food utilization, threat avoidance behavior, and ultimately survival. During rearing, suspended and deposited fine sediments can directly affect salmonids by abrading and clogging gills, and indirectly cause reduced feeding, avoidance reactions, destruction of food supplies, reduced egg and alevin survival, and changed rearing habitat (Reiser and Bjornn 1979).

Generally, throughout their range in California, steelhead that successfully survive to adulthood spend at least two years in freshwater before emigrating to the ocean. Emigration appears to be more closely associated with size than age. In Waddell Creek, Shapovalov and Taft (1954) found steelhead juveniles migrating downstream at all times of the year with the largest numbers of age 0+ and yearling steelhead moving downstream during spring and summer. Smolts can range from 14-21 cm in length before entering the marine environment. While in the ocean, coded wire tag recoveries indicate that most steelhead tend to migrate north and south along the continental shelf (Barnhart 1986), before returning to their natal streams to spawn.

### 4.3. Covered Species Distribution.

- 4.3.1. **Coho salmon:** The North American range of coho salmon extends from Point Hope, Alaska, south to streams in Santa Cruz County, California. Within this coastal area, NMFS designated seven ESUs of coho salmon, each with its own distinct geographic range. The coho salmon in the vicinity of the Kellogg Ranch belong to the southernmost ESU, the CCC coho salmon, which are endemic to coastal California streams from Punta Gorda in southern coastal Humboldt County, California south to Aptos Creek in Santa Cruz County, California. The CCC coho salmon ESU also includes tributaries to the San Francisco Bay. The CCC coho salmon was listed under the Federal ESA as a threatened species in 1996 and as endangered in 2005 (70 FR 37160). Bjorkstedt et al. (2005) identified each of the 12 largest coastal streams in this ESU as having its own independent population of CCC coho salmon. Coho salmon are listed as Endangered under CESA.

The Russian River is the largest river and near the geographic middle of the CCC coho salmon ESU. Bjorkstedt et al. (2005) indicates that the Russian River historically supported the largest population of coho salmon in the ESU; however, this species was nearly extirpated from the Russian River by the late 1990s. Between 2000 and 2003, the documented annual returns of adult coho to the Russian River were less than ten fish, and few of the watershed's tributaries contained juveniles of this species. The Russian River Coho Salmon Captive Broodstock Program was initiated in 2001 to reestablish self-sustaining runs of coho salmon in tributary streams within the Russian River Basin (Obedzinski *et al.* 2007). Under this program, offspring of captive and wild Russian River coho salmon are reared in a conservation hatchery and then released as juveniles into tributaries historically supporting the species, with the expectation that a portion of them will return to these areas as adults to naturally reproduce. The program involves the conservation of the remaining native Russian River coho salmon genome through genetic management that optimizes the genetic diversity of the progeny of the captive broodstock. In the past three years several hundred adult coho salmon were documented returning to the Russian River, and wild-spawned juvenile coho salmon were documented in Redwood Creek downstream of the Kellogg Ranch. In 2001, several wild coho were captured from Redwood Creek in developing the original broodstock population. To date, no captive coho have been released into Redwood Creek, while plans for removing various migration barriers have been implemented and pursued (including the migration barrier subject to this Agreement).

4.3.2. **Steelhead:** The current North American range of steelhead extends from western Alaska, south to coastal streams near the U.S. border with Mexico. NMFS designated 15 separate DPSs of steelhead in the watersheds of Washington, Idaho, Oregon, and California. The steelhead in the vicinity of the Kellogg Ranch belong to the CCC steelhead DPS, which includes all of the coastal streams from the Russian River south to Aptos Creek in Santa Cruz County, California, plus all of the watersheds entering San Francisco and San Pablo Bays with the exception of the Sacramento River. CCC steelhead was listed under the ESA as a threatened species in 1997 (62 FR 43937).

Spence et al. (2008) identified 37 separate independent (or potentially independent) populations of steelhead in the CCC DPS, including six in the Russian River basin. The Russian River is the largest watershed within the CCC steelhead DPS and its six populations are estimated to have collectively supported a run of 32,000 adult fish, representing about 30% of the total historical (pre-development) number of steelhead in the entire DPS (Spence *et al.* 2008, revised figures 2012). Other estimates suggest the Russian supported runs of 50,000+ adult steelhead (NMFS 2008). Wild steelhead are found in many of the tributaries to the Russian River; however, the estimated annual return of adult wild steelhead is now around 4,000 adult fish (McEwan 2001).

#### 4.4. **Threats to the Covered Species**

4.4.1. **CCC Coho Salmon ESU:** The principal threats to CCC coho salmon ESU stem from logging, agriculture, mining, urbanization, stream channelization, dams, wetland loss, and water withdrawals and unscreened diversions for irrigation. These threats have contributed to the decline of the CCC coho salmon ESU. Land use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly altered coho salmon habitat quantity and quality (61 FR 56138). Impacts of concern associated with these activities include the following: alteration of streambank and channel morphology, alteration of ambient stream water temperatures, elimination of spawning and rearing habitat, fragmentation of available habitats, elimination of downstream recruitment of spawning gravels and large woody debris (“LWD”), removal of riparian vegetation resulting in increased stream bank erosion, and degradation of water quality (61 FR 56138). Of particular concern is the increased sediment input into spawning and rearing areas resulting from the loss of channel complexity, pool habitat, suitable gravel substrate, and LWD (61 FR 56138). Decreased LWD in streams has also reduced habitat complexity and contributed to the loss of cover, shade, and pools which are required by juvenile coho salmon (60 FR 38011).

4.4.2. **CCC Steelhead DPS:** The destruction, modification and curtailment of the CCC steelhead DPS habitat and range are the result of forestry, agriculture, mining and, most importantly, urbanization. Water storage, withdrawal, conveyance, and diversions for agriculture, flood control, and domestic purposes have greatly reduced or eliminated historically accessible habitat. Two major habitat blockages are Coyote and Warm Springs Dams located in the Russian River Basin (NMFS 1996). Many other minor blockages likely exist throughout the range of this DPS. Blockages have been reported in 12 of 46 tributaries within the CCC steelhead DPS (Titus *et al.* 2002). Modification of natural flow regimes has had significant negative impacts on CCC steelhead directly and indirectly (*e.g.*, mortality of adults/juveniles, alterations of fish communities and impacts to migration, spawning, rearing, and refuge).

Land use activities associated with logging, road construction, urban development, mining, agriculture, ranching, and recreation have resulted in the loss, degradation, simplification, and fragmentation of CCC steelhead habitat. In many watersheds such activities have significantly altered streambank and channel morphology, stream temperature, water quality, access, sediment/large wood recruitment and depletion, all of which significantly affect all life stages of CCC steelhead.

4.5. **Importance of Private Lands.** Both the historical and current existing freshwater habitats of CCC coho salmon and CCC steelhead are largely on properties owned by private citizens, states, and local governments. Non-federal lands represent 95 percent of CCC coho salmon and CCC steelhead habitats. Therefore, conservation on non-federal properties is critical to the survival and recovery of these species. NMFS and CDFW strongly believe that a collaborative stewardship approach to the proactive management of listed salmon and steelhead involving government agencies and the private sector is critical to achieving the ultimate goal of the ESA. The “Safe Harbor” approach provides an avenue to garner the non-Federal landowners’ support for species conservation on non-Federal lands. Through implementation of the Safe Harbor Policy (64 FR 32717) and Safe Harbor Agreement Program Act (SHAPA) (Fish and Game Code Sections 2089.2 – 2089.26), NMFS and CDFW are able to create incentives for non-Federal property owners to implement conservation measures for listed salmonid species by providing certainty with regard to possible future land, water, or resource use restrictions should the Covered Species later become more numerous as a result of the property owners actions.

Yellowjacket Creek and the segments of Kellogg Creek on Kellogg Ranch are designated critical habitat (freshwater spawning and rearing sites and migration corridors) for the Covered Species. During the low flow season (summer and early fall), these two streams,

whose headwaters are at the base of Mount St. Helena, sustain high quality base flows with temperatures suitable for juvenile rearing coho salmon and steelhead. The following Section 5 describes the generally high value salmonid habitats located on Kellogg Ranch.

## **5. DESCRIPTION OF ENROLLED PROPERTY**

The Enrolled Property is the area over which Safe Harbor assurances apply. The Parties reasonably expect that the Covered Species may occupy a portion of aquatic habitats on the Enrolled Property as a result of the beneficial Management Activities undertaken through this Agreement.

The Enrolled Property is the Landowner's Kellogg Ranch located in Knights Valley in eastern Sonoma County, near the boundary between Napa and Sonoma counties and about seven miles northwest of Calistoga, CA. The diverse property includes heavily wooded and steep undeveloped areas on the western slope of Mount St. Helena, portions of Yellowjacket and Kellogg Creeks and multiple intermittent streams, nearly 500 acres of vineyard and associated facilities on lower hillsides and the valley floor, and a number of residences. The property was formerly part of the Rancho Mallacomes or Moristal y Plan de Agua Caliente land grant, which covered the entire valley. The Rancho was subsequently sold to Thomas Knight in 1851, who lived on and was likely the first to divert water from Yellowjacket Creek for use on the Enrolled Property. The Rancho then passed through several changes of ownership until it was acquired by Calvin H. Holmes in 1880. Calvin Holmes owned the Rancho for many years and it became known as the Holmes Ranch. The Enrolled Property was removed from the Holmes Ranch when Calvin H. Holmes sold parcels to John A. H. Folkers and Charles H. Foote. The majority of the Foote and Folkers properties were later reunited under the ownership of Douglas Clegg in the 1950s and 1960s. Landowner acquired the property from the Clegg family in 1996. The Enrolled Property has a rich history of land and water uses that includes a former hotel, trout hatchery, orchards, and dairy, and now winegrape production. Water rights for the Enrolled Property were adjudicated in a series of California Supreme Court, appellate and trial court decisions starting in 1918.

The Enrolled Property covered by this Agreement is the 1,352 acre Kellogg Ranch located in Knights Valley, Sonoma County, California (Figure 1); it consists of the areas of land and water within the following areas and as outlined in their entirety below. The Enrolled Property consists of several parcels, including the following Sonoma County Assessor Parcel Numbers (APNs): 120-040-004, 120-040-007, 120-040-008, 120-040-011, 120-090-023, 120-090-047. The boundaries of the Enrolled Property can generally be described as the northerly Rancho Mallacomes line, in the west following the eastern bank of Kellogg Creek, in the east following the centerline of Yellowjacket Creek until it leaves the creek to include another parcel in the southeast corner and crossing Highway 128 to the southern boundary of Spencer Lane. In more detail, the northern boundary line is the Mallacomes Rancho boundary and the boundary of APN 120-040-011. The eastern boundary of the Enrolled Property extends along the centerline of Yellowjacket Creek until it reaches APN 120-040-007 where the boundary of the Enrolled Property departs from Yellowjacket Creek and heads southeast to the corner of APN 120-040-007

and southwest to include APN 120-040-004 until it reaches Highway 128. At Highway 128, the boundary of the Enrolled Property excludes one very small 0.96 acre parcel and then continues south of Highway 128 to include APN 120-090-047 and APN 120-090-023. The southern boundary of the Enrolled Property follows Spencer Lane. The Enrolled Property excludes two small parcels in the middle of the Enrolled Property consisting of 29 acres and 20 acres just south of Highway 128. The western boundary of the Enrolled Property south of Highway 128 starts at Spencer Lane and follows the boundary of APN 120-090-023. North of Highway 128 the western boundary is the boundary of APN 120-040-011 until it follows the easterly bank of Kellogg Creek up to the northerly Mallacomes Rancho line.

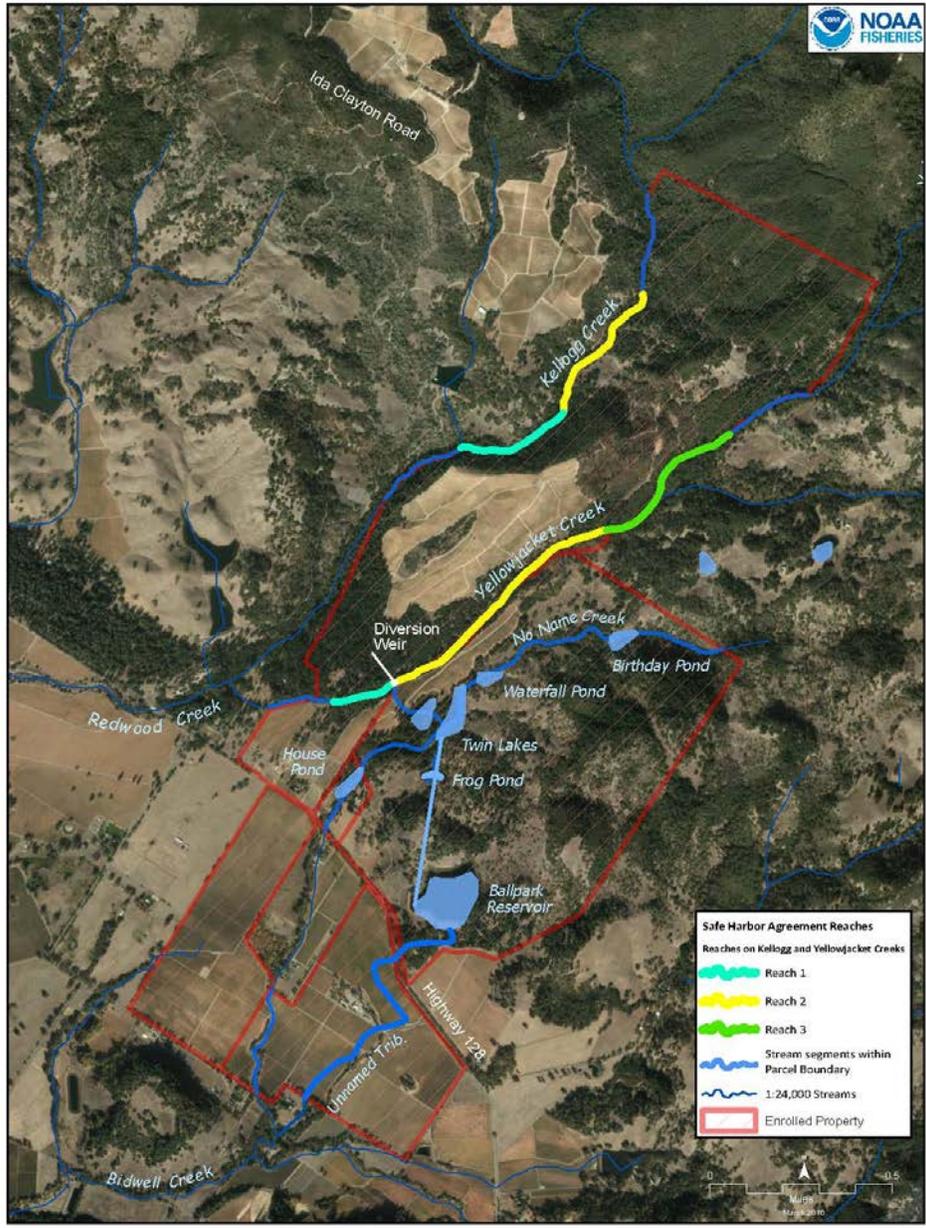
The Kellogg Ranch currently supports active viticulture on approximately 520 acres. Another 344 acres of the property is montane woodland, 246 acres are mixed chaparral, and the remaining acres are annual grassland, Douglas Fir forest, ponds, and developed areas including single family residences, livestock barns and enclosures, water and electrical utility equipment (such as reservoirs, ponds, tanks, treatment facilities, conveyance pipelines, pumps, wells, etc.) and various agricultural, ag-industrial, and recreational uses and structures.

Two perennial stream reaches are located on the Enrolled Property, Kellogg Creek and Yellowjacket Creek, both designated as critical habitat for CCC steelhead and CCC coho salmon. Kellogg Creek and Yellowjacket Creek are also designated as Core Areas in NMFS' CCC Coho Recovery Plan (NMFS 2012). On the Enrolled Property, CCC steelhead are known to spawn and rear throughout Kellogg Creek and Yellowjacket Creek below the diversion weir. It is currently unknown if CCC coho salmon spawn and rear in either Kellogg Creek and Yellowjacket Creek; however juvenile CCC coho salmon were documented downstream of the Enrolled Property in Redwood Creek in summer of 2011. In addition to these streams, the property contains two unnamed tributaries (*i.e.*, "No Name Creek" and "Unnamed Tributary") that seasonally flow to Bidwell Creek, another stream designated as critical habitat for these species. Yellowjacket Creek, No Name Creek, and Unnamed Tributary are the principal sources of water for the ranch's non-domestic and domestic uses. Percolating groundwater from three active wells serves the remainder of the ranch's current water demands for domestic and agricultural purposes. The wells are shown in Figure 2. All three wells are 6-8 inches in diameter and average over 300 feet in depth. All the wells are a minimum of 350 feet from the nearest reach of Yellowjacket Creek. The wells are drilled in water bearing formations of Sonoma Volcanics or below clay layers. None of the wells are screened in recent Knights Valley or Yellowjacket Creek alluvium. Pumping from the wells is unlikely to affect streamflow due to geologic conditions and the well locations, diameters, and depths.

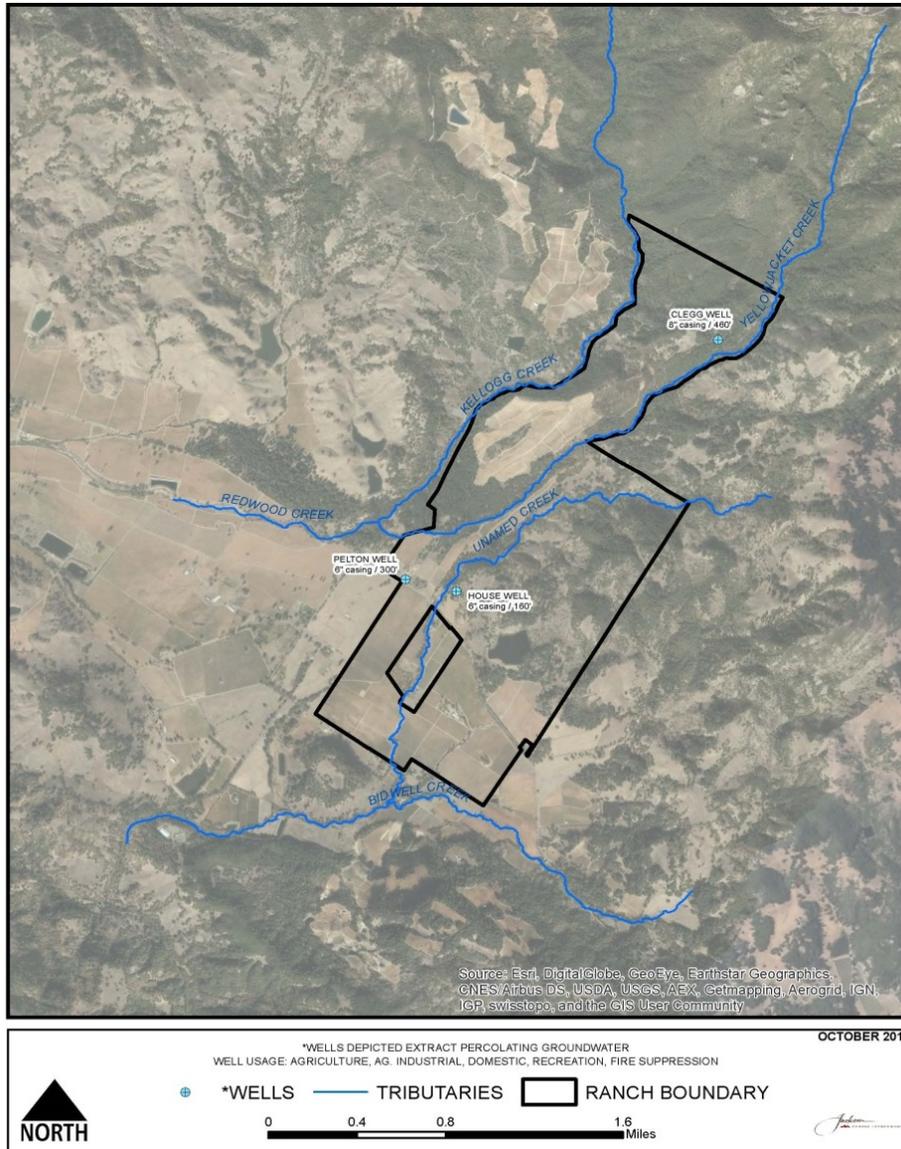
The Kellogg Ranch has a water diversion weir located on Yellowjacket Creek. This diversion weir was initially constructed prior to 1914 by previous owners of the Kellogg Ranch. The stream channel of Yellowjacket Creek at this point of diversion was historically stabilized using rock and

concrete in order to fix the location and water surface elevation at the entrance gallery to a small diversion canal. Over many decades, the diversion weir caused streambed scour and channel incision resulting in a 17 foot drop immediately below the weir. This diversion weir, concrete apron, and the highly incised channel below is currently a total barrier to upstream passage of all life stages of coho salmon and steelhead. Immediately upstream of this weir, Yellowjacket Creek provides 1.9 miles of potentially high quality habitat for these species.

