California Fish and Game Commission
NOTICE OF FINDINGS
Upper Klamath-Trinity River Spring Chinook Salmon
(Oncorhynchus tshawytscha)

NOTICE IS HEREBY GIVEN that the California Fish and Game Commission (Commission), at a meeting on June 16, 2021, found pursuant to California Fish and Game Code Section 2075.5, that the information contained in the petition to list upper Klamath-Trinity river spring Chinook salmon (*Oncorhynchus tshawytscha*) (hereinafter “UKTSCS”) and other information in the record before the Commission, warrants adding UKTSCS to the list of endangered species under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). (See also Cal. Code Regs., tit. 14, § 670.1, subd. (i).)

NOTICE IS ALSO GIVEN that, at its December 15-16, 2021 meeting, the Commission adopted the following findings outlining the reasons for its determination.

I. Background and Procedural History

Petition History

On July 23, 2018, the Karuk Tribe and Salmon River Restoration Council submitted a petition to the Commission to list UKTSCS as an endangered under CESA. The Commission reviewed the petition for completeness, and pursuant to Section 2073 of the California Fish and Game Code, referred the petition to the California Department of Fish and Game (Department) on August 2, 2018 for evaluation. The Commission gave public notice of receipt of the petition on August 17, 2018 (Cal. Reg. Notice Register 2018, No. 33-Z, p. 1313). The Department requested a 30-day extension of the 90-day review period on October 5, 2018 which was granted by the Commission at its October 17, 2018 meeting. The Department transmitted to the Commission the Department’s petition evaluation on November 27, 2018, and on December 13, 2018, the Commission formally received the Department’s petition evaluation.

At its February 2019 meeting, FGC determined that listing may be warranted, and subsequently provided notice regarding UKTSCS’s protected, candidate species status (Cal. Reg. Notice Register 2019, No. 8-Z, p. 284).

Status Review Overview

The Commission’s action designating UKTSCS as a candidate species triggered the Department’s process for conducting a status review to inform the Commission’s decision on whether to list the species. At a public meeting in June 2019, the Commission approved a request for a 6-month extension to complete the status review.

On March 12, 2021, the Department transmitted to the Commission the Department’s report to the Commission titled *California Endangered Species Act Status Review for Upper Klamath and Trinity Rivers Spring Chinook Salmon (*Oncorhynchus tshawytscha*)* (status review) dated March 11, 2021. On April 14, 2021, the Commission formally received the Department’s status review during a public meeting. On June 16, 2021, the Commission found that the information contained in the petition to list UKTSCS and other information in the record before the Commission warranted listing UKTSCS as a threatened species under CESA.

Species Description

Chinook Salmon

Chinook salmon are semelparous (i.e., reproducing or breeding only once in a lifetime), anadromous (i.e., ascending rivers from the sea for breeding), salmonid fishes native to fresh and ocean waters of the North Pacific Rim (CDFW 2021). The life cycle, physiology, diet, and habitat needs are detailed in the petition and status review.

Although among the least abundant of all the Pacific salmonids, Chinook salmon show the greatest life-history diversity and geographic range (Riddell et al. 2018). They are the largest of the Pacific salmon genus Oncorhynchus, with adults in northern waters growing as large as 45 kg (99 lbs). The name Chinook refers to the collective Chinookan Native American Tribes of the Pacific Northwest. The species is also known by the common names king salmon, tyee, and quinnat salmon. Additional information on species characteristics can be found in Moyle (1976), Scott and Crossman (1973), Wydoski and Whitney (1979), Morrow (1980), Eschmeyer et al. (1983), and Page and Burr (1991).

Broadly speaking, there are two recognized groups of Chinook salmon whose adult migration occurs in the spring in California: Central Valley spring-run Chinook salmon and UKTSCS (CDFW 2021). These two groups are widely separated spatially — one in the Central Valley and the other on the north coast (CDFW 2021). Those two groups of Chinook salmon are also genetically distant from one another (CDFW 2021).

Upper Klamath and Trinity River Chinook Salmon

In the upper Klamath and Trinity rivers, two Chinook salmon ecotypes are present: spring and fall. While fish that return in the fall currently comprise the majority of the Chinook salmon in these rivers, the opposite was likely historically the case (Karuk Tribe and Salmon River Restoration Council 2018).

UKTSCS was likely more common and more widely distributed within the basin historically due to conditions that favored expression of the early returning phenotype. Current distribution of the spring ecotype is fragmented and abundance is low compared to these historical populations. UKTSCS is currently found in relatively small to moderately large numbers in the basin, with notable spawning aggregations in three disjunct locations:

- Salmon River on the Klamath,
- Upper Trinity River, and
- South Fork Trinity River.

UKTSCS in the Salmon River and the South Fork Trinity River are less abundant than in the Upper Trinity River. In contrast, Upper Klamath Trinity River (UKTR) fall Chinook salmon (and therefore the federally-designated UKTR Chinook salmon evolutionarily significant unit as a whole) are relatively widely distributed in the basin and can occur in relatively large numbers.

II. Statutory and Legal Framework

The Commission, as established by the California State Constitution, has exclusive statutory authority under California law to designate endangered, threatened, and candidate species under CESA. (Cal. Const., art. IV, § 20, subd. (b); Fish & G. Code, § 2070.) The CESA listing process for UKTSCS began in the present case with the petitioners' submittal of the petition to the Commission on July 23, 2018. The regulatory and legal process that ensued is described in some detail in the preceding section, along with related references to the Fish and Game Code and controlling regulation. The CESA listing process generally is also described in some detail in published appellate case law in California, including:

- Mountain Lion Foundation v. California Fish and Game Commission (1997) 16 Cal.4th 105, 114-116;
- California Forestry Association v. California Fish and Game Commission (2007) 156 Cal.App.4th 1535, 1541-1542;
- Center for Biological Diversity v. California Fish and Game Commission (2008) 166 Cal.App.4th 597, 600;
- Natural Resources Defense Council v. California Fish and Game Commission (1994) 28 Cal.App.4th 1104, 1111-1116;
- Central Coast Forest Association v. California Fish and Game Commission (2017), 2 Cal. 5th 594, 597-598; and
- Central Coast Forest Association v. California Fish and Game Commission (2018) 18 Cal. App. 5th 1191, 1196-1197.

The "is warranted" determination at issue here stems from Commission obligations established by Fish and Game Code Section 2075.5. Under the provision, the Commission is required to make one of two findings for a candidate species at the end of the CESA listing process; namely, whether listing a species is warranted or is not warranted. Here, with respect to UKTSCS, the Commission made the finding under Section 2075.5(e)(2) that listing UKTSCS as threatened is warranted.

The Commission was guided in making its determinations by statutory provisions and other controlling law. The Fish and Game Code, for example, defines an endangered species under CESA as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, over exploitation, predation, competition, or disease." (Fish & G. Code, § 2062.) Similarly, the Fish and Game Code defines a threatened species under CESA as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter." (*Id.*, § 2067.)

The Commission also considered Title 14, Section 670.1, subdivision (i)(1)(A), of the California Code of Regulations in making its determination regarding UKTSCS. This provision provides, in pertinent part, that UKTSCS shall be listed as endangered or threatened under CESA if the

Commission determines that its continued existence is in serious danger or is threatened by any one or any combination of the following factors:

1. Present or threatened modification or destruction of its habitat;
2. Overexploitation;
3. Predation;
4. Competition;
5. Disease; or
6. Other natural occurrences or human-related activities.

Fish and Game Code Section 2070 provides similar guidance, providing that the Commission shall add or remove species from the list of endangered and threatened species under CESA only upon receipt of sufficient scientific information that the action is warranted. Similarly, CESA provides policy direction not specific to the Commission per se, indicating that all state agencies, boards, and commissions shall seek to conserve endangered and threatened species and shall utilize their authority in furtherance of the purposes of CESA. (Fish & G. Code, § 2055.) This policy direction does not compel a particular determination by the Commission in the CESA listing context. Nevertheless, "'[l]aws providing for the conservation of natural resources' such as the CESA are of great remedial and public importance and thus should be construed liberally." (*California Forestry Association v. California Fish and Game Commission*, supra, 156 Cal. App.4th at pp. 1545-1546, citing *San Bernardino Valley Audubon Society v. City of Moreno Valley* (1996) 44 Cal.App.4th 593, 601; Fish & G. Code, §§ 2051, 2052.)