Present streamflow conditions in Yellowjacket Creek are affected by water diversions from the existing diversion weir by Landowner and neighboring water users not a party to this Agreement. Landowner diverts water from Yellowjacket Creek under its adjudicated riparian and pre-1914 appropriative water rights that authorize it to divert year-round at a maximum rate of approximately 1.9 cfs without meeting minimum bypass flow requirements. Historic diversions have been concentrated during the irrigation season, typically March through October. The water diversions reduce the variability and magnitude of streamflows in Yellowjacket during periods of naturally low streamflow. Existing and ongoing diversions are made at this point of diversion by four other property owners that own separate and independent water rights to divert from Yellowjacket Creek and that also hold easements to exercise their water rights from the Yellowjacket Creek diversion and that are not parties to this Agreement.



**Figure 1. Map of the Enrolled Property.**



**Figure 2. Map of Existing Groundwater Wells.**

The two seasonal unnamed tributaries to Bidwell Creek, Unnamed Tributary and No Name Creek, have drainage areas of 0.6 mi<sup>2</sup> and 1.0 mi,<sup>2</sup> respectively. They have minimal value as habitat for the Covered Species because they have minimal potential for salmonid habitat restoration, given their small size and limited seasonal flow. However, they provide aquatic habitat benefit to other species (*e.g.*, amphibians, songbirds, etc.) and their watersheds contribute to Bidwell Creek, which is a perennial anadromous salmonid stream not within the boundaries of the Enrolled Property. Six onstream reservoirs (Ballpark Reservoir, Birthday Pond, Waterfall Pond, House Pond, East Twin Lake and West Twin Lake) are located on these two streams (Table 1), and store water diverted from Yellowjacket Creek as well as seasonal flows from the two streams. Water stored in these reservoirs is used for non-domestic uses across the Enrolled Property. Two small check dams or grade control structures that do not store water are also located on No Name Creek. An

additional reservoir, Frog Pond, an approximately six acre-foot offstream reservoir located along a water conveyance ditch, is used to regulate water transferred from Yellowjacket Creek and No Name Creek to Ballpark Reservoir. Present streamflow conditions in the two unnamed tributaries (*i.e.*, “No Name Creek” and “Unnamed Tributary”) on the Enrolled Property are affected by Landowner’s six onstream storage reservoirs and diversion of water, and are part of the Present Baseline Conditions described in Section 6.2 below; these conditions will be superseded as described in Section 3.6.

<b>Reservoir Name</b>		
Ballpark Reservoir	355	284
Birthday Pond	6.9	3.5
Waterfall Pond	1.9	1
West Twin Lake	24.8	12.4
East Twin Lake	27.7	13.8
House Pond	8.5	4.3

**Table 1. On-stream storage reservoirs located on the Enrolled Property (estimated capacities).**

The recent annual maximum quantity of water diverted and used on the Enrolled Property from all water supply sources was estimated to be 380 – 390 acre-feet.

## **6. BASELINE CONDITIONS**

6.1. The Baseline Conditions for this Agreement are described in terms of the condition of habitat for the Covered Species on the Enrolled Property. The condition of habitat for the Covered Species is used for describing Baseline Conditions because, given their life histories, population numbers within the Enrolled Property at any given time are difficult to accurately estimate, their abundance is highly variable, and because their population numbers are highly influenced by factors outside the Landowner’s control. Given the similarities of freshwater habitat utilized by CCC steelhead and CCC coho salmon, this Agreement uses the same Baseline Conditions for both species. This Agreement’s Baseline Conditions are composed of habitat parameters, which are important for the Covered Species and are the metrics that may discern any present or future beneficial or adverse effect to Covered Species or their habitat resulting from the actions and activities described in Sections 8, 9, and 10, or which might result as an unintended effect of improvement to the Elevated Baseline. This Agreement’s Baseline Conditions consist of two components: the Present Baseline Conditions and Elevated Baseline Conditions. Present Baseline Conditions are the existing conditions of the habitat parameters described in Section 6.2. Elevated Baseline Conditions are the conditions of the habitat parameters described in Section 6.3 and must be achieved in accordance with the schedule identified below. Initially, the Baseline Conditions for this Agreement are those described in Present Baseline Conditions, in Section 6.2. As explained in Section 3.6,

Baseline Conditions refers to both the Present Baseline Conditions, in Section 6.2.1.1 (Table 2) and Elevated Baseline Conditions, in Sections 6.3.2.1 and 6.3.2.2 once they are achieved.

**6.2. Present Baseline Conditions**

6.2.1.Podlech (2016) conducted surveys in Yellowjacket and Kellogg Creek to determine the amount or condition of habitat on the Enrolled Property, as these creeks are the only areas that provide habitat for the Covered Species. Podlech (2016) evaluated habitat in Yellowjacket Creek and Kellogg Creek by assessing the condition of each habitat parameter outlined below within reaches delineated by channel gradient, and location relative to current land use practices. The results from these surveys were used to set Present Baseline Conditions.

6.2.1.1. Concurrent with the effective date of the ESP, the Present Baseline Conditions in Yellowjacket Creek and Kellogg Creek are set according to the values of habitat metrics identified in Table 2 and 3 below and further explained in Table 5, located at the end of this Agreement (Kellogg Ranch Present Baseline Conditions). The metrics shown in all three Tables use the rating system for each parameter that is outlined in Podlech (2016).

	Parameter	Reach 1	Reach 2	Reach 3
1	Hydrology	Not Properly Functioning	Properly Functioning	Properly Functioning
2	Passage Migration	Not Properly Functioning	Properly Functioning	Properly Functioning
3	LWD Frequency	Not Properly Functioning	Not Properly Functioning	Not Properly Functioning
4	Primary Pools	Not Properly Functioning	Not Properly Functioning	Not Properly Functioning
5	Pool/Riffle/Flatwater Ratio	At Risk	Properly Functioning	Properly Functioning
6	Shelter Rating	Not Properly Functioning	Not Properly Functioning	Not Properly Functioning
7	Canopy Cover	Properly Functioning	Properly Functioning	Properly Functioning
8	Embeddedness	Properly Functioning	Properly Functioning	Properly Functioning
9	Overall Riparian Condition	At Risk	At Risk	Properly Functioning
10	Water Temperature	Not Properly Functioning	At Risk	At Risk
11	Toxicity	At Risk	At Risk	At Risk
12	Turbidity	At Risk	Properly Functioning	Properly Functioning
13	Hydrologic Connectivity	Properly Functioning	Properly Functioning	Properly Functioning

**Table 2: Present Baseline Conditions Yellowjacket Creek (Podlech (2016))**

	Parameter	Reach 1	Reach 2
1	Hydrology	Properly Functioning	Properly Functioning
2	Passage Migration	Properly Functioning	Properly Functioning
3	LWD Frequency	Not Properly Functioning	Not Properly Functioning
4	Shelter Rating	Not Properly Functioning	Not Properly Functioning
5	Canopy Cover	Properly Functioning	Properly Functioning
6	Overall Riparian Condition	Properly Functioning	Properly Functioning
7	Hydrologic Connectivity	Properly Functioning	Properly Functioning

**Table 3: Present Baseline Conditions Kellogg Creek (Podlech (2016))**

### **6.3. Elevated Baseline Conditions**

6.3.1. By mutual agreement and in order to ensure that a net conservation benefit can be reasonably expected as a result of the Agreement, Elevated Baseline Conditions for certain habitat parameters will be established as set forth herein.

6.3.2. The Parties agree to the establishment of Elevated Baseline Conditions, which are described as follows:

6.3.2.1. Concurrent with the completion and operation of the Diversion Facility project described in Section 10.2 and issuance of water right permits as described in Section 14.2, the minimum bypass flows and maximum diversion rates described in Attachment 1 (*i.e.*, Kellogg Ranch Water Diversion Terms) must be complied with; they will remain in place through the course of the ESP. The minimum bypass flows and maximum diversion rates will provide for a more natural flow regime that includes sufficient variability, duration and magnitude of streamflows to support a variety of ecological functions, including salmonid passage, spawning and rearing in Yellowjacket Creek. The Elevated Baseline Condition for Hydrology in Reach 1 of Yellowjacket Creek shall be set at “Properly Functioning” when Landowner complies with the Kellogg Ranch Water Diversion Terms in Attachment 1. The Parties recognize that Landowner must obtain new water rights issued by the State Water Resources Control Board in order to divert water in accordance with the Kellogg Ranch Water Diversion Terms.

6.3.2.2. Concurrent with the proper completion of the Barrier Remediation project described in Section 10.2, the Baseline Condition for Passage/Migration in Reach 1 of Yellowjacket Creek for Reach 1 shall be set at “Properly Functioning”; this condition will remain in place through the course of the ESP.

#### **6.4. Baseline Adjustment**

Circumstances beyond the control of the Landowner (*e.g.*, loss of riparian habitat due to landslide), could degrade the conditions of the habitat on the Enrolled Property below the Baseline Conditions. If such an event occurs and all parties mutually agree that baseline modification is appropriate, the Present Baseline Conditions or Elevated Baseline Conditions (*i.e.*, Baseline Conditions) may be adjusted as described in Section 17. An adjusted Baseline Conditions for the Enrolled Property must still provide a net conservation benefit for the Covered Species.

### **7. AUTHORITY AND RESPONSIBILITIES OF THE PARTIES**

- 7.1. **Authority of the Landowner.** As described in Section 2.1.2, the Landowner's rights regarding the Enrolled Property and the relevant resources therein allow it to enter into the Agreement. Barbara R. Banke, Trustee, Barbara R. Banke Revocable Trust possesses this authority at the time of signature. An Affiliate will possess such authority on such Affiliate's Affiliate Interest Date and a Party Transferee will possess such authority on such Party Transferee's Party Transferee Interest Date.
- 7.2. **Responsibilities of the Landowner.** The Landowner commits to the following and shall:
  - 7.2.1. Be the recipient of the ESP.
  - 7.2.2. Carry out the Management Activities on the Enrolled Property in the manner described at Section 10 of this Agreement.
  - 7.2.3. Provide the necessary funding for the responsibilities of the Landowner described in this Section, as more fully described in the letter from Landowner to CDFW dated August 31, 2015.
  - 7.2.4. Complete the Barrier Remediation project by December 31, 2018, and the Diversion Facility project by December 31, 2019, provided permits are obtained to allow completion of construction of those projects by those dates, as more fully described in Section 10.2.
  - 7.2.5. Achieve the Elevated Baseline Conditions as described in Section 6.3 of this Agreement, as may be adjusted as described in Section 6.4.
  - 7.2.6. Carry out any monitoring and reporting as described in Section 16.
  - 7.2.7. Ensure the point of diversion on Yellowjacket Creek is properly screened in accordance with NMFS Screening Criteria (NMFS 1997) before the Covered Species are capable of passing upstream of the diversion weir or upon completion Barrier Remediation project, whichever occurs first. Regularly maintain and clean the screen at the point of diversion on Yellowjacket Creek to ensure it is functioning properly during all diversion periods.
  - 7.2.8. Shall not engage in any action that reduces the Enrolled Property to a condition below the Present Baseline Conditions articulated in Section 6.2 of this Agreement.
  - 7.2.9. Shall not engage in any action that reduces the Enrolled Property to a condition below the fully achieved Elevated Baseline Conditions described in Section 6.3 of

this Agreement or that inhibits the achievement of the Elevated Baseline Conditions as described in Section 6.3 of this Agreement. Nothing in this Section 7.2.9 shall prevent Landowner from engaging in any lawful activity that is in accordance with Section 9 of this Agreement.

7.2.10. Notify NMFS and CDFW 60 days prior to any of the following circumstances and shall provide NMFS, its contractors, and agents and the CDFW access to the Enrolled Property in order to rescue individuals of the Covered Species that may be impacted by the following circumstances:

7.2.10.1. The Landowner conducting any ground disturbance, tree removal, LWD placement or modification, or construction activity within the channel or existing riparian corridor of Yellowjacket Creek and Kellogg Creek for such activities that Landowner could anticipate may result in Take of Covered Species on the Enrolled Property.

7.2.10.2. The Landowner conducting any alteration or modification that Landowner could anticipate may further a return to the Baseline Conditions, in whole or in part.

7.2.10.3. Any transfer of ownership of any property subject to the Agreement, including the alienation of land or water (excepting the transfer of property by Landowner to an Affiliate, for which Landowner shall notify NMFS and CDFW thirty (30) days prior).

7.2.11. Notify NMFS and CDFW prior to undertaking water diversions described in Term 5, Term 8, Term 10, and Term 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1). The purpose of this notification is to provide NMFS, its contractors, and agents and the CDFW access to the Enrolled Property in order to rescue individuals of the Covered Species that may be impacted by such diversions. The notification must be made in advance such that NMFS and CDFW will have sufficient time to minimize adverse effects to the Covered Species. Ideally, this notification would occur fourteen days prior to undertaking water diversions. The Landowner shall provide NMFS, its contractors, and agents and the CDFW access to the Enrolled Property for this activity.

7.2.12. Any maintenance or repairs to Barrier Remediation and Diversion Facility projects needed will be addressed in accordance with Landowner's responsibilities under Management Activity Section 10.2, and Avoidance and Minimization Measures Sections 13.4, 13.5, and 13.6. Any other repairs or modifications requiring amendment or modification of this Agreement will be addressed as necessary in accordance with Section 17.

7.2.13. Comply with any limitations on take and implement all avoidance and minimization measures identified in this Agreement.

- 7.2.14. Carry out the Management Activities essential to the achievement of the Elevated Baseline Conditions and implement avoidance or minimization measures when undertaking Management Activities and Land Use Activities.
  - 7.2.15. Allow reasonable access by NMFS and CDFW or another mutually agreed-upon party onto the Enrolled Property for purposes related to this Agreement, including conducting population surveys of the Covered Species, stocking broodstock of the Covered Species, implementing habitat restoration projects, capturing or relocating the Covered Species, and verifying compliance with this Agreement.
  - 7.2.16. Report to NMFS and CDFW any dead, injured, or ill specimens of Covered Species observed on the Enrolled Property. Upon locating a dead or injured Covered Species, the Landowner will notify the North-Central Coast Office (National Marine Fisheries Service, 777 Sonoma Avenue, Room 325 Santa Rosa, California 95404. (707) 575-6050) by telephone within three working days of its finding. The verbal notification must include the date, time, location, cause of injury or death if known, and any other pertinent information. An email message or written report containing the details from the verbal notification must be sent to the North-Central Coast Office with this information and, if possible a photograph, within 3 weeks of its finding. The person to whom the message is sent, and corresponding email address if applicable, would be determined at the time of the phone call.
  - 7.2.17. Comply with all relevant local, state, and federal laws that apply when implementing this Agreement.
- 7.3. **Responsibilities of NMFS.** The NMFS shall:
- 7.3.1. Provide the assurances discussed in Section 11 of this Agreement.
  - 7.3.2. Prior to the last resort of revoking the ESP where continuation of the permitted activity would be likely to result in jeopardy to a Covered Species, NMFS will first exercise all possible means to avoid revocation.
  - 7.3.3. Provide the Landowner with technical assistance when requested, and provide information on Private, State, or Federal funding programs for salmonid habitat improvement including those for threatened and endangered species.
  - 7.3.4. Monitor use of the existing habitat or enhanced habitats by the Covered Species.
  - 7.3.5. Coordinate fish rescues or relocation efforts as NMFS and CDFW deems necessary.
  - 7.3.6. Recognize that the Kellogg Ranch Diversion Terms are essential for accomplishing the goals and objectives of this Agreement. Recognize that components of the Kellogg Ranch Diversion Terms require new water rights and approvals from the State Water Resources Control Board. Provide technical assistance to effectuate these approvals. Recognize that if the water rights and approvals are not issued, or if the approvals are inconsistent with the Kellogg Ranch Diversion Terms, the Parties may amend or terminate this Agreement.

- 7.3.7. Provide the Landowner with technical assistance, when requested by Landowner, in furtherance of obtaining regulatory approvals from other federal, state and local agencies for actions undertaken by Landowner in furtherance of this Agreement.

## **8. LANDOWNER'S LAND USE ACTIVITIES AFFECTING COVERED SPECIES**

- 8.1. This Section 8 discusses the Landowner's routine and ongoing Land Use Activities that occur on the Enrolled Property. The land uses within the Enrolled Property include winegrape growing, agricultural processing and supporting uses, grazing, residential, recreation, and open space. The Enrolled Property supports active viticulture and other agricultural production on approximately 520 acres. The Enrolled Property includes six single family residences and numerous agricultural and recreational structures. Landowner diverts surface water from multiple sources and pumps groundwater from multiple wells on the Enrolled Property to support the Land Use Activities.
- 8.2. For the purposes of this Agreement, Routine Agricultural Activities means: any lawful agricultural practices and uses now or hereafter performed by the Landowner, and persons associated with the Landowner, that are incidental to, ancillary to, or in conjunction with the production, processing, distribution, promotion and sale of agricultural products. Routine Agricultural Activities include but are not limited to: production, cultivation (e.g., planting, replanting, grafting, trellising, etc.), harvesting, processing, distribution, marketing, and promotion of agricultural products; the diversion and use of water in accordance with the terms of this Agreement; the maintenance and construction of structures, equipment, facilities, wells, irrigation systems and utilities; the maintenance and construction of bridges, roads, driveways and pathways, and landscaping; removal of invasive plants; and other customary activities related or ancillary to production, processing, distribution, promotion and sale of agricultural products.
- 8.3. Routine Agricultural Activities that have the potential to adversely affect the Covered Species or their habitat, including irrigation practices associated with diversions of water from Yellowjacket Creek, Unnamed Tributary and No Name Creek, maintenance and repair of the existing water diversion, storage and conveyance facilities, maintenance and repair of the new Diversion Facility and Barrier Remediation projects, pumps, reservoirs and intake structures, removal of vegetation from reservoir and canal embankments, and any activities that may temporarily increase sediment runoff into Kellogg Creek, Yellowjacket Creek, or the two unnamed tributaries to Bidwell Creek, will be performed in accordance with the avoidance and minimization measures in Sections 13.5 and 13.6. Agricultural operations that may potentially contribute to stream sedimentation, including road maintenance and repair on the property, vineyard preparation, planting and replanting, vineyard tillage and

grading, and vineyard or road drainage, will be performed in accordance with the avoidance and minimization measures in Section 13.7.

- 8.4. For the purposes of this Agreement, Routine Forest and Rangeland Activities means: any lawful forest and range management practices and uses performed by the Landowner, and persons associated with the Landowner, that are incident to or in conjunction with customary forest and range management, including but not limited to revegetation of riparian habitat, removal of dead, dying and diseased trees, erosion control, grazing, property upkeep (e.g., maintenance and replacement of livestock water troughs and cattle exclusion fencing, clearing of brush along existing roads and utility rights of way, clearing of brush around structures for fire damage reduction, and maintenance of roads, culverts and drainage ditches), landscaping, removal of trash, and removal of invasive plants.
- 8.5. Routine Forest and Rangeland Activities that have the potential to adversely affect the Covered Species or their habitat include revegetation of riparian habitat, removal of dead, dying and diseased trees, and erosion control activities that may temporarily increase sediment runoff into Kellogg Creek, Yellowjacket Creek, or the two unnamed tributaries to Bidwell Creek. Routine Forest and Rangeland Activities occurring in riparian habitat on the Enrolled Property will be performed in accordance with the avoidance and minimization measures in Section 13.6. Erosion control activities will be performed in accordance with the avoidance and minimization measures in Sections 13.7, 13.9 and 13.10. Removal of trees will be performed in accordance with the avoidance and minimization measures in Section 13.11.
- 8.6. For the purposes of this Agreement, Routine Recreational Activities means: any lawful recreational practices and uses performed by the Landowner, and persons associated with the Landowner, that are incident to or in conjunction with customary recreation, including but not limited to non-motorized boating and fishing within the lakes/reservoirs on the Enrolled Property and hunting, horseback riding, hiking and bicycling across the entire Enrolled Property.
- 8.7. Routine Recreational Activities that have the potential to adversely affect the Covered Species or their habitat include maintenance of trails and recreational structures and other activities that may temporarily increase sediment runoff into Kellogg Creek, Yellowjacket Creek, or the two unnamed tributaries to Bidwell Creek. Landowner will perform measures identified in Sections 13.8 and 13.10 to minimize such potential impacts.
- 8.8. For the purposes of this Agreement, Routine Residential Activities means: any lawful management practices and uses performed by the Landowner, and persons associated with the Landowner, that are incident to or in conjunction with customary residential use and maintenance including but not limited to landscaping, gardening, maintenance and construction of buildings, structures, roads, bridges, driveways, wells, septic systems, and utility services.

8.9. Routine Residential Activities that have the potential to adversely affect the Covered Species or their habitat, include ground disturbing activities that may temporarily increase sediment runoff into Kellogg Creek, Yellowjacket Creek, or the two unnamed tributaries to Bidwell Creek. Landowner will perform measures identified in Section 13.10 to minimize such potential impacts.