Finally, in considering the six identified factors, CESA and controlling regulations require the Commission to actively seek and consider related input from the public and any interested party. (See, e.g., Id., §§ 2071, 2074.4, 2078; Cal. Code Regs., tit. 14, § 670.1, subd. (h).) The related notice obligations and public hearing opportunities before the Commission are also considerable. (Fish & G. Code, §§ 2073.3, 2074, 2074.2, 2075, 2075.5, 2078; Cal. Code Regs., tit. 14, § 670.1, subds. (c), (e), (g), (i); see also Gov. Code, § 11120 et seq.) The referenced obligations are in addition to the requirements prescribed for the Department in the CESA listing process, including an initial evaluation of the petition, a related recommendation regarding candidacy, and a review of the candidate species' status, culminating with a report and recommendation to the Commission as to whether listing is warranted based on the best available science. (Fish & G. Code, §§ 2073.4, 2073.5, 2074.4, 2074.6; Cal. Code Regs., tit. 14, § 670.1, subds. (d), (f), (h).)

III. Factual and Scientific Bases for the Commission's Final Determination

The factual and scientific bases for the Commission's determination that designating UKTSCS as a threatened species under CESA is warranted are set forth in detail in the Commission's record of proceedings, including the petition (Karuk Tribe and Salmon River Restoration Council 2018); the Department's petition evaluation report; the Department's status review (CDFW 2021); written and oral comments received from members of the public, the regulated community, tribal entities, and the scientific community; and other evidence included in the Commission's record of proceedings.

The Commission determines that the continued existence of UKTSCS in the State of California is in serious danger or threatened by one or a combination of the following factors as required by the California Code of Regulations, Title 14, Section 670.1, subdivision (i)(1)(A):

1. Present or threatened modification or destruction of its habitat;
2. Overexploitation;
3. Predation;
4. Competition;
5. Disease; or
6. Other natural occurrences or human-related activities.

The Commission also determines that the information in the Commission's record constitutes the best scientific information available and establishes that designating UKTSCS as a threatened species under CESA is warranted. Similarly, the Commission determines that UKTSCS is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

The items highlighted here and detailed in the following section represent only a portion of the complex issues aired and considered by the Commission during the CESA listing process for UKTSCS. Similarly, the issues addressed in these findings represent some, but not all of the evidence, issues, and considerations affecting the Commission's final determination. Other issues aired before and considered by the Commission are addressed in detail in the record before the Commission, which record is incorporated herein by reference.

Background

The Commission has previously listed units at a lower level than a taxonomic subspecies. In 2004, the Commission listed two evolutionarily significant units (ESUs) of coho salmon, a decision that was upheld in Ca. Forestry Assn. v. Ca. Fish Game. In 2016, the Commission also listed an ESU of fisher. In 2020, the Commission listed five clades of the foothill yellow-legged frog; a clade, also referred to as a monophyletic group, is a branch on a phylogenetic tree that contains a group of lineages comprised of an ancestor and all its descendants.

The Commission bases its "is warranted" finding for UKTSCS most fundamentally on its determination that UKTSCS qualifies as a "subspecies" as specified in CESA sections 2062 and 2067. The qualification is based on the discreteness (when compared to other ecotypes) and significance of UKTSCS within the state of California (Fraser 2001; Waples 1991, 1995; Moran et al. 1994; de Guia and Saitoh 2007), coupled with the threats faced due to relatively small abundances, habitat alteration, disease, and climate change (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021; Moyle et al. 2008). Construing "subspecies" under this framework supports the preservation of important elements of genetic diversity, which has been shown to support long-term species conservation (Frankham 2005; Frankham 1996; Waples and Lindley 2018) and is important to fulfill the purpose of CESA of biodiversity preservation.