8.10. Water Usage

8.10.1. Landowner does not divert water from Kellogg Creek.

8.10.2. Landowner diverts water from Yellowjacket Creek, No Name Creek and the Unnamed Tributary to Bidwell Creek in accordance with this Agreement to support the Land Use Activities described in this Section 8. Water diversions have the potential to adversely affect the Covered Species or their habitat through reduced streamflows in Yellowjacket Creek and the two unnamed tributaries to Bidwell Creek.

8.10.3. Landowner pumps percolating groundwater from three active wells to support the Land Use Activities described in this Section 8. Based on existing information about geologic conditions and the well locations, diameters and depths discussed in Section 5 and Baseline Conditions for Hydrology defined in Section 6, pumping from the wells does not have the potential to adversely affect the Covered Species or their habitat.

**9. LANDOWNER'S FUTURE LAND USE ACTIVITIES THAT MAY AFFECT COVERED SPECIES**

9.1. At any point during the life of the ESP, the Landowner may undertake future Land Use Activities not described with particularity in this Agreement, but which 1) do not hinder the achievement of the Elevated Baseline Conditions of Section 6.3, 2) maintain the Baseline Conditions established under Section 6.2, 3) employ the avoidance and minimization measures discussed in Section 13, and 4) do not prevent or otherwise adversely affect the expected benefits of the Management Activities, except as set forth in Section 18 of this Agreement.

**10. LANDOWNER'S MANAGEMENT ACTIVITIES FOR THE COVERED SPECIES**

Unless this Agreement is terminated in accordance with Section 18.2 of this Agreement, the Landowner shall carry out the following Management Activities on the Enrolled Property in accordance with the timeframes discussed herein and allow those Management Activities to remain in effect during the term of this Agreement and ESP.

10.1 Upon the effective date of this Agreement and until completion and successful operation of the Barrier Remediation and Diversion Facility projects, the Landowner will work in good-faith to divert water in accordance with the Kellogg Ranch Water Diversion Terms (Attachment 1) by regulating flow within the existing diversion canal using flashboards,

sandbags or other practical methods so that the minimum bypass flows to the extent practicable are reasonably allowed to bypass the weir. The Landowner will continue to work in good-faith to divert water in accordance with the Kellogg Ranch Water Diversion Terms (Attachment 1) using the completed and operational Barrier Remediation and Diversion Facility projects (see Section 10.2) to the extent practicable prior to issuance of water right permits. In implementing these interim bypass measures Landowner shall not prevent neighboring landowners from diverting water in accordance with their water rights. During this interim period at no time will the Landowner bring the Enrolled Property below the Present Baseline Conditions specified in Section 6.2. Furthermore, this particular interim Management Activity will cease upon issuance of water right permits for the Enrolled Property by the State Water Board, at which point the Landowner will implement the Management Activity specified in Section 10.3. Upon the completion and successful operation of the Barrier Remediation and Diversion Facility projects the Baseline Conditions of Fish Passage and Hydrology in Reach 1 of Yellowjacket Creek in the Enrolled Property will be elevated from 'Not Properly Functioning' to 'Properly Functioning'. The Parties intend this particular Management Activity to be 1) an interim measure in place until the State Water Board approves water right permits for the Enrolled Property and 2) an attempt to provide the Covered Species downstream of the diversion weir sufficient flow to complete their life cycle during this interim period.

- 10.2 Landowner will construct and operate the Barrier Remediation project (anticipated to be completed and operational by December 31, 2018) and the Diversion Facility project (anticipated to be completed and operational by December 31, 2019) at the Kellogg Ranch's point of water diversion on Yellowjacket Creek in order to promote volitional, upstream and downstream passage for all life stages of coho salmon and steelhead. The Landowner will provide NMFS and CDFW access to the property during the design and implementation phases. Landowner will monitor and maintain the Barrier Remediation project with the goal that it will be capable of supporting volitional, upstream and downstream passage for all life stages of coho salmon and steelhead. Landowner will construct and maintain the Barrier Remediation project in accordance with the avoidance and minimization measures in Section 13.5.
- 10.3 Landowner will divert water in accordance with the Kellogg Ranch Water Diversion Terms (Attachment 1) after completion of the Barrier Remediation project and the Diversion Facility project and issuance of water right permits for Applications 30954 and 30955 by the State Water Resources Control Board to Landowner.
- 10.4 The Landowner will submit a petition to the State Water Resources Control Board, under Water Code Section 1707, within three months of issuance of water right permits for applications 30954 and 30955. The petition will request that the State Water Resources Control Board adopt an order that modifies the Landowner's riparian and pre-1914 water rights to: (1) authorize instream flow enhancement and fish and wildlife preservation in

Yellowjacket Creek within Kellogg Ranch; (2) dedicate to instream flow in Yellowjacket Creek the water that will be left in Yellowjacket Creek as a result of Landowner's forbearance of the right to divert water from Yellowjacket Creek at rates higher than the maximum diversion rates and below the minimum bypass flows in the Kellogg Ranch Water Diversion Terms (Attachment 1); and (3) declare that the portion of the water forborne by Landowner is not subject to appropriation by other users.

- 10.5 The Landowner will place LWD structures in Reach 2 of Yellowjacket Creek in a manner consistent with the California Salmonids Stream Habitat Restoration Manual (CDFW 2010). The Landowner will place LWD in Reach 2 of Yellowjacket Creek in accordance with the Conceptual LWD Enhancement Plan (Podlech 2017) within three years following completion of the Barrier Remediation Project. Landowner will place and maintain the LWD structures in accordance with the avoidance and minimization measures in Section 13.5.
- 10.6 The Landowner will investigate the feasibility of using storage tanks to reduce the reliance on instantaneous demand from the water system for domestic uses on the Enrolled Property.
- 10.7 The Landowner allow NMFS and CDFW, after reasonable prior notice and in coordination with the Landowner, access to the Enrolled Property for purposes of 1) ascertaining compliance with the Agreement, 2) enabling NMFS and CDFW staff or their contracting designees to stock captive broodstock juvenile coho salmon in Yellowjacket Creek and Kellogg Creek on the Enrolled Property, 3) allowing access for NMFS and CDFW staff or their contracting designees to engage in population and habitat surveys of coho salmon and steelhead in portions of these creeks on the Enrolled Property, and 4) removing and relocating the species. Access to the Enrolled Property for monitoring and Management Activities will be scheduled to reasonably accommodate and avoid interference with commercial or other uses of the property.
- 10.8 For the duration of the Agreement, the Landowner will not further encroach upon or conduct Land Use Activities or future Land Use Activities as described in Sections 8 and 9 within the existing riparian forest that is adjacent to and within 150 feet of the top of bank of Kellogg Creek and Yellowjacket Creek and within 100 feet of the top of bank of No Name Creek. This limitation does not apply to those existing Land Use Activities and structures that are currently within these riparian setbacks. A map of existing facilities, farming, roads and structures currently within 150 feet of Kellogg Creek and Yellowjacket Creek and within 100 feet of No Name Creek is attached as Attachment 5. Forest and Rangeland Activities described in Section 8.5 and Routine Recreational Activities described in Section 8.6 may be conducted throughout these riparian setbacks.
- 10.9 The Landowner will seek to improve riparian forest conditions by re-vegetating sections of the riparian buffer that are within 150 feet of Kellogg Creek and Yellowjacket Creek by planting native hardwood and coniferous species appropriate to the pertinent stream-zone, soil type, and slope, where feasible and not in conflict with existing Land Use

Activities. (A map of existing facilities, farming, roads and structures currently within 150 feet of Kellogg Creek or Yellowjacket Creek is attached as Attachment 5.) Locations of, and plant species used for riparian planting will be determined by the Landowner in coordination with NMFS and CDFW. Locations for riparian planting will include, but not limited to, areas within the riparian zone that are disturbed by construction activities associated with the Barrier Remediation Project. The Landowner will provide NMFS and CDFW, for review and approval, a riparian enhancement plan that outlines the locations and plant species that will be used to enhance these riparian areas. The Landowner will implement the NMFS- and CDFW-approved riparian enhancement plan within three years following completion of the Barrier Remediation Project. Landowner will implement the riparian enhancement plan in accordance with the avoidance and minimization measures in Section 13.4 and 13.5.

## **11 ASSURANCES**

- 11.1 Upon execution of this Agreement by all Parties, and the satisfaction of all other applicable legal requirements, NMFS will issue the Landowner an ESP under Section 10(a)(1)(A) of the ESA; whereby, provided that the Landowner has complied fully with this Agreement and the ESP, and so long as the continuation of the permitted activity would not be likely to result in jeopardy to Covered Species or the adverse modification or destruction of their designated critical habitat, NMFS assures the Landowner that it:
- 11.1.1 May incidentally take Covered Species under the ESA in accordance with the ESP as a result of Land Use Activities as described in Sections 8 and 9 of this Agreement and Management Activities as described in Section 10, except where such actions would diminish the fully achieved Elevated Baseline Conditions as described in Section 6.3 or inhibit the-achievement of the Elevated Baseline Conditions as described in Section 6.3.
  - 11.1.2 May incidentally take Covered Species by altering or modifying the Enrolled Property to such an extent that, with regard to the habitat metrics identified in Section 6.2 or 6.3 (upon achieving the Elevated Baseline Conditions), the property is returned to Baseline Conditions at any time during the duration of the ESP.
- 11.2 NMFS and CDFW provide no assurances with regard to any action (including the alteration or modification of the Enrolled Property) that may affect Non-Covered species, including the take of Non-Covered Species and the adverse modification or destruction of their designated critical habitat.

## **12 INCIDENTAL TAKE OF COVERED SPECIES**

- 12.1 After the ESP is issued and as further specified in the ESP, the Landowner will be authorized to take Covered Species incidental to otherwise lawful Land Use Activities of

Section 8 and 9 and Management Activities of Section 10 as described in Sections 12.7 and 12.8 below, provided that the Landowner has complied fully with this Agreement and the ESP, and so long as neither the ESP nor the Agreement has been terminated or revoked as provided for in Sections 18 and 19 below.

- 12.2 Nothing in this Agreement authorizes the Landowner to kill or injure listed species where such take is not incidental to otherwise lawful activities.
- 12.3 Any take of Covered Species that occurs as a result of a reduction in the quality and/or quantity of the established Baseline Conditions described in Section 6 on the Enrolled Property is not authorized.
- 12.4 As identified in Section 7.2.10 and 7.2.11 of this Agreement, the Landowner is required to notify NMFS and CDFW of any planned activity that the Landowner might reasonably anticipate could result in take of listed species on the Enrolled Property, including a return of the Enrolled Property to the Baseline Conditions, in part or in whole.
- 12.5 NMFS and CDFW will have access to the property if the need to capture and relocate any individuals that could potentially be affected is reasonably likely to occur.
- 12.6 If take exceeds that specified in the ESP, the Landowner will discontinue the take-causing activity and will confer with NMFS and CDFW about modifications to the activity which might allow resumption or amendment of the ESP.
- 12.7 **Management Activities and the Extent of Incidental Take That Would Likely Result.**

12.7.1 **Management Activity of Section 10.2:** During the construction of the Barrier Remediation project and Diversion Facility project, incidental take of the Covered Species in the form of harm, kill, and capture, may occur as a result of dewatering and construction related activities in Yellowjacket Creek. As provided below in Section 13.5, the avoidance and minimization measures outlined in Attachment 2 of this Agreement will be utilized by the Landowner during dewatering and construction related activities associated with this Management Activity.

12.7.2 **Management Activity of Sections 10.1 and 10.3:** Incidental take of the Covered Species in the form of harm, kill, and capture, may occur as a result of diversion of waters under Term 5, Term 8, Term 10, and Term 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1). All other water diversion practices under Management Activity 10.3, in accordance with the maximum diversion rates and minimum bypass flows specified in the Kellogg Ranch Water Diversion Terms (Attachment 1), are deemed to be protective and will not cause incidental take. As provided below in Sections 13.1, 13.2, and 13.3, avoidance and minimization measures will be utilized by Landowner in undertaking the water diversions pursuant to the Terms 5, 8, 10, and 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1).

- 12.7.3 **Management Activity for Section 10.5:** During the placement of LWD, incidental take of the Covered Species in the form of harm, kill, and capture, may occur as a result of dewatering and construction related activities. As provided below in Section 13.5, the avoidance and minimization measures outlined in Attachment 2 of this Agreement will be utilized during dewatering and construction related activities associated with this Management Activity.
- 12.7.4 **Management Activity for Section 10.5 Return to Baseline Condition:** When returning the Enrolled Property to the established Baseline Condition for LWD, incidental take of the Covered Species in the form of harm, kill, and capture, may occur as a result of dewatering and construction related activities. As provided below in Section 13.5, the avoidance and minimization measures outlined in Attachment 2 of this Agreement will be utilized during dewatering and construction related activities associated with this Management Activity.
- 12.8 **Land Use Activities and the Extent of Incidental Take That Would Likely Result.** During the life of the ESP, incidental take, in the form of harm through habitat modification, may occur as a result of any Land Use Activities described in Sections 8 and 9 of this Agreement. Land Use Activities may not reduce, in quality or quantity, the Present Baseline Conditions in Section 6.2 or inhibit the achievement of the Elevated Baseline Conditions as described in Section 6.3. The following avoidance and minimization measures will be utilized:
- 12.8.1 Prior to any Land Use Activities that may return the Enrolled Property to the Present Baseline Conditions in Section 6.2 or inhibit the achievement of Elevated Baseline Conditions in Section 6.3, in whole or in part, the Landowner will notify NMFS and CDFW within 60 days of the Landowner undertaking such action.
- 12.9 Nothing in this Agreement authorizes the Landowner to take Non-Covered Species.

### **13 AVOIDANCE & MINIMIZATION MEASURES**

The Landowner is committed to supporting the presence of Covered Species at the Enrolled Property and will manage and maintain the property to provide benefits to the Covered Species. In keeping with this commitment, the Landowner agrees to implement the following measures concomitantly with the relevant Land Use Activities occurring at the Enrolled Property:

- 13.1 Prior to undertaking water diversions pursuant to Term 5 and Term 8 of the Kellogg Ranch Water Diversion Terms (Attachment 1) the Landowner will complete and undertake the following measures:
- 13.1.1 Notify and consult with NMFS and CDFW as required in Section 7.2.11 of this Agreement.

- 13.1.2 A Qualified Biologist will assess whether the reach of Yellowjacket Creek within Kellogg Ranch contains evidence of recent redds that could be dewatered and / or if adult salmonids are present.
- 13.1.3 Cease diversion from Yellowjacket Creek for non-domestic use during the period that water is applied for frost protection at Kellogg Ranch (when frost sprinklers turned on). Water diversion from Yellowjacket Creek for non-domestic use shall not resume until 12 hours after water has been applied for frost protection at Kellogg Ranch (after frost sprinklers turned off).
- 13.2 Prior to undertaking water diversions pursuant to Term 10 and Term 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1), the Landowner will notify and consult with NMFS and CDFW as required in Section 7.2.11 of this Agreement.
- 13.3 After the Barrier Remediation project is constructed and operational, all diversions (i.e., domestic and non-domestic) from Yellowjacket Creek by Landowner shall be screened in accordance with NMFS Screening Criteria (NMFS 1997). Landowner will regularly maintain and clean the screen at the diversion on Yellowjacket Creek as required in Section 7.2.7.
- 13.4 Establish and maintain native plants and resident vegetation in non-crop areas along fence lines, ditches and banks.
- 13.5 Perform dewatering and construction related activities in accordance with the attached Best Management Practices (BMPs) for Construction/Maintenance of Barrier Remediation, Bank Stabilization, and Large Woody Debris Placement (Attachment 2).
- 13.6 Perform routine maintenance of in-channel improvements including the Barrier Remediation project, Diversion Facility project, and other water diversion and use facilities in accordance with the attached Routine Maintenance of Reservoirs, Diversion Canals / Pipelines on Yellowjacket, No Name Creek and Unnamed Tributary (Attachment 3).
- 13.7 Conduct Agricultural Activities and other Land Use Activities (where applicable) in accordance with the attached Farm Plan (Attachment 4).
- 13.8 No recreational or subsistence fishing in either Yellowjacket Creek or Kellogg Creek.
- 13.9 Landowner shall utilize best management practices to prevent livestock used to graze the property from entering and damaging riparian areas and stream channels. Repair livestock exclusion fencing and remove livestock from riparian areas and stream channels within 48 hours of discovery.
- 13.10 All Recreational, Residential, Forest and Rangeland, and other Land Use Activities shall comply with applicable Low Impact Development standards adopted by Sonoma County and North Coast Regional Water Quality Control Board.
- 13.11 Removal of trees shall comply with the California Forest Practice Rules, Sonoma County tree ordinances, and other applicable federal, state and local laws.

## **14 EFFECTIVE DATE AND DURATION OF THE AGREEMENT AND TAKE AUTHORIZATION DURATION**

14.1 This Agreement is effective upon execution of the Agreement by the Parties and will be in effect for 25 years; absent extension as provided herein or termination in accordance with Section 18 of this Agreement or as otherwise provided for by law or regulation, the initial term of this Agreement will expire simultaneously with the initial expiration date of the ESP. This Agreement may be extended by mutual, written consent of the Parties; ESP extensions will be processed in accordance with 50 C.F.R. § 222.304. A 25-year term will allow conservation benefits to be enhanced compared to a shorter term agreement and reflects the significant investment by Landowner in this voluntary agreement.

14.2 The ESP will be issued upon the completion and successful operation of the Barrier Remediation and Diversion Facility projects. This action is predicated on the assumption that the State Water Resource Control Board will issue permits that substantially incorporate the relevant diversion terms in the Kellogg Ranch Water Diversion Terms (Attachment 1) for application 30954, which is for diversion of up to 198 acre-feet per year from Yellowjacket to offstream storage in West Twin Lake, East Twin Lake, House Pond and Ballpark, and from No Name into storage in Waterfall, Birthday, West Twin Lake, East Twin Lake, House Pond, and offstream storage in Frog Pond and Ballpark Reservoir, and application 30955, which is for diversion of up to 355 acre-feet per year from Yellowjacket and re-diversion at East Twin Lake to offstream storage in Frog Pond and Ballpark Reservoir, and potentially additional permits on applications that would extend the seasons of diversion for applications 30954 and 30955 consistent with the Kellogg Ranch Water Diversion Terms (Attachment 1). Therefore upon its issuance, the ESP will allow the incidental take identified in Section 12 of this Agreement except for the incidental take identified in Section 12.7.2, which the ESP will authorize in two phases. In Phase 1, which is effective upon issuance of the ESP, the ESP will authorize incidental take resulting from the diversion of water for Term 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1). In Phase 2, which becomes effective when the State Water Resource Control Board issues permits for applications 30954 and 30955 as described above, the ESP will authorize the additional incidental take resulting from the diversion of waters under Term 5, Term 8, and Term 10 of the Kellogg Ranch Water Diversion Terms (Attachment 1)..

## **15 EXPECTED NET CONSERVATION BENEFIT**

15.1 The direct and indirect effects of the SHA from the Management Activities, Land Use Activities and the future return to Baseline Conditions, may include the following. Management Activities are expected to increase spawning and rearing habitat and increase population abundance and distribution. Management Activities could harm, kill, and capture, as result of dewatering and construction related activities. Land Use Activities could cause take in the form of harassment, direct mortality or injury to the egg, juvenile, or adult life stages of the Covered Species through smothering of redds, disrupting feeding behavior,

disrupting spawning behavior, disrupting migration behavior, stranding or other behavior modifications or disruptions. If, at some future time, the Enrolled Property is reduced to the Baseline Conditions in accordance with this Agreement, harm, kill, and capture, may occur as a result of dewatering and relocation activities. The NMFS recovery plans for CCC coho salmon (NMFS 2012) and CCC steelhead (NMFS 2016) use a Conservation Action Planning process to rank potential recovery threats from Land Use Activities as low, medium, or very high among identified populations (see Table 3).

Species	Population	Agriculture	Channel modification	Residential development	Roads and Railroads	Water diversion / Impoundments	Livestock ranching	Mining	Severe weather
CCC coho salmon	Russian River	High	High	Very High	High	Very High	High	High	High
CCC steelhead	Maacama Creek	High	---	---	High	---	---	---	---

**Table 4: Threats that ranked high or very high for CCC coho salmon, and CCC steelhead, recovery during recovery plan development (NMFS 2012, 2016).**

The Land Use Activities considered within this Agreement are activities that could be classified as many of the threats outlined in Table 4. However, the Landowner’s commitment to implementing Management Activities and Avoidance and Minimization Measures, and maintaining Baseline Conditions while conducting Land Use Activities are expected to diminish the adverse effects associated with these threats. Therefore, the Land Use Activities conducted on the Enrolled Property are expected to pose a much reduced threat to the survival and recovery of Covered Species than what is described in Table 4, and are unlikely to impede the beneficial effects of this Agreement.

15.2 The NMFS recovery plans for CCC coho salmon (NMFS 2012) and CCC steelhead (NMFS 2016) include the following necessary recovery actions that are consistent with the Management Activities (in Section 10) and the biological goals (in Section 1) described in the Agreement:

- 15.2.1 NMFS 2016- 3.1.1.1; NMFS 2012-4.2.2.1. Work with SWRCB and landowners to improve over summer survival of juveniles by re-establishing summer baseflows (from July 1 to October 1) in rearing reaches that are currently impacted by water use.
- 15.2.2 NMFS 2016- 6.1.1.1. Improve summer rearing, winter rearing, and smolt survival by increasing instream channel complexity in potential rearing and migration reaches. Priority streams include Redwood Creek, Foote Creek, Kellogg Creek, and Yellowjacket Creek.
- 15.2.3 NMFS 2016- 12.1.3.2. Incentive programs and incentive-based approaches should be explored for landowners who conduct operations in a manner compatible with steelhead recovery requirements.
- 15.2.4 NMFS 2016- 12.2.1.2. Increase setbacks of existing agricultural activities from the top of bank to 100 feet.

- 15.2.5 NMFS 2016- 24.1.1.4. Work with water managers on regulated streams to assure adequate and proper consideration is given to fish needs. Develop agreements that will minimize water-use conflicts and impacts on fish and wildlife resources during drought conditions.
- 15.2.6 NMFS 2012- 2.1.1.2. Avoid new development within riparian zones and the 100-year flood prone zones.
- 15.2.7 NMFS 2012- 3.1.2.5. Install or enhance existing LWD, boulders, and other instream features to increase habitat complexity and improve pool frequency and depth (CDFG 2004). Priority streams include Redwood Creek, Foote Creek, Kellogg Creek, and Yellowjacket Creek.
- 15.2.8 NMFS 2012- 4.1.1.2. Promote, via technical assistance and/or regulatory action, the reduction of water use affecting the natural hydrograph, development of alternative water sources, and implementation of diversion regimes protective of the natural hydrograph.
- 15.2.9 NMFS 2012-- 4.1.1.3. Avoid and/or minimize the adverse effects of water diversion on coho salmon by establishing: a more natural hydrograph, by-pass flows, season of diversion, and offstream storage
- 15.2.10 NMFS 2012- 6.1.2.12. Evaluate and implement passage opportunities in the Maacama Creek subwatershed and its tributaries. Priority streams include Redwood Creek, Foote Creek, Kellogg Creek and Yellowjacket Creek.
- 15.2.11 NMFS 2012- 10.1.3.1. Expand broodstock releases within core, then remaining phase 1, then phase 2 streams within the watershed.
- 15.3 Taking into account the benefits reasonably expected from the Management Activities, the return to the Baseline Conditions, the incidental take related to Management Activities, and the Avoidance and Minimization Measures, this Agreement 1) will not operate to the disadvantage of the Covered Species; 2) will enhance the survival of the Covered Species; and, 3) is reasonably expected to result in a net conservation benefit to the covered species that will contribute, directly or indirectly, to their recovery.
- 15.4 NMFS believes that after implementation of the Management Activities within the Enrolled Property, Yellowjacket Creek and Kellogg Creek will provide the Covered Species with high quality habitat that also sustains abundant cool water flows throughout the year. Because of the Landowner's willingness to implement these activities, including providing upstream and downstream passage at the diversion, voluntarily dedicating portions of its pre-1914 and riparian water rights to enhance fisheries, and allowing access to the Russian River Captive Coho Broodstock Program to stock and monitor coho salmon in Yellowjacket Creek and Kellogg Creek, the Enrolled Property is an ideal location to promote the recovery of the Covered Species. The Landowner's commitment to construct and operate the Barrier Remediation project and Diversion Facility project and forebear diversion of portions of its pre-1914 and riparian water rights as part of the Elevated Baseline Conditions for the Enrolled Property will promote the survival and recovery of the Covered Species for the duration of this Agreement. Both Yellowjacket Creek and Kellogg Creek, within the Enrolled Property are considered Core Recovery Areas in the NMFS' Central California Coast (CCC) Coho

Salmon Recovery Plan (NMFS 2012) and comprise an important part of the Maacama Creek population (an Essential Population in NMFS (2016)) of the CCC steelhead DPS. Restoration of these areas is the highest priority for near-term restoration projects and threat abatement actions, which both are necessary to recover the Covered Species (NMFS 2012, NMFS 2016). All of the Management Activities to be implemented by this Agreement are consistent with the priority restoration actions identified in the NMFS (2012) and NMFS (2016); and therefore are expected to result in demonstrable conservation benefits to the Covered Species.

15.5 The Landowner will manage the Enrolled Property in a manner that is beneficial to Covered Species while conducting Land Use Activities and implementing avoidance and minimization measures that do not impede the beneficial contribution to the status of the Covered Species resulting from the Landowner's Management Activities. Therefore, NMFS anticipates that implementation of this Agreement will produce a net conservation benefit to the Covered Species by ultimately:

15.5.1 Providing areas where existing suitable habitat for the Covered Species will be maintained or increased in quantity and quality.

15.5.2 Providing areas where suitable habitat for the Covered Species will remain relatively undisturbed.

15.5.3 Providing habitat for the Covered Species to increase in population numbers or distribution.

15.5.4 Providing an example to the community that a cooperative government/private partnership can achieve biological goals for the Covered Species while maintaining the Landowner's land use objectives.

15.5.5 NMFS anticipates the net conservation benefit to Covered Species from this Agreement, and thus contribution to their recovery will remain in place for at least 25 years.

## **16 MONITORING & REPORTING**

16.1 The Landowner will be responsible for annual monitoring and reporting as described herein.

16.1.1 The Landowner will monitor the Baseline Conditions in Section 6 of this Agreement within the Enrolled Property, using protocols submitted to and approved by NMFS and CDFW. When possible, NMFS and CDFW will assist in these surveys; however, NMFS's and CDFW's assistance may be limited by their authorities, other obligations and appropriated funds.

16.1.2 The Landowner will monitor the implementation and progress of the beneficial Management Activities described in Section 10 of the Agreement.

16.1.3 The Landowner will monitor dissolved oxygen in Reaches 1 and 2 of Yellowjacket Creek when flow is less than 0.5 cfs at the point of diversion on Yellowjacket Creek and water is being diverted for pursuant to Term 13 of the Kellogg Ranch Water Diversion Terms (Attachment 1). The Landowner will provide this data to NMFS and CDFW on a weekly basis for their use in determining whether fish may need to be relocated.

- 16.1.4 After issuance of the ESP, monitoring surveys will be conducted in that first year and thereafter every two years during the same period for the remainder of the Agreement.
- 16.1.5 The Landowner will provide the NMFS and CDFW with an annual report by January 31 each year for the duration of this Agreement. The report will include the following information:
  - 16.1.5.1 The results of monitoring conducted pursuant to Sections 16.1.1 and 16.1.2 of this Agreement.
  - 16.1.5.2 The status of beneficial Management Activities (Section 10) being undertaken on the Enrolled Property in the preceding year and whether or not the beneficial Management Activity met the intended goals of that activity.
  - 16.1.5.3 A discussion regarding trends, successes or failures of properly implemented beneficial Management Activities with the intent of benefitting to the Covered Species.
  - 16.1.5.4 Any take of listed species has occurred.
  - 16.1.5.5 Verify the maintenance and improvement of the Baseline Conditions (Section 6) for the Enrolled Property.
  - 16.1.5.6 Verify implementation of avoidance and minimization measures (Section 13) during the previous year.
- 16.1.6 The Landowner will also provide NMFS and CDFW with the Reports of Permittee and Licensee filed with the State Water Resources Control Board pursuant to the Landowner's water rights.

## **17 MODIFICATION OR AMENDMENT**

- 17.1 Amendment or Modification of the ESP: Amendment or modification of the ESP is governed by the ESA, 50 C.F.R. §222.306 and NMFS' policies concerning safe harbor agreements effective when the modification or amendment is sought (currently 64 FR 32717). The Landowner will notify CDFW regarding amendment or modification of the ESP.
- 17.2 Amendment of the Agreement. This Agreement may be amended only with the written consent of each of the Parties. The Landowner will notify CDFW regarding amendment of this Agreement.
- 17.3 Minor Modification of the Agreement. Minor Modifications potentially include, but are not limited to the following: corrections of typographic, grammatical, and similar editing errors that do not change the intended meaning; correction of any maps or exhibits to correct errors in mapping; minor changes to survey, monitoring or reporting protocols; clarifications of vague or undefined language or phrases change in the mailing address or change in the trade name of Landowner. Any Party may propose minor modifications to this Agreement by providing written notice to all other Parties. Such notice shall include a statement of the reason for the proposed modification and an analysis of its environmental effects, including its effects on Management Activities and on listed species. The Parties shall use reasonable efforts to

respond to proposed modifications within sixty (60) days of receipt of such notice. Proposed Minor Modifications shall become effective, and the Agreement shall be deemed modified accordingly, immediately upon all Parties' written approval. Among other reasons, a Party may object to a proposed minor modification based on a reasonable belief that such modification would result in adverse effects on the environment that are new or significantly different from those analyzed in connection with the original Agreement or additional take not analyzed in connection with the original Agreement. If a Party objects to a proposed Minor Modification, the proposal is not approved as a Minor Modification but may be processed as an amendment in accordance with Section 17.1 of this Agreement.

## **18 TERMINATION**

18.1 Unless terminated as specified in Sections 18.2 or 18.3 of this Agreement or extended in accordance with Section 14.1 of this Agreement, this Agreement will terminate on the last day of the term noted in Section 14.1 of this Agreement.

18.2 **Termination of the Agreement by the Landowner.** The Landowner may terminate this Agreement in accordance with two alternative processes described below: (1) termination due to “circumstances beyond Landowner’s control” that offers take coverage for the return of the Enrolled Property to Baseline Conditions; and (2) “early termination” for any reason that does not offer take coverage for the return to the Baseline Conditions.

### **18.2.1 Circumstances Beyond the Landowner’s Control:**

18.2.1.1 By providing written notice 60 days in advance of termination, the Landowner will advise NMFS and CDFW of its intention to terminate the Agreement under circumstances beyond the Landowner’s control, as described in the Policy; unless the Parties mutually agree otherwise in writing, this Agreement will terminate 60 from NMFS and CDFW receipt of the Landowner’s notice of intent to terminate.

18.2.1.2 Upon NMFS’ and CDFW’s receipt of the advance notice of termination, NMFS and CDFW will hold a coordination meeting with the Landowner regarding the disposition of the Covered Species on the Property. After such meeting and upon a finding of circumstances outside of the Landowner’s control:

18.2.1.2.1 As described in the ESP, the Landowner may take Covered Species through the alteration or modification of Enrolled Property to such an extent that the Enrolled Property is returned to the Baseline Conditions if such a return would not be likely to result in jeopardy to a Covered Species, adverse modification or destruction of Covered Species’ designated critical habitat.

18.2.1.2.2 If the Landowner has failed to achieve the Elevated Baseline Conditions, the Landowner will continue the activities designed to achieve the Elevated Baseline Conditions up to the termination date.

18.2.1.2.3 In all of the circumstances described above, the Landowner will fulfill its responsibilities under Section 7.2 of this Agreement,

18.2.1.3 Within 30 days of the cessation of permitted activities, the Landowner shall mail the ESP to NMFS.

18.2.2 **Early Termination.** By providing written notice to NMFS and CDFW the Landowner will advise NMFS and CDFW of its intention to terminate the agreement under any circumstances other than those identified in Section 18.2.1, and request cancellation of the ESP; unless the Parties mutually agree otherwise in writing, this Agreement will terminate 60 days from NMFS' and CDFW's receipt of the Landowner's notice of intent to terminate. On the Termination Date, the Landowner may cease the activities discussed in Section 10 (Management Activities) and the ESP will be void. In the event of Early Termination, no assurances are provided by NMFS and CDFW with regard to any alterations or modifications which may further a partial or complete return to Baseline Conditions.

18.3 **Termination by NMFS.** NMFS may terminate this Agreement in accordance with the laws and regulations in force at time of such termination.

18.4 **Withdrawal or Non-Joinder of a Landowner.** If a Landowner voluntarily withdraws or a Party Transferee elects not to become a party to the Agreement such that the remaining Landowner(s) of the Enrolled Property are no longer able to undertake Management Activities sufficient for it to be reasonable to expect a net conservation benefit, then the remaining participating Landowner(s) and NMFS and CDFW will hold a coordination meeting regarding 1) the negotiation of new Baseline Conditions on the remaining Landowner's Portion of the Enrolled Property, 2) the adoption of sufficient Management Activities that still provide a net conservation benefit, and/or 3) the disposition of the Covered Species on such remaining Landowner's portion of the Enrolled Property if the Agreement is to be terminated with regard to all Parties. If NMFS decides to terminate the Agreement with such Landowner, it may use the following protocol:

18.4.1 NMFS will mail such Landowner its intent to terminate the Agreement. The Landowner's Agreement will terminate 60 days from NMFS mailing of its intent to terminate or on another date if agreed to by NMFS and such Party. NMFS will mail its intent to terminate the Agreement to CDFW on the same time it mails such notice to Landowner.

18.4.2 After receiving the notice of intent but prior to the termination date:

18.4.2.1 The Landowner may incidentally take Covered Species by altering or modifying its portion of the Enrolled Property to such an extent that it is returned to the Baseline Conditions described in Section 6 if such a return would not be likely to result in jeopardy to a Covered Species or adversely modify or destroy their designated critical habitat.

18.4.2.2 The Landowner may cease any Management Activities described in Section 10 on the termination date.

18.4.2.3 If the Landowner has failed to achieve the Elevated Baseline Conditions, it will continue the activities designed to achieve the Elevated Baseline Conditions up to the termination date.

18.4.2.4 In all of the circumstances described above, the Landowner will fulfill its responsibilities under Section 7.2 of this Agreement.

18.4.2.5 Within 30 days of the cessation of permitted activities, the Original Landowner shall mail the ESP to NMFS and CDFW.

## **19 PERMIT SUSPENSION OR REVOCATION.**

19.1 NMFS may suspend or revoke the ESP in accordance with the laws and regulations in force at the time of such suspension or revocation.

## **20 NON COVERED AND NEWLY LISTED SPECIES.**

20.1 **Incidental Take and Non-Covered Species.** The Landowner shall not have incidental take authority with respect to non-covered species unless and until the ESP is amended to include such species or other authorization is provided pursuant to the ESA. The Landowner may request the technical assistance of NMFS and CDFW to (a) identify possible measures to avoid take and avoid causing jeopardy to such species; (b) identify any modifications to the Agreement that may be necessary to provide coverage for the species; and (c) determine whether to seek amendment of the Agreement and the ESP.

20.2 **Newly Listed Species.** In the event that a species is listed under the ESA subsequent to the issuance of the ESP, the Parties may, if appropriate, mutually agree to amend the Agreement to include the subsequently listed species as Covered Species through the amendment process described in Section 17 of this Agreement.

## **21 REMEDIES.**

21.1 **Money Damages.** NMFS shall not be liable in monetary damages for any breach of this Agreement, any performance or failure to perform an obligation under this Agreement or any other cause of action arising from this Agreement.

21.2 **Injunctive and Temporary Relief.** The Parties acknowledge that listed species are unique and that their loss as a species would result in irreparable damage to the environment, and that therefore injunctive and temporary relief may be appropriate to ensure compliance with the terms of this Agreement.

21.3 **Enforcement Authority of the United States.** Nothing contained in this Agreement is intended to limit the authority of the United States government to seek civil or criminal penalties or otherwise fulfill its enforcement responsibilities under the ESA or other applicable law.

21.4 **Dispute Resolution.** The Parties recognize that good faith disputes concerning implementation of, or compliance with, or suspension, revocation, or termination of this Agreement or the ESP may arise from time to time. The Parties agree to work together in good faith to resolve such disputes, using the dispute resolution procedures set forth in this Section or such other procedures upon which the Parties may later agree. However, if at any time any Party determines that circumstances so warrant, it may seek any available remedy without waiting to complete dispute resolution. If NMFS or CDFW has reason to believe that a Landowner may have violated the ESP or this Agreement, it will notify the

Landowner in writing of the specific provisions which may have been violated, the reasons NMFS or CDFW believes the Landowner may have violated them, and the remedy NMFS or CDFW proposes to impose to correct or compensate for the alleged violation. The Landowner will then have sixty (60) days, or such longer time as may be mutually acceptable, to respond. If any issues cannot be resolved within thirty (30) days, or such longer time as may be mutually acceptable, after the Landowner's response is due, the Parties will consider non-binding mediation and other alternative dispute resolution processes. The Parties reserve the right, at any time without completing the dispute resolution procedures set forth in this Section, to use whatever enforcement powers and remedies are available by law or regulation, including but not limited to, in the case of NMFS, suspension or revocation of the ESP.

## **22 TRANSFER OF LAND OR WATER UNDER THE AGREEMENT**

- 22.1 **Transfer of ESP.** This Agreement shall be binding on and shall inure to the benefit of the Parties (including officers, directors, employees, lessees and agents thereof) and their respective successors and transferees, in accordance with applicable regulations (50 C.F.R. § 222.305(a)). The rights and obligations under this Agreement shall run with the fee ownership of the enrolled property and are transferable to subsequent non-Federal property owners pursuant to 50 C.F.R. 222.305(a)(3). As provided herein, the Landowner shall notify NMFS and CDFW of any transfer of ownership, so that NMFS can contact the new owner and explain the responsibilities applicable to the Enrolled Property. The transfer of the ESP will be governed by any applicable federal regulations, currently at 50 C.F.R. §222.305, which control in the event of a conflict between the terms of this Agreement and the regulations.
- 22.2 **Transfers to Affiliates.** Landowner will notify NMFS and CDFW at least thirty (30) days prior to any transfer of fee ownership of all or a portion of the Enrolled Property to an Affiliate.
- 22.2.1 Transfer to an Affiliate shall be effective upon NMFS confirmation that such Affiliate:
- (a) has not been found to have committed any violation of any statute administered by NMFS, including violation of any regulation promulgated or permit condition or restriction prescribed thereunder, as set forth in 50 C.F.R. Section 222.303(e)(1)(i) and 15 C.F.R. Section 904.301(a)(1);
  - (b) has provided written confirmation to NMFS that it agrees to be bound by the terms of this Agreement.
- 22.2.2 If the conditions set forth in Section 22.2.1 have been met, then:
- (a) NMFS shall confirm in writing within such thirty (30) day period that the Affiliate meets the requirements associated with holding the ESP pursuant to 50 C.F.R. § 222.305(a);
  - (b) the ESP shall be transferred to the Affiliate; and

(c) NMFS and CDFW shall regard the Affiliate as a Landowner having the same rights, assurances, and responsibilities with respect to the Enrolled Property as the Landowner from whom the Affiliate acquired the Enrolled Property.

Notwithstanding any provision in this Agreement, until an Affiliate's Affiliate Interest Date, such Affiliate is not entitled to any take coverage pursuant to this Agreement unless they qualify because they are under the direct control of the Landowner or are employed by or under contract to the Landowner for purposes authorized by the ESP pursuant to 50 C.F.R. § 222.305(b).

**22.3 Transfers to Non-Affiliates.** Landowner will notify NMFS and CDFW at least sixty (60) days prior to any transfer of ownership of all or a portion of the Enrolled Property to a non-Affiliate. In the event of any such transfer, the Landowner and the Party Transferee shall file a joint application to transfer the ESP pursuant to 50 C.F.R. § 222.305(a).

22.3.1 Transfer to a Party Transferee shall be conditioned upon the following:

- (a) NMFS shall have reasonably determined that the joint application meets the requirements of 50 C.F.R. § 222.305(a)(3);
- (b) NMFS shall have reasonably determined that the Party Transferee is eligible to hold an ESP under 50 C.F.R. § 222.303; and
- (c) the proposed Party Transferee shall have provided written confirmation to NMFS that it agrees to be bound by the terms of this Agreement.

22.3.2 If the conditions set forth in Section 22.3.1 have been met, then:

- (a) NMFS shall confirm in writing within such sixty (60) day period that the Party Transferee meets the requirements associated with holding the ESP pursuant to 50 C.F.R. § 222.305(a);
- (b) the ESP shall be transferred to the Party Transferee; and
- (c) NMFS and CDFW shall regard the Party Transferee as having the same rights, assurances, and responsibilities with respect to the Enrolled Property as the Landowner from whom the Party Transferee acquired the Enrolled Property.

Notwithstanding any provision in this Agreement, until a Party Transferee Interest Date, any Party Transferee is not entitled to any take coverage pursuant to this Agreement unless they qualify because they are under the direct control of the Landowner or are employed by or under contract to the Landowner for purposes authorized by the ESP pursuant to 50 C.F.R. § 222.305(b).

## **23 NOTICES.**

23.1 Any notice permitted or required by this Agreement shall be in writing, delivered personally to the persons listed below, or shall be deemed given five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested and addressed as follows, or at such other address as any Party / CDFW may from time to time specify to the other Parties / CDFW in writing. Notices may be delivered by facsimile or other electronic means, provided that they are also delivered personally or by certified mail.