Qualification for Listing

The petition specifically refers to UKTSCS as an ESU and argues as to why UKTSCS should be considered as such. In making a recommendation to the Commission, the Department deemed that UKTSCS was best understood as an ecotype of a larger combined UKTR Chinook salmon ESU composed of late-returning (fall) and early-returning (spring) spawners, and from that the Department concluded that UKTSCS does not itself constitute an independent ESU. Following from this conclusion, the Department recommended against listing UKTSCS (CDFW 2021). However, whether UKTSCS qualifies as an ESU under federal policy does not preclude listing by the Commission under CESA. The Commission is not bound by federal ESU policy and must make its own factually-specific determination, supported by CESA and relevant case law.

The genetics of UKTSCS distinguishes it from individuals in the fall ecotype, and that distinction is meaningful given that it expresses as the seasonal run in a very precise (albeit not perfectly exact) relationship (Prince et al. 2017; Ford et al. 2020; Thompson et al. 2020). While spring-returning, intermediate-returning, and fall-returning fish do interbreed and can form heterozygous offspring (Anderson et al. 2019), homozygous spring fish most clearly exhibit the early (spring) run-timing; heterozygous fish are likely to arrive during the intermediate time between the spring and fall (CDFW June 16 presentation; Karuk June 16 presentation; Ford et al. 2020).

While capable of breeding, heterozygous fish survivorship may be expected to be extremely low given the river conditions in the summer and early fall (Karuk June 16 presentation), including low instream flows and higher temperatures (CDFW 2021). If heterozygotes do experience reduced survival, homozygotes could be predominantly selected for, serving as a maintenance function for homozygotes (Ford et al. 2020). This environmentally-enforced bias towards differentiation would further serve to underscore the distinctiveness between ecotypes. However, heterozygotes may play an important role in the maintenance of early-migrating alleles if conditions favor late run timing (Ford et al. 2020).

The best available genetic and evolutionary information points most likely to a monophyletic run-timing group (i.e., a single clade), that manifested from a single evolutionary event (Prince et al. 2017; Ford et al. 2020). Given its evolutionary history, run-timing in the spring is unlikely to evolve again in Chinook salmon over ecological time scales should it disappear (Karuk Tribe and Salmon River Restoration Council 2018; Karuk June 16 presentation; Thompson et al. 2019, 2020; Ford et al. 2020; Prince et al. 2017).

The spring run-time of UKTSCS provides a unique, adaptive contribution to the ecosystem. The run-time differentiation allows access to disparate habitat conditions during the return migration (Allen 2000; CDFW 2021, appx. E), conferring a significant adaptive consequence. The variation brings important diversity to the species that increases its chances of surviving when faced with natural and human-caused environmental change and environmental stochasticity. Finally, UKTSCS is historically and culturally significant for the Yurok and Karuk people and the local communities (Campbell and Butler 2010; Hamilton et al. 2016; public comment June 16; Karuk Tribe and Salmon River Restoration Council 2018). This is reflected in traditional knowledge about the ecological and morphological distinctiveness of UKTSCS and the linguistic discreteness of the fall and spring ecotypes (Karuk June 16 presentation, public comment June 16).

Although the relationship between the genetic makeup of a particular fish is very closely related to its run timing, some variation is recognized in when it may choose to return from the ocean, even among homozygous individuals (Ford et al. 2020). That is, an individual with homozygous spring alleles may return late into the fall, and vice versa. Ultimately however, it is UKTSCS's genetic composition which fundamentally drives its strong inclination to migrate at a particular time of year (Ford et al. 2020; Narum et al. 2018; Anderson et al. 2019; Anderson and Garza 2019). Therefore, the fundamental determinant of whether a fish is a UKTSCS is its genetic makeup; only UKTR Chinook salmon that possess homozygous alleles associated with the spring return are classified as UKTSCS, for the purposes of this CESA listing.

Based on the foregoing factors, the Commission finds UKTSCS qualifies as a subspecies under CESA.

Threats

UKTSCS is threatened due to:

- present or threatened modification of its habitat;
- disease; and
- other natural events or human-related activities

Present or Threatened Modification or Destruction of Habitat

Dam construction and other habitat modifications (e.g., historical mining, land and water use) in the Klamath basin have resulted in truncated and fragmented distribution of UKTSCS in comparison to historical times.