*Assistant Regional Administrator*  
California Coastal Office  
National Marine Fisheries Service  
777 Sonoma Avenue, Room 325  
Santa Rosa, California 95404

California Department of Fish and Wildlife  
Bay Delta Region  
Habitat Conservation Program  
7329 Silverado Trail  
Napa, California 94558  
(707) 944-5500

Barbara R. Banke, Trustee, Barbara R. Banke Revocable Trust  
c/o Legal Department  
Jackson Family Wines  
421 Aviation Boulevard  
Santa Rosa, CA 95403  
(707) 544-4013 (fax)

Barbara R. Banke, Trustee, Barbara R. Banke Revocable Trust  
c/o Real Estate Department  
Jackson Family Wines  
421 Aviation Boulevard  
Santa Rosa, CA 95403  
(707) 544-4013 (fax)

Kellogg Ranch Manager  
16905 State Highway 128  
Calistoga, CA 94515

## **24 MISCELLANEOUS PROVISIONS**

**24.1 Entire Agreement.** This Agreement, together with the ESP, constitutes the entire agreement among the Parties. The terms contained in this Agreement supersede any and all other agreements, either oral or in writing, among the Parties with respect to the subject matter hereof and contains all of the covenants and agreements among them with respect to said matters, and each Party acknowledges that no representation, inducement, promise or agreement, oral or otherwise, has been made by any other Party or anyone acting on behalf of any other Party that is not embodied herein.

**24.2 Availability of Funds.** Implementation of this Agreement by NMFS is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any money from the U.S. Treasury. The Parties acknowledge that NMFS will not be required under this Agreement to expend any federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

**24.3 Duplicate Originals.** This Agreement may be executed in any number of duplicate originals. A complete original of this Agreement shall be maintained in the official records of each of the parties hereto.

**24.4 Effective Date for CDFW Third Party Benefits.** The notice and access benefits granted to CDFW under this Agreement shall be effective on the date that CDFW issues Landowner a determination of consistency for this Agreement or ESP pursuant to Fish and Game Code section 2089.22.

**24.5 No Third-Party Beneficiaries.** Without limiting the applicability of rights granted to CDFW under this Agreement and the public pursuant to the ESA or other federal law, this Agreement shall not create any right or interest in the public, or any member thereof, as a third-party beneficiary hereof, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries or damages pursuant to the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third-parties shall remain as imposed under existing law.

**24.6 Relationship to the ESA and Other Authorities.**

**24.6.1** The terms of this Agreement shall be governed by and construed in accordance with the ESA and applicable federal law and regulations. In particular, nothing in this Agreement is intended to limit the authority of NMFS or the United States Government to seek civil or criminal penalties or otherwise fulfill its responsibilities under the ESA. Moreover, nothing in this Agreement is intended to limit or diminish the legal obligations and responsibilities of NMFS as an agency of the federal government.

**24.6.2** Nothing in this agreement will limit the right or obligation of any federal agency to engage in consultation required under Section 7 of the ESA or other federal law.

**24.6.3** If the Landowner initiates a future action on the Enrolled Property with a federal nexus which results in additional ESA Section 7 review and all criteria set forth in this Section are satisfied, NMFS will issue an opinion and incidental take statement that is consistent with this Agreement. In such circumstances, NMFS will provide the federal agency with reasonable and prudent measures to minimize incidental take that require only implementation of the terms and conditions provided to the participating Landowner in this Agreement and associated ESP. This Section is only applicable when all of the following criteria are satisfied:

**24.6.3.1** The Landowner is implementing this Agreement as specified in Section 7 of this Agreement.

- 24.6.3.2 The take of the Covered Species related to that future action is unlikely to move them below the Baseline.
- 24.6.3.3 If the action may further, in whole or in part, a return to baseline, the action must be in accordance with Section 7 through 13 of this Agreement.
- 24.6.3.4 The action is not likely to jeopardize listed species or to destroy or adversely modify their designated habitat.
- 24.6.3.5 The action is not likely to take Non-Covered species in a manner or to an extent not previously authorized pursuant to the ESA.
- 24.7 **References to Regulations.** Except as otherwise provided in this Agreement, any reference in this Agreement or the ESP to any regulation or rule of NMFS shall be deemed to be a reference to such regulation or rule in existence at the time an action is taken.
- 24.8 **Applicable Laws.** All activities undertaken pursuant to this Agreement or the ESP must be in compliance with all applicable state and federal laws and regulations.
- 24.9 **Successors, Transfers and Delegation.**
- 24.9.1 **Successors.** This Agreement shall be binding on and shall inure to the benefit of the Parties, NMFS' successors, CDFW successors and, with regard to the Landowner's successors, those Permit Successors who are granted a right to carry on the permitted activities under 50 C.F.R. §222.305(a)(2).
- 24.9.2 **Transfers.** Pursuant to the Policy and as further explained in Section 23 of this Agreement and 50 C.F.R. §222.305, the rights and obligations under this Agreement may, within the duration of the ESP, be transferred to subsequent non-Federal property owners; to become a party to the Agreement, a transferee must, to NMFS satisfaction, meet the criteria explained in 50 C.F.R. §222.305(a)(3).
- 24.9.3 **Delegation.** Landowner may delegate its obligations under this Agreement to agents, contractors, affiliated companies and other third parties supervised by Landowner, but will remain responsible for fulfilling any such delegated obligations.
- 24.10 **Severability.** If any provision of this Agreement is found invalid or unenforceable, such provision shall be enforced to the extent it is not found invalid or unenforceable and the other provisions shall remain in effect to the extent they can be reasonably applied in the absence of such invalid or unenforceable provisions.

## 25 SIGNATURES

25.1 IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Safe Harbor Agreement to be in effect as of the date that NMFS issues the ESP.

By:   
Barry A. Thom  
Regional Administrator  
West Coast Region  
National Marine Fisheries Service  
Date: 7/1/19

By:   
Barbara R. Banke, Trustee  
Barbara R. Banke Revocable Trust  
Date: 6/26/19

## 26 REFERENCES

### Federal Register Notices Cited

60 FR 38011 - Endangered and Threatened Species; Proposed Threatened Status for three contiguous ESUs of coho salmon ranging from Oregon through central California.

61 FR 56138 - Endangered and threatened species: threatened status for central California coho salmon evolutionarily significant unit (ESU).

62 FR 24588 - Endangered and threatened species; threatened status for Southern Oregon/Northern California Coast Evolutionarily Significant Unit (ESU) of coho salmon.

62 FR 43937 - Endangered and threatened species: listing of several Evolutionarily Significant Units (ESUs) of West Coast Steelhead.

64 FR 32706 - Safe Harbor Agreements and Candidate Conservation Agreements with Assurances.

64 FR 32717 - Announcement of Final Safe Harbor Policy.

64 FR 50394 - Endangered and threatened species; threatened status for two Chinook salmon Evolutionarily Significant Units (ESUs) in California.

70 FR 37160 - Endangered and threatened species: final listing determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened salmonid ESUs.

71 FR 834 - Endangered and threatened species: Final listing determinations for 10 distinct population segments of West Coast steelhead.

### Literature Cited

Baker, P. and F. Reynolds (1986). Life history, habitat requirements, and status of coho salmon in California, California Department of Fish and Game.

Barnhart, R.A. 1986. Species profiles: Life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest) -- steelhead. U.S. Fish and Wildlife Service, Biological Report 82 (11.60). U.S. Army Corps of Engineers, TR EL-82-4. 21 pp.

Bell, M.C. 1973. Fisheries handbook of engineering requirements and biological criteria. United States Army Corps of Engineers, Fisheries Engineering Research Program, Portland, Oregon.

Bisson, P. A., Nielsen, J. L. and J. W. Ward (1988). Summer production of coho salmon stocked in Mount St. Helens stream 3-6 years after the 1980 eruption. Transactions of the American Fisheries Society 117, 322-335.

Bjorkstedt, E. P., B. C. Spence, et al. (2005). An analysis of historical population structure for evolutionarily significant units of Chinook salmon, coho salmon, and steelhead in the north-central California coast recovery domain. Santa Cruz, CA., U.S. Department of Commerce, National Marine Fisheries Service, Southwest Fisheries Science Center. 10: 210.

Bjornn, T.C. and Reiser, D.W. 1991. Habitat requirements of salmonids in streams. Pages 83-138, *in* M.R. Meehan [editor] Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. W.R. Meehan, editor. American Fisheries Society Special Publication 19.

Brown, L.R., P.B. Moyle, and R.M. Yoshiyama. 1994. Historical decline and current status of coho salmon in California. North American Journal of Fisheries Management 14:237-261.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F. William Waknitz, and I.V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. National Marine Fisheries Service, National Oceanic and Atmospheric Administration. 261 pp.

California Department of Fish and Wildlife. 2010. California Salmonids Stream Habitat Restoration Manual.

Chapman, D.W., and T.C. Bjornn. 1969. Distribution of salmonids in streams, with special reference to food and feeding. Pages 153-176 in T.G. Northcote, editor. Symposium on Salmon and Trout in Streams; H.R. Macmillan Lectures in Fisheries. University of British Columbia, Institute of Fisheries.

Davis, G., J. Foster, C.E. Warren, and P. Doudoroff. 1963. The influence of oxygen concentration on the swimming performance of juvenile pacific salmon at various temperatures. Transactions of the American Fisheries Society 92:111-124.

Everest, F.H., and D.W. Chapman. 1972. Habitat selection and spatial interaction by juvenile Chinook salmon and steelhead trout. Journal of the Fisheries Research Board of Canada 29:91-100.

Foott, J. S., R. Harmon, and R. Stone. 2014. Effect of summer water temperatures on growth and bioenergetics in juvenile Klamath River Coho Salmon (*Oncorhynchus kisutch*). California Nevada Fish Health Center FY2004 Technical Report, U.S. Fish & Wildlife Service California-Nevada Fish Health Center, Anderson, CA. Available online: <http://www.fws.gov/canvfhc/reports.asp>.

Good, T.P., R.S. Waples, and P.B. Adams. 2005. Updated status of federally listed ESUs of West Coast salmon and steelhead. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service.

Hassler, T.J. 1987. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (pacific southwest) coho salmon. Humboldt State University, California Cooperative Fishery Research Unit; U.S. Fish and Wildlife Service, National Wetland Research Center, Slidell, LA for U.S. Army Corps of Engineers, Coastal Ecology Group, Waterways Experiment Station and for U.S. Department of the Interior, Fish and Wildlife Service, Research and Development, National Wetlands Research Center, Washington, DC, Arcata. 19 pp.

Holtby, L.B., B.C. Anderson, and R.K. Kadowaki. 1990. Importance of smolt size and early ocean growth to interannual variability in marine survival of coho salmon (*Oncorhynchus kisutch*). Canadian Journal of Fisheries and Aquatic Sciences 47:2181-2194.

Lusardi, R. 2015. Juvenile coho salmon (*Oncorhynchus kisutch*) exhibit compensatory mechanisms in a large volcanic spring-fed river. Presentation at 33rd Annual Salmonid Restoration Federation Conference March 11-14, 2015, Santa Rosa, CA.

McEwan. D.R. 2001. Steelhead rainbow trout California's living resources: A status report by the California Dept. of Fish & Game. Sacramento, CA. 9pp.

McMahon, T. E. 1983. Habitat suitability index models: coho salmon. U.S. Department Interior, Fish Wildlife Service. FWS/OBS-82/10.49. 29 pp.

Meehan, W.R., and T.C. Bjornn 1991. Salmonid distribution and life histories. Pages 47-82 In W.R. Meehan [editor] Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats. American Fisheries Society Special Publication 19.

Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lierheimer, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of Chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration. 443 pp.

Nielsen, J.L. 1992. Microhabitat-specific foraging behavior, diet, and growth of juvenile coho salmon. *Transactions of the American Fisheries Society*. 121:617-634.

National Marine Fisheries Service. 1996a. Factors for decline: a supplement to the notice of determination for west coast steelhead under the Endangered Species Act. National Marine Fisheries Service, Protected Species Branch and Protected Species Management Division, Portland, OR and Long Beach, CA. 80 pp.

National Marine Fisheries Service 1997. Fish Screening Criteria for Anadromous Southwest Region. January 1997.

National Marine Fisheries Service 2011a. North-Central California Coast Recovery Domain. 5-Year Review: Summary and Evaluation of Central California Coast Steelhead DPS, Northern California Steelhead DPS.

National Marine Fisheries Service 2011b. North-Central California Coast Recovery Domain. 5-Year Review: Summary and Evaluation of California Coastal Chinook Salmon ESU, Central California Coast Coho Salmon ESU.

National Marine Fisheries Service. 2012. Recovery Plan for the Evolutionary Significant Unit of Central California Coast Coho Salmon.

National Marine Fisheries Service 2016. Final Endangered Species Act (ESA) Coastal Multispecies Recovery Plan for the California Coastal (CC) Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Unit (ESU), Northern California (NC) steelhead (*O. mykiss*) Distinct Population Segment (DPS), and Central California Coast (CCC) steelhead (*O. mykiss*) DPS. National Marine Fisheries Service, West Coast Region, Santa Rosa CA

Obedzinski, M., D. Lewis, P. Olin, J. Pecharich, and G. Vogeazopoulos. 2007. Monitoring the Russian River Coho Salmon Captive Broodstock Program: Annual Report to NOAA Fisheries. University of California Cooperative Extension, Santa Rosa, California.

Podlech, Mike. 2016. Kellogg Ranch Existing Habitat Assessment Report.

Podlech, Mike. 2017. Conceptual LWD Enhancement Plan.

Reiser, D.W., and T.C. Bjornn. 1979. Habitat requirements of anadromous salmonids. Influence of forest and rangeland management on anadromous fish habitat in western United States and Canada. Page 54. United States Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station; University of Idaho, Idaho Cooperative Fishery Research Unit, Portland.

Sandercock, F.K. 1991. Life history of coho salmon (*Oncorhynchus kisutch*). Pages 397-445 *In* C. Groot and L. Margolis [editors]: Pacific salmon life histories. University of British Columbia Press, Vancouver, B.C.

Shapovalov, L., and A.C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri*) and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. Inland Fisheries Branch, California Department of Fish and Game.

Spence, B. C., E. P. Bjorkstedt, et al. (2008). A Framework for Assessing the Viability of Threatened and Endangered Salmon and Steelhead in the North-Central California Coast Recovery Domain Santa Cruz, CA, U.S. Department of Commerce, National Marine Fisheries Service, Southwest Fisheries Service Center: 173.

Titus, R., D. C. Erman & W. M. Snider. 2002. History and status of steelhead in California coastal drainages south of San Francisco Bay. California Department of Fish and Game. 303 pp.

Thompson, K. 1972. Determining stream flows for fish life. Pages 31-50. Pacific Northwest River Basins Commission; Instream Flow Requirement Workshop, Portland, Oregon.

Welsh, H.H., G.R. Hodgson, B.C. Harvey, and M.E. Roche. 2001. Distribution of juvenile coho salmon in relation to water temperatures in tributaries of the Mattole River, California. North American Journal of Fisheries Management 21:464-470.

**TABLE 4. KELLOGG RANCH PRESENT BASELINE CONDITIONS (PODLECH 2016)**

Life Stage(s)	Habitat Attribute	Habitat Metric	Properly Functioning (PF)	At Risk (AR)	Not Properly Functioning (NPF)	Yellowjacket Creek Baseline		Kellogg Creek Baseline	
						Reach	Baseline Condition	Reach	Baseline Condition
Adult spawning, summer & winter rearing	Hydrology	Impairment of peak and base flows: Score for this metric may require hydrologic analysis and justification. Changing estimated unimpaired peak and base flows by more than 10% is likely a significant disturbance.	Watershed hydrograph indicates peak flow, base flow and flow timing characteristics comparable to an undisturbed watershed of similar size, geology and geography.	Some evidence of altered peak flow, baseflow and/or flow timing relative to an undisturbed watershed of similar size, geology, and geography.	Pronounced changes in peak flow, baseflow and/or flow timing relative to an undisturbed watershed of similar size, geology, and geography.	Reach 1	NPF <sup>1</sup>	Reach 1	PF
						Reach 2	PF	Reach 2	PF
						Reach 3	PF	N/A	N/A
Adult spawning, summer & winter rearing	Passage/Migration	Physical barriers (e.g., artificial, channel degradation, channel aggradation, etc.).	All anthropogenic features present in the watershed allow upstream and downstream fish passage at all flows.	Some anthropogenic features present in watershed do not allow upstream and/or downstream fish passage at base/low flows.	Some anthropogenic features present in watershed do not allow upstream and/or downstream fish passage at a range of flows.	Reach 1	NPF <sup>2</sup>	Reach 1	PF
						Reach 2	PF	Reach 2	PF
						Reach 3	PF	N/A	N/A
Adult spawning, summer & winter rearing	Habitat Complexity	LWD Frequency: Based on frequency of total LWD pieces (length > 1.0 meter and diameter > 0.1 meter) (see Opperman 2005) and LWD key pieces (length > 6.0 meters or diameter > 0.9 meter or alive) (see Leicester 2005) within bankfull channel.	> 24 total LWD pieces/100m <u>and</u> > 3 key LWD pieces/100m	13-23 total LWD pieces/100m <u>and</u> 2-3 key LWD pieces/100m	< 13 total LWD pieces/100m <u>and</u> < 2 key pieces/100m	Reach 1	NPF	Reach 1	NPF
						Reach 2	NPF	Reach 2	NPF
						Reach 3	NPF	N/A	N/A
Summer rearing	Habitat Complexity	Primary Pools: Percent by length of pool habitat having a maximum residual depth of greater than 2 feet in 1st and 2nd order	> 40 % primary pools	25 -39 % primary pools	< 25 % primary pools	Reach 1	NPF	N/A	N/A
						Reach 2	NPF	N/A	N/A

<sup>1</sup> Baseline Conditions to be elevated from Not Properly Functioning to Properly Functioning per Section 6.3.2.1 and 6.3.2.2

		streams, and greater than 3 feet in 3rd and 4th order streams.				Reach 3	NPF	N/A	N/A
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**TABLE 4 (CONTINUED)**

**KELLOGG RANCH PRESENT BASELINE CONDITIONS**

Life Stage(s)	Habitat Attribute	Habitat Metric	Properly Functioning (PF)	At Risk (AR)	Not Properly Functioning (NPF)	Yellowjacket Creek		Kellogg Creek	
						Baseline Reach	Baseline Condition	Baseline Reach	Baseline Condition
Adult spawning, summer & winter rearing	Habitat Complexity	Pool/riffle/flatwater ratio: Dependent on channel type and position within watershed; percentages based on frequency of habitat unit occurrence.	≥ 30% pools  <u>and</u> ≥ 20% riffles	20-29% pools  <u>or</u> 10-19% riffles	< 20% pools  <u>or</u> <10% riffles	Reach 1	AR	N/A	N/A
						Reach 2	PF	N/A	N/A
						Reach 3	PF	N/A	N/A
Adult spawning, summer & winter rearing, smolt	Habitat Complexity	Shelter rating: Value determined by multiplying the "instream shelter complexity" value (ranges from 0 to 3) by the percent area of the habitat unit covered with shelter. Potential ratings vary from 0-300 (e.g., a complexity value of 3 x 20% unit covered = shelter value of 60).	≥ 80 average shelter rating	60 - 79 average shelter rating	< 60 average shelter rating	Reach 1	NPF	N/A	N/A
						Reach 2	NPF	N/A	N/A
						Reach 3	NPF	N/A	N/A
Summer rearing	Riparian function	Canopy Cover: Percentage of stream area shaded by overhead foliage.	> 70% average canopy cover	50-69% average canopy cover	< 50% average canopy cover	Reach 1	PF	Reach 1	PF
						Reach 2	PF	Reach 2	PF
						Reach 3	PF	N/A	N/A

TABLE 4 (CONTINUED)

KELLOGG RANCH PRESENT BASELINE CONDITIONS

Life Stage(s)	Habitat Attribute	Habitat Metric	Properly Functioning (PF)	At Risk (AR)	Not Properly Functioning (NPF)	Yellowjacket Creek		Kellogg Creek	
						Reach	Baseline Condition	Reach	Baseline Condition
All life stages	Riparian function	Overall riparian condition: Qualitative assessment of the status of riparian functions that sustain and create properly functioning salmonid habitat. Criteria are based on <i>Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale</i> (NMFS, 1996). Qualitative riparian conditions parameters include riparian species composition, bank stability, width of the riparian zone, size of riparian trees, LWD recruitment potential, sediment and chemical (e.g., pesticides, fertilizers) buffering potential, etc. Furthermore, the results of other quantitative metrics discussed above (e.g., LWD frequency, canopy cover, turbidity) are considered in rating of this metric.	Riparian corridor provides adequate shade, LWD recruitment, and habitat protection and connectivity in all sub-watersheds and buffers, or includes known refugia for sensitive aquatic species (>80% intact).	Moderate loss of riparian connectivity or function (shade, LWD recruitment, etc.), or incomplete protection of habitats and refugia for sensitive aquatic species (70-80% intact).	Riparian corridor is fragmented, poorly connected, or provides inadequate protection of habitats and refugia for sensitive aquatic species (<70% intact).	Reach 1	AR	Reach 1	PF
						Reach 2	AR	Reach 2	PF
						Reach 3	PF	N/A	N/A
Egg	Sediment	Gravel Quality: Embeddedness (average proportion of individual cobbles embedded in fine substrate materials) rated on a scale of 1 to 4 in 25% increments. Values of 1 and 2 provide suitable spawning habitat.	> 50% are 1 & 2 values.	25-50% are 1 & 2 values.	<25% are 1 & 2 values.	Reach 1	PF	N/A	N/A
						Reach 2	PF	N/A	N/A
						Reach 3	PF	N/A	N/A

**TABLE 4 (CONTINUED)**

**KELLOGG RANCH PRESENT DAY BASELINE CONDITION**

Life Stage(s)	Habitat Attribute	Habitat Metric	Properly Functioning (PF)	At Risk (AR)	Not Properly Functioning (NPF)	Yellowjacket Creek		Kellogg Creek	
						Reach	Baseline Condition	Reach	Baseline Condition
Summer rearing	Water Quality	Water Temperature: Temperature criteria based on Welsh et al. (2001) for coho salmon, recognizing that even if streams on the property are determined to be non-coho streams (currently and historically), streams downstream of the property are known to support coho at least intermittently.	< 16°C MWT	16-18°C MWT	> 18°C MWT	Reach 1	NPF	N/A	N/A
						Reach 2	AR	N/A	N/A
						Reach 3	AR	N/A	N/A
Adult spawning, summer & winter rearing, smolt	Water Quality	Toxicity: Score based on inventory of materials that may adversely affect listed salmonids (pesticides, fungicides, herbicides, oils, grease, detergents, etc.) that could enter streams within the project boundaries, and assessment of their salmonid toxicity. Additionally, benthic macroinvertebrate samples collected pursuant to California Stream Bioassessment Protocol (CSBP) with metric criteria based on ratings developed for the Russian River Index of Biological Integrity (RRIBI) (Harrington et al., 1999) or equivalent.	"Excellent"/"Good" condition: RRIBI > 17	"Fair" condition: RRIBI = 12-17	"Poor" condition: RRIBI < 12	Reach 1	AR	N/A	N/A
						Reach 2	AR	N/A	N/A
						Reach 3	AR	N/A	N/A
Adult spawning, summer & winter rearing, smolt	Water Quality	Turbidity: Score based on Klien et al. (2008) thresholds of background, moderate, and severe stream ecosystem stress as interim/provisional screening criteria.	< 25 NTU	25-50 NTU	> 50 NTU	Reach 1	AR	N/A	N/A
						Reach 2	PF	N/A	N/A
						Reach 3	PF	N/A	N/A

**TABLE 4 (CONTINUED)**

**KELLOGG RANCH PRESENT DAY BASELINE CONDITION**

Life Stage(s)	Habitat Attribute	Habitat Metric	Properly Functioning (PF)	At Risk (AR)	Not Properly Functioning (NPF)	Yellowjacket Creek		Kellogg Creek	
						Reach	Baseline Condition	Reach	Baseline Condition
Watershed Processes	Sediment Transport	Hydrologic connectivity: A road or otherwise disturbed area (e.g., vineyard) that is "hydrologically connected" to the stream network, conveys storm runoff from the road surface, road prism, drainage structure or facility, cut/fill-slopes, or otherwise disturbed area to the stream. Therefore the hydrologically-connected road or disturbed area is part of the stream network. For example, where an inboard ditch or rut conveys stormwater runoff to the stream, the road is considered hydrologically connected.	Storm runoff conveying sediment or pollutants from the road surface, or road prism, or disturbed area are effectively disconnected from the stream network. Roads and otherwise disturbed areas are not positioned on unstable slopes. Hydrologically connected road segments that do exist generally occur between road approaches to stream crossings. Where connections exist appropriate treatments are in place to minimize delivery.	Road and/or disturbed area drainage structures and facilities exist but are either not functioning properly or not in sufficient quantity or spacing to effectively disconnect delivery to streams. Roads or disturbed areas are not positioned on unstable slopes. Cut/fill slopes are vegetated or otherwise treated to prevent sediment from being mobilized.	Road network and/or disturbed areas are connected to the stream network, as evidenced by ruts or gullies that deliver storm runoff and sediment to the stream. Sediment from cut/fill slopes or unvegetated areas are readily mobilized and discharge to streams. Existing or potential road-induced landslides or failures cause sediment delivery to a stream on a regular basis. Drainage structures and facilities may exist but do not function.	Reach 1	PF	Reach 1	PF
						Reach 2	PF	Reach 2	PF
						Reach 3	PF	N/A	N/A

## ATTACHMENT 1

### Kellogg Ranch Water Diversion Terms

#### Kellogg Creek

*Between January 1 and December 31.*

1. **All Flow.** No water may be diverted between January 1 and December 31.

#### Yellowjacket Creek

*Between October 1 and March 31.*

2. **Flow > 7.2 cfs.** When flow is greater than 7.2 cfs at the point of diversion on Yellowjacket Creek, up to 4 cfs may be diverted.
3. **Flow > 2.8 cfs and  $\leq$  7.2 cfs.** When flow is greater than 2.8 cfs and less than or equal to 7.2 cfs at the point of diversion on Yellowjacket Creek, up to 0.3 cfs may be diverted.
4. **Between October 1 and February 29; Flow  $\leq$  2.8 cfs.** When flow is less than or equal to 2.8 cfs at the point of diversion on Yellowjacket Creek, no water may be diverted, except as provided in Term 13.
5. **Between March 1 and March 31; Flow > 0.5 cfs and  $\leq$  2.8 cfs.** If all onstream storage reservoirs on the Enrolled Property (Ballpark Reservoir, Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House Pond) are not full at any time, a maximum diversion of 0.3 cfs may be diverted when flows are greater than 0.5 cfs at the point of diversion on Yellowjacket Creek, provided that this diversion is conducted in accordance with the measures in Section 13.1 of this Agreement.
6. **Between March 1 and March 31; Flow  $\leq$  0.5 cfs.** When flow is equal to or less than 0.5 cfs at the point of diversion on Yellowjacket Creek, no water may be diverted, except as provided in Term 13.

*Between April 1 and May 31.*

7. **Flow > 2.8 cfs.** When flow is greater than 2.8 cfs at the point of diversion on Yellowjacket Creek, up to 1.9 cfs may be diverted.
8. **Flow > 0.5 cfs and  $\leq$  2.8 cfs.** If combined storage (including dead storage) in Ballpark Reservoir, Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House Pond on the Enrolled Property is less than 340 acre-feet at any time, a maximum diversion of 0.3 cfs may be diverted when flows are greater than 0.5 cfs at the point of diversion on Yellowjacket Creek to fill combined storage up to 340 acre-feet, provided that this diversion is conducted in accordance with the measures in Section 13.1 of this Agreement.
9. **Flow  $\leq$  0.5 cfs.** When flow is equal to or less than 0.5 cfs at the point of diversion on Yellowjacket Creek, no water may be diverted, except as provided in Term 13.

*Between June 1 and June 30*

10. **Flow > 0.5 cfs.** If combined storage (including dead storage) in Ballpark Reservoir, Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House

Pond on the Enrolled Property is less than 300 acre-feet at any time, a maximum diversion of 0.2 cfs may be diverted when flows are greater than 0.5 cfs at the point of diversion on Yellowjacket Creek to fill combined storage up to 300 acre-feet, provided that this diversion is conducted in accordance with the measures in Section 13.2 of this Agreement.

11. **Flow  $\leq$  0.5 cfs.** When flow is equal to or less than 0.5 cfs at the point of diversion on Yellowjacket Creek, no water may be diverted, except as provided in Term 13.

Between July 1 and September 30.

12. **All Flow.** No water may be diverted between July 1 and September 30, except as provided in Term 13

January 1 to December 31.

13. **All Flow.** A maximum diversion of 0.2 cfs (14-day running average, not to exceed 0.25 cfs on an instantaneous basis) for domestic, livestock, ag industrial and residential fire protection use (“domestic/ag industrial use”) may be diverted at any time, provided that when flow is less than 0.5 cfs at the point of diversion on Yellowjacket Creek, (a) no more than 0.1 cfs may be diverted for domestic/ag industrial use, unless required for human health and safety and livestock uses that do not exceed a maximum diversion of 0.2 cfs (14-day running average, not to exceed 0.25 cfs on an instantaneous basis), (b) dissolved oxygen is monitored in Reaches 1 and 2 of Yellowjacket Creek in accordance with Section 16.1.3, and (c) NMFS and CDFW are notified in accordance with the measures in Section 13.2 of this Agreement..

**No Name Creek**

Between October 1 and May 31.

14. Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House Pond shall be operated as “Fill and Spill” without a minimum bypass flow for the initial fill. After the initial fill of all reservoirs (Ballpark Reservoir, Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House Pond), or if West Twin Lake, East Twin Lake, and House Pond have spilled for 2 or more consecutive days, all flows less than or equal to 1.2 cfs shall be actively bypassed at House Pond, subject to the exception in Term 15.

Between March 1 and March 31.

15. If Ballpark Reservoir, Birthday Pond, Waterfall Pond, West Twin Lake, East Twin Lake, and House Pond are not full as of March 1, or if storage from any of these reservoirs is depleted for frost protection between March 1 and March 31, all reservoirs shall be operated as Fill and Spill without a minimum bypass flow.

Between June 1 and September 30.

16. All inflow shall be actively bypassed at House Pond outside of the season of diversion.

## **ATTACHMENT 2**

### **Avoidance and Minimization Measures for Construction/Maintenance of Barrier Remediation, Bank Stability, and Large Woody Debris Placement**

#### **I. General Protection Measures**

1. Work shall not begin until all other necessary permits and authorizations are finalized.
2. The general construction season shall be from June 15 to October 31. Restoration, construction, fish relocation and dewatering activities within any wetted or flowing stream channel shall occur only within this period. If precipitation sufficient to produce runoff is forecast to occur while construction is underway, work will cease and erosion control measures will be put in place sufficient to prevent significant sediment runoff from occurring. Extensions on the construction season will be considered if project work and installation of associated erosion control measures can be completed prior to the onset of a storm event predicted by 72-hour weather forecasts from the National Weather Service. Revegetation activities including limited soil preparation outside the active channel may occur beyond October 31 if necessary to better ensure successful plant establishment during the onset of winter precipitation.
3. Prior to construction, the land manager and each contractor shall be provided with the specific protective measures to be followed during implementation of the project. In addition, a qualified biologist shall provide the construction crew with information on all listed species (including state-listed and state fully protected species) in the project area, the protection afforded the species by ESA, and guidance on those specific protection measures that must be implemented as part of the project.
4. Select herbicides may be applied to control established stands of non-native species. Herbicides must be applied to those species according to the registered label conditions. Herbicides must be applied directly to plants and may not be spread upon any water. Herbicide shall be tinted with a biodegradable dye to facilitate visual control of the spray. NMFS will be consulted with prior to use of any herbicides and no use will occur if NMFS objects to their use/without NMFS's confirmation.
5. If the thalweg of the stream has been altered due to construction activities, efforts shall be undertaken to reestablish it to its original configuration, except for projects that establish the thalweg at a new elevation to improve ecological function, such as the Barrier Remediation Project. (Note: Projects that include activities such as the use of willow baffles that may alter the thalweg are allowed)

## **II. Requirements for Fish Relocation and Dewatering Activities**

### **1. General Guidelines for Dewatering**

The following general guidelines will minimize potential impacts for projects that do require dewatering of a stream/creek.

1. In those specific cases where it is deemed necessary to dewater a work site that is located in aquatic habitat, the work area shall be isolated and all the flowing water upstream of the work site shall be temporarily diverted around the work site to maintain downstream flows during construction. Prior to dewatering, a Qualified Biologist shall determine the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates.

2. Fish will be excluded from reentering the work area by blocking the stream channel above and below the work area with fine-meshed net or screens. Mesh will be no greater than 1/8-inch diameter. The bottom of the seine must be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening must be placed in areas of low water velocity to minimize fish impingement. Upstream and downstream screens must be checked daily (prior to, during, and after instream activities) and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the construction period at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream does not enter the areas proposed for dewatering between passes with the electrofisher or seine.

3. Coordinate project site dewatering with a qualified biologist to perform fish and amphibian relocation activities. The qualified biologist(s) will possess all valid state and federal permits needed for fish relocation and will be familiar with the life history and identification of salmonids, state-listed fish, and listed amphibians within the action area.

4. Prior to dewatering a construction site, a qualified biologist will capture and relocate fish and amphibians to avoid direct mortality and minimize take. This is especially important if listed species are present within the project site.

5. Bypass stream flow around the work area, but maintain the stream flow to channel below the construction site.

6. Minimize the length of the dewatered stream channel and duration of dewatering.

7. Any temporary dam or other artificial obstruction constructed shall only be built from materials such as sandbags or clean gravel that will cause little or no siltation. Impenetrable material shall be placed over sandbags used for construction of cofferdams construction to minimize water seepage into the construction areas. The impenetrable material shall be firmly

anchored to the streambed to minimize water seepage. Cofferdams and the stream diversion systems shall remain in place and fully functional throughout the construction period.

8. When cofferdams with bypass pipes are installed, debris racks will be placed at the bypass pipe inlet. Bypass pipes will be monitored a minimum of two times per day, seven days a week, during the construction period. The contractor or project applicant shall remove all accumulated debris.

9. Bypass pipe diameter will be sized to accommodate, at a minimum, twice the summer baseflow.

10. The work area may need to be periodically pumped dry of seepage. Place pumps in flat areas, well away from the stream channel. Secure pumps by tying off to a tree or stake in place to prevent movement by vibration. Refuel in an area well away from the stream channel and place fuel absorbent mats under pump while refueling. Pump intakes shall be covered with 1/8-inch mesh to prevent potential entrainment of fish or amphibians that failed to be removed. Check intake periodically for impingement of fish or amphibians.

11. If pumping is necessary to dewater the work site, procedures for pumped water shall include requiring a temporary siltation basin for treatment of all water prior to entering any waterway and not allowing oil or other greasy substances originating from the contractor or project applicants operations to enter or be placed where they could enter a wetted channel. Projects will adhere to currently approved CDFW and NMFS Fish Screening Criteria.

12. Discharge wastewater from construction area to an upland location where it will not drain sediment-laden water back to the stream channel.

13. When construction is completed, the flow diversion structure shall be removed as soon as possible in a manner that will allow flow to resume with the least disturbance to the substrate. Cofferdams will be removed so surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than one inch per hour. This will minimize the risk of beaching and stranding of fish as the area upstream becomes dewatered.

#### B. General Conditions for all Fish Capture and Relocation Activities:

1. Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year. If precipitation sufficient to produce runoff is forecast to occur while construction is underway, work will cease and erosion control measures will be put in place sufficient to prevent significant sediment runoff from occurring. Extensions on the construction season will be considered if project work and installation of associated erosion control measures can be completed prior to the onset of a storm event predicted by 72-hour weather forecasts from the National Weather Service. If the channel is expected to be seasonally dry during this period,

construction should be scheduled if possible so that fish relocation and dewatering are not necessary.

2. A qualified biologist shall perform all seining, electrofishing, and fish relocation activities. The qualified biologist shall capture and relocate salmonids and other native fish prior to construction of the water diversion structures (e.g. cofferdams). The qualified biologist shall note the number of salmonids observed in the affected area, the number of salmonids relocated, and the date and time of collection and relocation. The qualified biologist shall have a minimum of three years of field experience in the identification and capture of salmonids, including juvenile salmonids. The qualified biologist will adhere to the following requirements for capture and transport of salmonids:

a. Determine the most efficient means for capturing fish. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping down the pool and then seining or dip-netting fish.

b. Notify the NMFS two weeks prior to capture and relocation of salmonids to provide NMFS staff an opportunity to attend.

c. Initial fish relocation efforts will be conducted several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction if there is water in the isolated construction area. In these instances, additional fish could be captured that eluded the previous day's efforts. If water is left in the construction area, dissolved oxygen levels sufficient for salmonid survival must be maintained.

d. At project sites with high summer water temperatures, perform relocation activities during morning periods.

e. Prior to capturing fish, determine the most appropriate release location(s). Consider the following when selecting release site(s):

- Similar water temperature as capture location
- Ample habitat for captured fish
- Low likelihood of fish reentering work site or becoming impinged on exclusion net or screen.

f. Periodically measure air and water temperatures and monitor fish health. Temperatures will be measured at the head of riffle tail of pool interface. Cease activities if health of fish is compromised owing to high water temperatures, or if mortality exceeds three percent of captured salmonids.

C. Electrofishing Guidelines:

The following methods shall be used if fish are relocated via electrofishing:

1. All electrofishing will be conducted according to NMFS' Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act (NMFS 2000).
2. A minimum of three passes with the electrofisher shall be utilized to ensure maximum capture probability of salmonids within the area proposed for dewatering.
3. Water temperature, dissolved oxygen, and conductivity shall be recorded in an electrofishing log book, along with electrofishing settings.
4. The backpack electrofisher shall be set as follows when capturing fish:

	Initial	Maximum
Voltage:	100 Volts	300 Volts
Duration:	500 $\mu$ s (microseconds)	5 ms (milliseconds)
Frequency:	30 Hertz	70 Hertz

5. A minimum of one assistant shall aid the fisheries biologist by netting stunned fish and other aquatic vertebrates.

D. Seining Guidelines:

The following methods shall be used if fish are removed with seines.

1. A minimum of three passes with the seine shall be utilized to ensure maximum capture probability of all salmonids within the area.
2. All captured fish shall be processed and released prior to each subsequent pass with the seine.
3. The seine mesh shall be adequately sized to ensure fish are not gilled during capture and relocation activities.

E. Guidelines for Relocation of Salmonids:

The following methods shall be used during relocation activities associated with either method of capture (electrofishing or seining):

1. Fish shall not be overcrowded into buckets, allowing no more than 150 0+ fish (approximately six cubic inches per 0+ individuals) per 5 gallon bucket and fewer individuals per bucket for larger/older fish.
2. Every effort shall be made not to mix 0+ salmonids with larger steelhead, or other potential predators, that may consume the smaller salmonids. Have at least two containers and segregate

young-of-year (0+) fish from larger age-classes. Place larger amphibians in the container with larger fish.

3. Salmonid predators, including other fishes and amphibians, collected and relocated during electrofishing or seining activities shall not be relocated so as to concentrate them in one area. Particular emphasis shall be placed on avoiding relocation of predators into the salmonid relocation pools. To minimize predation of salmonids, these species shall be distributed throughout the wetted portion of the stream to avoid concentrating them in one area.

4. All captured salmonids shall be relocated, preferably upstream, of the proposed construction project and placed in suitable habitat. Captured fish shall be placed into a pool, preferably with a depth of greater than two feet with available instream cover.

5. All captured salmonids will be processed and released prior to conducting a subsequent electrofishing or seining pass.

6. All native captured fish will be allowed to recover from electrofishing before being returned to the stream.

7. Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish. Handlers will not wear insect repellants containing the chemical N,N-Diethyl-meta-toluamide (DEET).

8. Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.

9. Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish shall be released and rescue operations ceased.

10. In areas where aquatic vertebrates are abundant, periodically cease capture, and release at predetermined locations.

11. Visually identify species and estimate year-classes of fish at time of release. Count and record the number of fish captured. Avoid anesthetizing or measuring fish. Also identify hatchery (clipped adipose fin) and wild fish.

12. If more than 3 percent of the salmonids captured are killed or injured, the project permittee shall contact the NMFS within 24 hours.

13. The purpose of the contact is to review the activities resulting in take and to determine if additional protective measures are required. All salmonid mortalities must be retained, placed in an appropriately sized, zip-sealed bag, labeled with the date and time of collection, fork length,

location of capture, and frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NMFS.

### **III. Measures to Minimize Disturbance from Instream Construction**

Measures to minimize disturbance associated with instream habitat restoration construction activities are presented below. Measures are excerpted from Measures to Minimize Disturbance from Construction, on page IX-50 of the CDFW Manual:

1. Construction will occur between June 15 and October 31. Revegetation activities, including soil preparation, may extend beyond October 31, if necessary, to better ensure successful plant establishment during the onset of winter precipitation. If precipitation greater than one inch is forecast during the June 15 – October 31 work window, the NMFS must be notified, implementation work must stop, and erosion control BMP's must be implemented. Extensions on the construction season will be considered if project work and installation of associated erosion control measures can be completed prior to the onset of a storm event predicted by 72-hour weather forecasts from the National Weather Service.
2. Debris, soil, silt, excessive bark, rubbish, creosote-treated wood, raw cement/ concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from projected related activities, shall be prevented from contaminating the soil and/or entering the waters of the State. Any of these materials, placed within or where they may enter a stream or lake, by the applicant or any party working under contract, or with permission of the applicant, shall be removed immediately. During project activities, all trash that may attract potential predators of salmonids will be properly contained, removed from the work site, and disposed of daily.
3. Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
4. No heavy equipment will enter wetted channels.
5. Use of heavy equipment shall be avoided in a channel bottom with rocky or cobbled substrate. If access to the work site requires crossing a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle. Only after this option has been determined infeasible will the use of tracked vehicles be considered. The use of rubber tire loaders/backhoes has been determined to be infeasible, and tracked vehicles has been determined to be necessary, for the construction of the Barrier Remediation Project. The amount of time this equipment is stationed, working, or traveling within the creek bed shall be minimized. When heavy equipment is used, woody debris and vegetation on banks and in the channel shall not be disturbed if outside of the project's scope.

6. The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
7. Areas for fuel storage, refueling, and servicing of construction equipment must be located in an upland location.
8. Prior to use, clean all equipment to remove external oil, grease, dirt, or mud. Wash sites must be located in upland locations so wash water does not flow into the stream channel or adjacent wetlands.
9. All construction equipment must be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment shall be thoroughly inspected and evaluated for the potential of fluid leakage. All questionable motor oil, coolant, transmission fluid, and hydraulic fluid hoses, fitting, and seals shall be replaced. The contractor shall document in writing all hoses, fittings, and seals replaced and shall keep this documentation until the completion of operations. All mechanical equipment shall be inspected on a daily basis to ensure there are no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks shall be repaired in the equipment staging area or other suitable location prior to resumption of construction activity.
10. Oil absorbent and spill containment materials shall be located on site when mechanical equipment is in operation within 100 feet of the proposed watercourse crossings. If a spill occurs, no additional work shall commence in-channel until (1) the mechanical equipment is inspected by the contractor, and the leak has been repaired, (2) the spill has been contained, and (3) NMFS and CDFW are contacted and have evaluated the impacts of the spill.

#### **IV. Measures to Minimize Degradation of Water Quality**

Construction or maintenance activities for the Management Activities covered under this Agreement may result in temporary increases in turbidity levels in the stream. In general, these activities must not result in significant increases in turbidity levels beyond the naturally occurring, background conditions. The following measures shall be implemented to reduce the potential for impacts to water quality during and post-construction:

##### **A. General Erosion Control during Construction:**

1. When appropriate, isolate the construction area from flowing water until project materials are installed and erosion protection is in place.
2. Effective erosion control measures shall be in place at all times during construction. Do not start construction until all temporary control devices (straw bales with sterile, weed free straw, silt fences, etc.) are in place downslope or downstream of project site within the riparian area. The devices shall be properly installed at all location where the likelihood of sediment input exists.

These devices shall be in place during and after construction activities for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water and of detaining sediment-laden water on site. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles and amphibians.

3. Sediment shall be removed from sediment controls once it has reached one-third of the exposed height of the control. Whenever straw bales are used, they shall be staked and dug into the ground to a minimum depth of 12 cm, and only sterile, weed-free straw shall be utilized.

4. Sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area.

5. The contractor/project applicant is required to inspect and repair/maintain all practices prior to and after any storm event, at 24-hour intervals during extended storm events, and a minimum of every two weeks until all erosion control measures have been completed.

#### B. Guidelines for Temporary Stockpiling:

1. Minimize temporary stockpiling of material. Stockpile excavated material in areas where it cannot enter the stream channel. Prior to start of construction, determine if such sites are available at or near the project location. If nearby sites are unavailable, determine location where material will be deposited. Establish locations to deposit spoils well away from watercourses with the potential to deliver sediment into streams supporting, or historically supporting populations of salmonids. Spoils shall be contoured to disperse runoff and stabilized with mulch and (native) vegetation. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.

2. Conserve topsoil for reuse at project location or use in other areas. End haul spoils away from watercourses as soon as possible to minimize potential sediment delivery.

#### C. Minimizing Potential for Scour

1. When needed, utilize instream boulder grade control structures to control channel scour, sediment routing, and headwall cutting.

2. All bank stabilization shall be conducted using bioengineering techniques that do not transfer the erosive force of the stream to the opposite or downstream banks or cause the formation of downstream eddies. The channel shall not be narrowed as a result of bank repairs, and features that modify the natural stream gradient (as measured on a longitudinal profile) shall not be installed in the channel.

3. Where bioengineering is infeasible, in-kind replacement of concrete and rock slope protection (RSP) may only occur in areas such as the Diversion Facility, culvert inlets, and outlets, and

areas with previous RSP, such as the Barrier Remediation Project. Installation of gabions is not included in this agreement.

3.1. All stream bank areas receiving RSP shall be backfilled with appropriate topsoil. The topsoil fill should be placed to fill the voids in the rock slope protection and provide a substrate for revegetation efforts.

3.2. Un-grouted rock slope protection (RSP) and energy dissipater materials shall consist of clean rock, competent for the application, sized and properly installed to resist washout

4. For relief culverts or structures, if a pipe or structure that empties into a stream is installed, an energy dissipater shall be installed to reduce bed and bank scour. This does not apply to culverts installed in fish-bearing tributaries.

5. The toe of rock slope protection used for streambank stabilization shall be placed below bed scour to ensure stability.

#### D. Post-Construction Erosion Control

1. Immediately after project completion and before close of seasonal work window, stabilize all exposed soil with mulch, seeding, and/or placement of erosion control blankets. Remove all artificial erosion control devices after the project area has fully stabilized. All exposed soil present in and around the project site shall be stabilized within 7 days. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles and amphibians.

2. All bare and/or disturbed slopes (larger than 10' x 10' of bare mineral soil) will be treated with erosion control measures such as straw mulching, netting, fiber rolls, and hydroseed as permanent erosion control measures.

3. Where straw, mulch, or slash is used as erosion control on bare mineral soil, the minimum coverage shall be 95% with a minimum depth of two inches.

4. When seeding is used as an erosion control measure, only natives will be used. Sterile (without seeds), weed-free straw, free of exotic weeds, is required when hay bales are used as an erosion control measure.

#### **V. Measures to Minimize Loss or Disturbance of Riparian Vegetation**

Measures to minimize loss or disturbance to riparian vegetation are described below. The revegetation and success criteria that will be adhered to for projects implemented under the proposed programmatic approach that result in disturbance to riparian vegetation are also described below.

##### A. Minimizing Disturbance

1. Retain as many trees and shrubs as feasible, emphasizing shade-producing and bank-stabilizing trees and brush.
2. Prior to construction, determine locations and equipment access points that minimize riparian disturbance. Pre-existing access points shall be used whenever possible. Avoid entering unstable areas, which may increase the risk of channel instability.
3. Minimize soil compaction by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed or less compaction of disturbed areas.

#### B. Revegetation of Disturbed Areas

1. Any stream bank area left barren of vegetation as a result of the implementation or maintenance of the practices shall be restored to a natural state by seeding, replanting, or other agreed upon means with native trees, shrubs, and/or grasses. Barren areas shall typically be planted with a combination of willow stakes, native shrubs and trees and/or erosion control grass mixes.
2. Native plant species shall be used for revegetation of disturbed and compacted areas. The species used shall be specific to the project vicinity or the region where the project is located, and comprise a diverse community structure (plantings shall include both woody and herbaceous species).
3. Unless, infeasible only biodegradable exclusion netting or devices will be used to protect plants from damage. If plastic exclusion netting or devices are used, they will be removed and recycled after 3 years, or earlier if appropriate.

## **ATTACHMENT 3**

### **Routine Maintenance of In-channel Improvements, Reservoirs, Diversion Canals, Pipelines on Yellowjacket and No Name Creek and Unnamed Tributary.**

#### A. Routine Maintenance Activities include:

1. Removal and pruning of vegetation from dams and spillways of Birthday, Waterfall, West Twin, East Twin, House, Frog and Ballpark reservoirs, the Yellowjacket-to-Ballpark diversion canals, and other engineered water storage and conveyance structures;
2. Removal and pruning of vegetation in open water areas of reservoirs;
3. Removal of minor vegetation, debris and sediment in No Name Creek between East Twin Lake and the Highway 128 culvert sufficient to restore water flow;
4. Removal of minor vegetation, debris and sediment in Unnamed Creek between Ballpark reservoir and the Highway 128 culvert sufficient to maintain water flow;
5. Removal of sediment accumulation in reservoir spillways and canals;
6. Removal of silt, sand and rock accumulation in Yellowjacket Creek at the point of diversion at the time of lowest water flow;
7. Routine maintenance of fish screens.
8. Repair and routine maintenance of Barrier Remediation project step pools and grade control structures.
9. Maintenance of dam faces and embankments per the Division of Dam Safety standards and annual site visit requirements.

#### B. Measures When Standing or Flowing Water Is Present

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Landowner shall implement each measure listed below. The measures named below shall not be required if no standing or flowing water is present and canals or other conveyance facilities are dry.

1. **Work Period.** Work shall be restricted to periods with minimal or no stream flow or precipitation to protect aquatic species and habitat. The approved work period for instream construction work from June 1 to October 30. No phase of the project shall be initiated if work and installation of associated erosion control measures cannot be completed prior to the onset of a storm event predicted by 72-hour weather forecasts from the National Weather Service. If an unanticipated storm event occurs, the Landowner shall inspect all sites currently under construction and scheduled to begin work within 72 hours for indications of bank erosion and/or channel sedimentation; if noticeable erosion or sedimentation has occurred, the Landowner shall

implement additional erosion control features and consult with NMFS and CDFW Bay Delta Region regarding corrective actions.

2. **Vegetation Removal.** The disturbance or removal of vegetation shall not exceed the minimum necessary to complete work. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Except for trees on dam and levee embankments, any trees which must be cut shall be cut at ground level, leaving the root mass in place to maintain bank stability. Avoid impacts to active bird nests.

3. **Diversion of Flowing Water.** When work in a flowing creek, including Yellowjacket/No Name Creek/Unnamed Tributary is unavoidable, Landowner shall divert the stream flow around or through the work area during construction operations. Landowner shall construct coffer dams upstream and downstream of the work site and divert all flow from upstream of the upstream dam to a reservoir if available or a stable reach of the Creek, through a suitably sized pipe. If possible, gravity flow is the preferred method of water diversion. If a pump is used, it shall be operated at the rate of flow that passed through the site; pumping rates shall not dewater or impound water on the upstream side of the coffer dam. Cofferdams shall be constructed as close as practicable upstream and downstream of the work area using clean gravel bags. The stacked gravel bags may be sealed with plastic sheeting. All coffer dam materials shall be removed from the creek upon project completion within a timely manner. Normal flows shall be restored to the affected creek immediately upon completion of work at that location. If the coffer dams or stream diversion fail, they shall be repaired immediately. Diversion shall be conducted such that water at the downstream end does not scour the channel bed or banks.

4. **Work in Open Waters of Reservoirs and Canals.** The Landowner shall deploy silt curtains around the excavation and construction site to prevent heavily silted water from impacting areas around the site and spillway. The silt curtain shall be maintained throughout all phases of the excavation and construction activities.

5. **No Equipment Operated on Wet Bed of Any Creek.** No mechanized excavation equipment shall be operated in wetted portions of any Creek at any time.

6. **Equipment Maintenance and Fueling.** No equipment maintenance or fueling shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter the creek.

7. **Operating Equipment and Vehicle Leaks.** Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.

8. **Excavation Equipment.** Prior to working within the creek and reservoirs, all equipment shall be closely examined for oil and fuel discharges. Any contaminants shall be cleaned prior to

any work within a streambed and shall be maintained daily. In addition, equipment shall be cleaned daily to ensure non-natives are not introduced or spread throughout project sites.

9. Location of Spoil Sites. Spoil sites shall not be located within a stream or locations that may be subjected to high storm flows, where spoil may be washed back into a stream, or where it may impact streambed habitat, aquatic or riparian vegetation.

10. No Dumping. Landowner and all contractors, subcontractors, and employees shall not dump any litter or construction debris within the stream, or where it may pass into the stream.

11. Staging Areas. Staging and storage activities associated with construction shall be located outside of the riparian corridor, within disturbed, paved or developed areas whenever possible.

12. Erosion Control Best Management Practices (BMPs). All exposed soils within the work area shall be stabilized immediately following the completion of earthmoving activities to prevent erosion into the stream channel. Erosion control BMPs, such as silt fences, straw hay bales, gravel or rock lined ditches, water check bars, and broadcasted straw shall be used. Erosion control BMPs shall be monitored during and after each storm event for effectiveness. Modifications, repairs and improvements to erosion control BMPs shall be made as needed to protect water quality. At no time shall silt laden runoff be allowed to enter the stream or directed to where it may enter the stream.

**ATTACHMENT 4**

**Kellogg Ranch Farm Plan**

**For Wine Grape Production**

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## **Introduction**

### **Regulatory Framework:**

Landowner Barbara R. Banke, Trustee, Barbara R. Banke Revocable Trust in coordination with National Marine Fisheries Service (NMFS) and the California Department of Fish and Wildlife (CDFW) have developed a Safe Harbor Agreement (Agreement) for the Kellogg Ranch to meet the requirements of ESA Section 10(a)(1)(A). Landowner understands that enhancement measures must achieve a net conservation benefit as required by the Safe Harbor policy to obtain incidental take coverage pursuant to this provision of the ESA and that net conservation benefits are those that are sufficient to contribute, either directly or indirectly, to the recovery of the covered species. (NMFS, 2012)

This *Safe Harbor Farm Plan* represents the landowner's commitment to further the objectives of the conservation program by implementing farm practices for the term of the Agreement that will provide water quality and conservation benefits to the surface water features on the 1,352 acre Kellogg Ranch. These farm practices will be incorporated into the management of the acres of wine grapes produced on the Kellogg Ranch, and these practices will be monitored by a third party on an annual basis.

### **Wine Grape Production Farm Practices to be implemented as part of the Safe Harbor Farm Plan:**

For a number of years, the Landowner, through Jackson Family Wines, has participated in third-party sustainable programs. Participation in those efforts are driven by the family's interest in farming with long-term ecosystem benefits in mind. Elements of the California Code of Sustainable Winegrowing (CCSW) and Sonoma County's Vineyard Erosion and Sediment Control Ordinance (VESCO) that are incorporated into Safe Harbor Farm Plan include the following:

- 1) Environmental Due Diligence
- 2) New Plants and Replants
- 3) Soil/Erosion/Sediment Management
- 4) Water Management
- 5) Pest Management
- 6) Ecosystem Management

## Section I – Environmental Due Diligence

Environmental due diligence includes a thorough assessment of the property for on-site resource understanding and activities that may be subject to local, state, or federal regulations. Assessments consider road systems, water access/rights, streams and riparian corridors, state and federally protected species, degree of slope, and soil erosion potential.

Development plans (new plants or replants) must be approved by the Sonoma County Agricultural Commissioner and incorporate all the elements included in VESCO.

<b>Element 1 – Conservation of Habitat for Wildlife and Pest Predators</b>		Yes	No	N/A
1.	During vineyard and replant development, habitat for wildlife is considered and impacts minimized.			
2.	During vineyard and replant development, habitat is assessed, enhanced, and maintained to minimize disruption. Hedgerows, shrubs, or native grasses and, if appropriate, non-native flowering plants are maintained throughout the development site. Where appropriate fenced wildlife corridors allow movement around and/or through the vineyard. Waterways are shaded in part by trees and shrubs to help minimize elevating the water temperature in support of salmon, steelhead and other aquatic life.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 2 - Creation of Habitat for Wildlife and Pest Natural Enemies</b>		Yes	No	N/A
1.	Some native plants are established and resident vegetation is allowed to grow in non-crop areas (e.g., fence lines, ditches, banks).			
2.	Native plants are established and resident vegetation is allowed to grow in non-crop areas (e.g., fence lines, ditches, banks). If present, competing, non-native plants are removed to enhance native habitat using any required permits. Ponds or other water sources are available to wildlife, as appropriate for the region.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

**Section 2 – New Plants and Replants**

New vineyards or replants of old vineyards are required to meet standards identified in VESCO and/or the Conservation Plan for the site.

<b>Element 1 – Identifying Appropriate Stream and Wetland Setbacks</b>		Yes	No	N/A
1.	During vineyard development planning, all the hydrologic features (perennial and ephemeral streams, wetlands, ponds, etc.) that occur in the development area are identified in the VESCO permit package and/or Conservation Plan for the site.			
2.	As part of the vineyard development plan, all the hydrologic features (perennial and ephemeral streams, wetlands, ponds, etc.) that occur in the development area are identified in the VESCO permit package and/or Conservation Plan for the site. All setbacks associated with local regulations and the Safe Harbor Agreement for the site are incorporated into the development.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 2 – Calculating Soil Loss with New Development</b>		Yes	No	N/A
1.	Soil types and profiles that occur within the development area are identified in the VESCO permit application and/or Conservation Plan for the site.			
2.	Soil types and profiles that occur within the development area are identified in the VESCO permit application and/or Conservation Plan for the site. Soil losses associated with the new development are calculated and are at, or under, the thresholds identified in VESCO and/or the Conservation Plan for the site.	X		

3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			
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<b>Element 3 – Slope and Erosion Control</b>		Yes	No	N/A
1.	For new vineyards and /or replanted vineyards, on slopes identified by the appropriate experts as highly erodible soils, plans are/will be prepared by a qualified civil engineer and are/will be consistent with VESCO requirements and/or the Conservation Plan on site.			
2.	For new vineyards and /or replanted vineyards, on slopes identified by the appropriate experts as highly erodible soils, plans are/will be prepared by a qualified civil engineer and are/will be consistent with VESCO requirements and/or the Conservation Plan on site. Areas identified as landslides, gullies and slips are avoided.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 4 - Drainage on Slopes</b>		Yes	No	N/A
1.	Plans for new vineyard developments that identify slopes on highly erodible soils will incorporate structural erosion control systems to intercept and diffuse water flow and encourage infiltration into vineyard design. Use of drop inlets with sediment traps; daylight underground outlets to vegetated swales; energy dissipaters; infiltration galleries; or sediment basins to prevent excess sediment from entering streams will be included as appropriate.			
2.	Plans for new vineyard developments that identify slopes on highly erodible soils will incorporate structural erosion control systems to intercept and diffuse water flow and encourage infiltration into vineyard design. Use of drop inlets with sediment traps; daylight underground outlets to vegetated swales; energy dissipaters; infiltration galleries; or sediment basins to prevent excess sediment from entering streams will be	X		

	included as appropriate. Where appropriate, plans are developed to support the vineyard to drain to a grassy/vegetated filter area or a detention/sedimentation pond.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 5 – Cover Crop Establishment</b>		Yes	No	N/A
1.	Cover crops are established by October 15 and maintained throughout the rainy season (until March 1st.)			
2.	Cover crops are established by October 15 and maintained throughout the rainy season (until March 1st.) Straw mulch is applied in areas where cover crops are planted late in the fall or if rain is likely after the cover crop has been tilled and there are no perimeter erosion control measures.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 6 – Tilling Cover Crops</b>		Yes	No	N/A
1.	Tillage practices are minimized on slopes with highly erodible soils. Filter strips or other perimeter erosion control measures are left in place if the vineyard rows are tilled early.			
2.	Tillage practices are minimized on slopes with highly erodible soils. Filter strips or other perimeter erosion control measures are left in place if the vineyard rows are tilled early. In the case of early tillage, affected areas are replanted with a cover crop and covered with straw before the rainy season.	X		

3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			
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### Section 3 – Soil Erosion and Sediment Management

Soil management factors in nutrient uptake rates, soils, root health and nutrient application. To determine needs for maintaining soil health plant tissue samples are a reliable tool for making nutrient application decisions, including appropriate nutrient application rates.

	<b>Element 1 – Nutrient Management</b>	Yes	No	N/A
1.	Vine vigor, fruit quality, leaf symptoms, and vineyard history are factored into decisions made for nutrient applications. Results of plant tissue analysis are used as a guide for nutrient application decisions.			
2.	Vine vigor, fruit quality, leaf symptoms, and vineyard history, wine quality and water quality impacts are factored into decisions made for nutrient applications. Results of plant tissue analysis are used as a guide for nutrient application decisions and site specific nutrient applications.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

	<b>Element 2 – Nitrogen Management</b>	Yes	No	N/A
1.	Soil or plant tissue analysis is done at least once every 3 years and nitrogen is applied only if justified by plant tissue analysis and/or inadequate vine vigor. Preventative measures are taken to limit volatilization. Nitrogen is only applied when vines best utilize it. Local conditions and water quality impacts are considered.			
2.	Soil or plant tissue analysis is done at least once every 3 years and nitrogen is applied only if justified by plant tissue analysis and/or inadequate vine vigor. Preventative measures are taken to limit volatilization. Nitrogen is only applied when vines best utilize it. Local conditions and water quality impacts are considered. If plant tissue analysis and vine vigor showed the nitrogen applications are not	X		

	necessary, none is applied. <i>NDVI may be used to identify weak spots in vineyards for applications of targeted nutritional applications.</i>			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 3 – Fertigation</b>		Yes	No	N/A
1.	Vine vigor, fruit quality, leaf symptoms and vineyard history are factored into decisions made for nutrient applications.			
2.	Vine vigor, fruit quality, leaf symptoms, vineyard history, wine quality and water quality impacts are factored into decisions made for nutrient applications. Results of plant tissue analyses are used as a guide for nutrient application decisions.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 4 – Amendments for Water Penetration</b>		Yes	No	N/A
1.	If water penetration is poor (water puddles and run offs are visible when subsurface soil is dry) appropriate amendments are added to the soil.			
2.	If water penetration is poor (water puddles and run offs are visible when subsurface soil is dry) appropriate amendments are added to the soil, and/or cover crops are established to reduce concentrated flows and stabilize sediment delivery sites.	X		

3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			
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<b>Element 5 – Preserving or Increasing Organic Matter</b>		Yes	No	N/A
1.	Practices are implemented to increase nutrient cycling (e.g., composting, cover crops, and use of suitable treated water from ponds) as part of standard procedures.			
2.	Practices are implemented to increase nutrient cycling (e.g., composting, cover crop, and use of suitable treated water from ponds) as part of standard procedures. Practices are implemented to prevent the off-site loss of nutrients including the use of vegetation along riparian corridors.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 6 – Soil Compaction</b>		Yes	No	N/A
1.	Equipment is chosen to minimize soil compaction and equipment use is minimized in the vineyard during saturated soil conditions. A cover crop or resident vegetation crop exists during springtime spray season.			
2.	Equipment is chosen to minimize soil compaction and equipment operators, when possible, refrained from driving in the vineyard during rain or muddy conditions. A Cover crop or resident vegetation crop exists during springtime spray season.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

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<b>Element 7– Surface Water Diversions for Erodible Sites</b>		Yes	No	N/A
1.	Permanent drainage systems and waterways are maintained in the vineyard and maintenance and repair materials are available for emergency repair.			
2.	Permanent drainage systems and waterways are maintained in the vineyard and maintenance and repair materials are available for emergency repair. There is no evidence of rills or gullies and erosion is controlled to prevent water quality degradation by sediment delivery sites (e.g., cover crops, setbacks from stream areas where appropriate, etc.). If rills and gullies are noted, they will be repaired after the rainy season. During current rainy season appropriate measures will be implemented to reduce further growth of the rills and gullies.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 8 – Management of Erosion from Roads, Ditches and Culverts</b>		Yes	No	N/A
1.	Efforts are taken to eliminate obvious sources of erosion (e.g. outsloped or vegetated roads, graveled roads that allow for moisture penetration, and vegetated ditches and culverts are maintained. Comprehensive erosion control efforts are undertaken for vineyard roads, ditches and culverts and road maintenance is regularly scheduled.			
2.	Efforts are taken to eliminate obvious sources of erosion (e.g. outsloped or vegetated roads, graveled roads that allow for moisture penetration, and vegetated ditches and culverts are maintained. Comprehensive erosion control efforts are undertaken for vineyard roads, ditches and culverts and road maintenance is regularly scheduled. Culverts are appropriately sized, positioned, and managed to prevent scour. Road maintenance is regularly scheduled and repairs are made to any poorly functioning road drainages or water crossings.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 9 – Pollution Prevention within Vineyard Blocks</b>		Yes	No	N/A
1.	A winter annual cover crop and/or resident vegetation is maintained in the vineyards and water diversions are used if longer slopes exist to safely transport runoff.			
2.	A winter annual cover crop and/or resident vegetation is maintained in the vineyard and water diversions are used if longer slopes exist to safely transport runoff. A strategy including routine observations and maintenance to reduce runoff is implemented.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

**Section 4 – Water Management**

The water management strategy is based upon grape-growing goals and account for soil types, slopes, irrigation water availability and quality as well as energy efficiency. Water management goals include conservation of water and protection of aquatic resources on site.

<b>Element 1 – Off-Site Water Movement</b>		Yes	No	N/A
1.	Irrigation practices and/or property location or design prevents development of rills or gullies related to concentrated flows from applied water. Preventive techniques (e.g. cover crops, vegetated filters, rocked or solid surface ditches) are in place to reduce rainfall runoff, minimizing off-site movement of silt, pesticides and/or fertilizers. If applicable, engineered drainage systems (culverts, drop inlets, diversions) are in place for hillside or terraced sites to minimize off-site movement of silt, pesticides and/or fertilizers.			
2.	Irrigation practices and/or property location or design prevented development of rills or gullies related to concentrated flows from applied water. Preventive techniques (e.g. cover crops, vegetated, rocked or solid surface ditches) are in place to reduce rainfall runoff, minimizing off-site movement of silt, pesticides and/or fertilizers. If runoff could occur during some high rainfall events, drainage systems (e.g. proper and adequate ditch relief culverts) are in place to minimize off-site movement of silt, pesticides, and/or fertilizers.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

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<b>Element 2 – Irrigation System</b>		Yes	No	N/A
1.	A low flow engineered sprinkler irrigation system is installed in the vineyards.			
2.	An engineered micro irrigation system (including drip irrigation or micro sprinklers) is installed in the vineyard.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 3 – Distribution Uniformity for Irrigation Systems</b>		Yes	No	N/A
1.	The distribution uniformity of the irrigation system is tested within the last 5 years and recorded by monitoring emitter outflow or furrow distribution.			
2.	The distribution uniformity of the irrigation system is tested within the last 5 years and recorded by monitoring emitter outflow or furrow distribution. Furrow distribution is checked visually across the block and necessary corrections are made to prevent runoff.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 4 – Frost Protection Water Use</b>		Yes	No	N/A
1.	All water used for frost protection is monitored and reported as part of the Russian River Frost Protection Regulation.			
2.	All water used for frost protection is monitored and reported as part of the Russian River Frost Protection Regulations. Use of wind machines to	X		

	protect vineyards from frost damage are used to the extent allowable.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 5 – Measuring Water Use</b>		Yes	No	N/A
1.	All water on site is measured and monitored. This includes rainfall, irrigation and frost protection water use. Water use is calculated based upon duration of pumping, energy use, emitter flow rates and reservoir gauges.			
2.	All water on site is measured and monitored. This includes rainfall, irrigation and frost protection water use. These are calculated based upon duration, date, energy use and reservoir gauges. A plan is developed to measure and manage water for the protection of aquatic resources.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 6 –Moisture and Plant Water Status Monitoring</b>		Yes	No	N/A
1.	Moisture monitoring devices are employed. Moisture information is used to schedule irrigation for the vineyard. Moisture and/or plant based monitors are used to determine the start date for spring/summer irrigation.			
2.	Moisture monitoring devices are employed. Moisture information is used to schedule irrigation for the vineyard. Moisture and/or plant based monitors are used to determine the start date for spring/summer irrigation. Plant water status is monitored and recorded by visually assessing shoot tips, leaves and tendrils.	X		

3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			
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<b>Element 7– Planned Deficit Irrigation</b>		Yes	No	N/A
1.	Irrigation is restricted to some level of water stress is applied to the vines, and monitored using plant water status instruments or visual symptoms.			
2.	A level of plant water stress is used to improve wine quality and conserve water and energy. The vine water status is monitored by instruments or visually. The irrigation amount and starting date is re-evaluated and adjusted if needed throughout the season.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

### Section 5 – Pest Management

Integrated Pest Management is an integral part of any sustainable farming practices. IPM was developed in response to the problems associated with pesticide use in the 1950's and 1960's. The goal of the IPM is utilize biological, cultural, and chemical tools in a way that minimizes environmental risk.

<b>Element 1- Vineyard Monitoring for Insects</b>		Yes	No	N/A
1.	The vineyard is regularly monitored for insects during the growing season and a record of the results is kept.			
2.	The vineyard is regularly monitored for insects during the growing season and a record of the results is kept. The information is used for management decision with the goal of reducing environmental risk.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 2 – Training for Insect Identification</b>		Yes	No	N/A
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1.	Key vineyard employees are trained and encouraged to monitor for insects.			
2.	A majority of people working in the vineyard are trained and encouraged to monitor for insects. Bilingual training and printed information on insect monitoring is provided, if needed.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

	<b>Element 3– Minimizing Risks from Pesticides</b>	Yes	No	N/A
1.	Non-target risks, (e.g., impacts to beneficial insects and mites and environmental and human health) are considered when selecting and using pesticides.			
2.	Non-target risks, (e.g., impacts to beneficial insects and mites and environmental and human health) are considered when selecting and using pesticides. Lower risk pesticides are used when possible.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

	<b>Element 4 – Cultural Practices for Insect and Mite Management</b>	Yes	No	N/A
1.	Cultural practices (e.g., leaf removal, cover crops, hedgerows, sanitation, dust control, irrigation) are used for managing insect and mite pests in the vineyard. Vine vigor is maintained at a level appropriate for reducing pest pressure.			
2.	Cultural practices (e.g., leaf removal, cover crops, hedgerows, sanitation, dust control, irrigation) are used for managing insect and mite pests in the vineyard. Vine vigor is maintained at a level appropriate for reducing pest pressure. Cultural practices are used to promote beneficial insects and mites. Vine vigor is maintained at a level appropriate for reducing pest pressure.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

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<b>Element 5 – Dust Abatement in and around Vineyards</b>		Yes	No	N/A
1.	Vehicle speed is controlled on surrounding unpaved roads and vineyard traffic is limited.			
2.	Vehicle speed is controlled on surrounding unpaved roads and vineyard traffic is limited. Surrounding unpaved roads are managed, as needed, by watering or applying environmentally acceptable sealants, providing vegetative groundcover and grassy turnaround areas.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 6 – Treatment for Mites and Leafhoppers</b>		Yes	No	N/A
1.	Pest hotspots are identified and necessary treatments for mites and leafhoppers are made only to portions of the vineyards (e.g., edges or hotspots) as well as extra buffer strips around hotspots.			
2.	Pest hotspots are identified and necessary treatments for mites and leafhoppers are made only to portions of the vineyards (e.g., edges or hotspots) as well as extra buffer strips around hotspots. Treatment efficacy is verified by monitoring.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 7 – Mealybug Management</b>		Yes	No	N/A
1.	Mealybugs are monitored throughout the year in the vineyard and infested areas are mapped and are managed as necessary. If mealybug treatments are necessary, only infested areas are treated as well as extra buffer strips around hotspots as necessary.			
2.	Mealybugs are monitored throughout the year in the vineyard and infested areas are mapped and are managed as necessary. If mealybug treatments are necessary, only infested areas are treated as well as extra buffer strips around hotspots as necessary. Equipment is cleaned of vine debris when	X		

	moving from an infested area to a non-infested area. Workers do not work in infested and non-infested areas during the same day or they work in the infested areas last.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 8 – Vineyard Monitoring for Disease</b>		Yes	No	N/A
1.	The vineyard is monitored at least bi-monthly for diseases during critical periods and a record of results are kept.			
2.	The vineyard is monitored at least bi-monthly for diseases during critical periods and a record of results are kept. This information is analyzed and used for management decisions.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 9 – Powdery Mildew Management</b>		Yes	No	N/A
1.	Cultural practices such as irrigation and canopy management (leaf removal, shoot thinning, shoot positioning) are considered to limit powdery mildew development and/or improve application coverage. Application decisions are based on weather patterns with no application made at or after 14 brix if no mildew is found.			
2.	Cultural practices such as irrigation and canopy management (leaf removal, shoot thinning, shoot positioning) are considered to limit powdery mildew development and/or improve application coverage. Application decisions are based on weather patterns with no application made at or after 14 brix if no mildew is found. Fungicides with different modes of action are rotated throughout the season or only sulfur products are used.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 10 – Pruning for Canker Management</b>		Yes	No	N/A
1.	Susceptible varieties are pruned late during dormancy and diseased wood is pruned off. Potentially move vineyard to Cane Pruning options to reduce amount of cuts on vines.			
2.	Susceptible varieties are pruned late during dormancy and only small cuts are made and diseased wood is pruned off, removed from the vineyard and destroyed. Potentially move vineyard to Cane Pruning options to reduce amount of cuts on vines.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 11 – Bunch Rot Management</b>		Yes	No	N/A
1.	Canopy air circulation is increased making conditions less conducive to bunch rot by appropriately removing leaves from the fruiting zone and practices are used to reduce physical fruit damage such as adjusting irrigation to limit berry size and splitting.			
2.	Canopy air circulation is increased making conditions less conducive to bunch rot by implementing practices such as appropriate trellis selection, shoot thinning and removing leaves. Practices are used to reduce physical fruit damage such as adjusting irrigation to limit berry size and splitting. Old dried grape clusters on vines and the soil surface are destroyed during the dormant season. The causal agent of bunch rot (such as botrytis of aspergillums) and appropriate fungicides are applied.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 12 – Pierce’s Disease Management</b>		Yes	No	N/A
1.	A PD Management Plan is in place and diseased vines are removed as soon as detected. Yellow sticky traps are used to monitor blue-green sharpshooter populations in and along vineyard adjacent to riparian habitat.			
2.	A PD Management Plan is in place that includes managing riparian habitat to minimize blue-green sharpshooter populations. Diseased vines are removed as soon as detected. Yellow sticky traps are used to monitor	X		

	blue-green sharpshooter populations in and along vineyard adjacent to riparian habitat. If trap counts increase sharply after several successive warm days or more than one sharpshooter per vine is observed, the only vines treated are those bordering sharpshooter breeding habitat.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 13 – Vineyard Monitoring for Weeds</b>		Yes	No	N/A
1.	The vineyard is monitored periodically for weeds and a record of results is kept.			
2.	The vineyard is monitored periodically for weeds and a record of results is kept. The information is used for management decisions.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 14 - Herbicide Leaching Potential</b>		Yes	No	N/A
1.	The persons making pest management decisions is aware of any ground water restrictions.			
2.	The persons making pest management decisions is aware of any ground water restrictions. Applications are not made when the herbicide is likely to migrate from the application area (e.g., runoff, rain, spray drift from wind).	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 15 – Area Treated with Herbicides</b>		Yes	No	N/A
1.	The entire berm or vine row is treated with herbicides and a narrow treated berm (e.g., 18-30”) is maintained and some weeds are tolerated.			
2.	Instead of treating the entire berm or vine row, weeds are spot treated with foliar-applied herbicides (when possible) and a narrow treated berm (e.g.,	X		

	18-30”) is maintained and some weeds are tolerated.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 16 – Monitoring for Vertebrate Pests</b>		Yes	No	N/A
1.	The vineyard is monitored for vertebrate pests (or as appropriate based on species/lifecycles present and a record is kept. Employees are trained to identify vertebrate pest activity and damage.			
2.	The vineyard is monitored for vertebrate pests (or as appropriate based on species/lifecycles present and a record is kept. Employees are trained to identify vertebrate pest activity and damage. This information is analyzed and used for management decisions.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 17 – Spray Coverage</b>		Yes	No	N/A
1.	Air -blast sprayers, multi row sprayers and over the vine high-pressure sprayers are driven at speeds consistent with topography and environmental conditions to allow for best coverage. Nozzles are positioned and adjusted as canopy size and density changes during the season and tractor speed and sprayer pressure are attained prior to entering the row and maintained until exiting the row.			
2.	Air-blast sprayers, multi row sprayers and over the vine high-pressure sprayers are driven at speeds consistent with topography and environmental conditions to allow for best coverage. Nozzles are positioned and adjusted as canopy size and density changes during the season and tractor speed and sprayer pressure are attained prior to entering the row and maintained until exiting the row. Spray coverage is verified and employees are trained in the safe and effective operation of equipment and evaluation techniques to ensure spray coverage.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 18 – Spray Buffer Zone</b>		Yes	No	N/A
1.	Reasonable buffer zones are established near any sensitive areas and applications are not made when winds are blowing toward any sensitive areas.			
2.	Reasonable buffer zones are established near any sensitive areas and applications are not made when winds are blowing toward any sensitive areas. The timing and within-field sequence applications are adjusted to ensure minimal human activity and disturbance to sensitive areas.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 19 – Spray Drift</b>		Yes	No	N/A
1.	Pesticide applications are avoided when drift carries materials away from targeted spray area-			
2.	Pesticide applications are avoided when drift carries materials away from targeted spray area. Sprayers and dusts are shut off at row ends near sensitive areas.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 20 – Pesticide Storage</b>		Yes	No	N/A
1.	Safe pesticide storage practices are used – dry products are stored above liquid products, the distance between the storage site and the nearest well or surface stream prevents contamination.			
2.	Safe pesticide storage practices are used – dry products are stored above liquid products, the distance between the storage site and the nearest well or surface stream prevents contamination. Storage is within a well-lit area that is secure from theft and or vandalism.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 21 – Pesticide Mixing and Loading</b>		Yes	No	N/A
1.	All workers are provided with pesticide safety training, the required personal protective equipment and instructed to stay with the equipment to prevent spills while mixing and loading. The mixing/loading areas are at least 30 feet from a surface stream.			
2.	All workers are provided with pesticide safety training, the required personal protective equipment and instructed to stay with the equipment to prevent spills while mixing and loading. The mixing/loading areas is at least 30 feet from a surface stream and either a double check valve is used when filling spray tanks or a six-inch air gap is maintained between the spray tank and the filling device.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

**Section 6 – Ecosystem Management**

From an ecosystem management viewpoint, a goal of the successful wine grape grower is to optimize the combination of individual, population, community, and ecosystem conditions, resources, interactions and process to produce acceptable yields of quality fruit. Ideally, this is done while minimizing negative impacts and maximizing positive impacts on ecological inputs.

<b>Element 1- Ecosystem Process and Management</b>		Yes	No	N/A
1.	Vineyards enhance ecosystem biodiversity and species, habitat types, and indicators of plant and animal diversity are observed.			
2.	Vineyards enhance ecosystem biodiversity and species, habitat types, and indicators of plant and animal diversity are observed. Measures have been taken to enhance biodiversity and an ecosystem management program enacted that may include the removal of native and non-native species that may damage infrastructure associated with fish and wildlife passage and movement.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 2 – Watershed Management</b>		Yes	No	N/A
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1.	Pertinent watershed issues are known (e.g., water quality, quantity, pollution and or endangered or threatened aquatic species). Site specific efforts are made to minimize negative impacts on pertinent watershed issues.			
2.	Pertinent watershed issues are known (e.g., water quality, quantity, pollution and or endangered or threatened aquatic species). Site specific efforts are made to minimize negative impacts on pertinent watershed issues. There is involvement in a stewardship program and/or conservation program.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 3 – Riparian Habitat</b>		Yes	No	N/A
1.	Banks of watercourses have vegetated buffer strips adjacent to the waterway.			
2.	Banks of watercourses have vegetated buffer strips adjacent to the waterway. Outside the buffer strip are native vegetation, shrubs and trees that shade part of the water course. Invasive and non-native vegetation are managed to reduce impacts to native vegetation and protect stream flow.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 4 – Aquatic Habitats: Streams, Rivers and Wetlands</b>		Yes	No	N/A
1.	Aquatic habitats near the vineyard are considered in site selection and/or management (e.g., soil type and erosion ratings, slope of area, natural vegetation and drainage are all considered to prevent off-site movement of sediments). Aquatic buffer strips are left or created between vineyards and aquatic habitats.			
2.	Aquatic habitats near the vineyard are considered in site selection and/or management (e.g., soil type and erosion ratings, slope of area, natural vegetation and drainage are all considered to prevent off-site movement of sediments). Aquatic buffer strips are left or created between vineyards and aquatic habitats. Roads are maintained around vineyards adjacent to aquatic habitats and repairs have been made to any poorly function road drainages or waterway crossings. If appropriate, the buffer strip included	X		

	a zone of trees and shrubs that shaded – or had the potential to shade part or the entire water course to minimize elevating water temperatures.			
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 5 - Habitat Enhancement for Wildlife</b>		Yes	No	N/A
1.	Nesting boxes or other nesting habitat are placed in and/or around the vineyard and natural nesting sites and perches are maintained in and/or around vineyards (e.g., leave oak trees in vineyards) and hedgerows, cover crops, native grasses are maintained on the property.			
2.	Nesting boxes or other nesting habitat are placed in and/or around the vineyard and natural nesting sites and perches are maintained in and/or around vineyards (e.g., leave oak trees in vineyards) and hedgerows, cover crops, native grasses are maintained on the property. Nesting sites and perches are observed and maintained where appropriate. Native plants are established that provide shelter and/or food for wildlife.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 6 – Sensitive Species</b>		Yes	No	N/A
1.	Most of the sensitive species that have occurred in the region are known and it is known whether any of these species occur on the property.			
2.	Most of the sensitive species that have occurred in the region are known and it is known whether any of these species occurred on the property. The property is managed to protect and/or enhance habitat for these species.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

<b>Element 7 – Sensitive Species and Collaboration with Partners</b>		Yes	No	N/A
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1.	Qualified experts familiar with sensitive species are consulted to inform management decisions that may affect sensitive species.			
2.	Qualified experts familiar with sensitive species are consulted to inform management decisions that may affect sensitive species. The property is managed to protect and/or enhance habitat for these species. Where available, there is participation in programs offered by resources agencies that protected the interests of sensitive species.	X		
3.	If you did not answer yes to number (2) above, briefly describe your practices and how they may change over time:			

**ATTACHMENT 5**

**Existing Facilities, Farming, Roads and Structures Currently within 150 feet of Kellogg Creek or Yellowjacket Creek**