Historically, UKTSCS over-summered and spawned in the Williamson, Sprague, and Wood River systems of southern Oregon (Hamilton et al. 2005). The construction of a complex of hydropower dams between 1917 and 1962 created a barrier to fish passage near the California/Oregon border, effectively denying salmonids access to approximately half the Klamath Basin (*Klamath Facilities Removal Final Environmental Impact Statement/Environmental Impact Report* 2012). Young's dam on the Scott River and Dwinnell Dam on the Shasta River also serve to deny access to historic UKTSCS habitat (Moyle et al., 2017).

Spring-returning Chinook salmon were historically more significant in northern California waters. At least some of the intermingling of UKTSCS and fall Chinook salmon is likely due to the anthropogenic habitat alteration within the watershed (Ford et al. 2020; Kinziger et al. 2008; Karuk June 16 presentation; Matt Sloat verbal comment June 16; CDFW 2021, appx. E), as UKTSCS are not able to reach historical spawning areas due to artificial barriers (whether specifically constructed or not) and altered water regimes (Hamilton et al. 2016; Strange 2012). This external condition has likely increased reproductive interplay between upper Klamath Chinook salmon ecotypes (Ford et al. 2020; CDFW 2021, appx. E). The interbreeding increases the likelihood of heterozygotes and opposes an otherwise natural tendency for genetic separation between fall and spring representatives, potentially threatening the persistence of the spring ecotype (Prince et al. 2017; Ford et al. 2020; Anderson and Garza 2019; CDFW 2021, appx. E).

Between 1870 and the 1950's large scale placer mining, including hydraulic and dredge mining, severely altered critical spawning and rearing habitat for UKTSCS in the middle Klamath and its tributaries. One of the most important factors leading to the decline and continued low abundance of UKTSCS (as well as other salmonids) is the legacy effect of historical placer mining on channel and floodplain habitat conditions throughout the mainstem and larger tributaries of the Klamath River (Karuk Tribe and Salmon River Restoration Council 2018; Kondolf 1997). Placer mining denuded floodplains and adjacent river terraces and hillslopes, reduced riparian shade cover, exposed the stream channel and surrounding areas to increased solar radiation, eroded streamside areas, and increased sedimentation (Stillwater Sciences 2018; Moyle et al. 2008). Other effects from mining (whether historical or contemporary) can include channel aggradation, widening and shallowing alluvial reaches, coarsening streambeds, reducing habitat complexity, filling of pools, decreasing connection with groundwater, and reducing floodplain connectivity (Stillwater Sciences 2018; NMFS 2014; CDFW 2021). Reclamation efforts of the impacts from mining emplacements have a mixed record at best, and restoration of hydrology following mining impacts can often be infeasible (Kondolf 1993).

In addition, numerous irrigation projects throughout the Klamath Basin impact fish passage, impair water quality, and impair river and stream flows, all of which contribute to the decline of UKTSCS (Karuk Tribe and Salmon River Restoration Council 2018).

Four Klamath River dams are planned for removal starting in 2022 if permits are received on schedule. Removal of these dams will allow anadromous fish access to previously blocked spawning and rearing areas upstream into Oregon (CDFW 2021). However, UKTSCS, whose only consistent current representation in the Klamath River is in the Salmon River, will not likely rapidly repopulate the Upper Klamath naturally due to low numbers and how far down in the drainage UKTSCS occurs (CDFW 2021). UKTSCS are unlikely to derive short-term benefits from dam removal (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021). However, recovery potential for UKTSCS and other anadromous fish is much more likely without the dams.

The Commission finds habitat modification and destruction to be a significant threat to the continued existence of UKTSCS.

Disease

Multiple diseases affect UKTSCS (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021). Salmon are exposed to a variety of bacterial, viral, and parasitic organisms throughout their life cycle, contracting diseases through both waterborne pathogens and through mingling with infected hatchery-raised fish (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021). It is possible for a fish to be infected with one or more pathogens but not show outward signs of disease. Hatchery-raised Chinook salmon appear to be more susceptible to disease than naturally spawning Chinook (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021). Chinook salmon in the Klamath River Basin emigrate as juveniles, and the stress associated with their return when water temperatures and flows approach their limits of tolerance makes them particularly susceptible to disease (Moyle et al. 2008, NMFS 2009).

Principal diseases include ceratomyxosis, columnaris disease, and *Ichthyophthirius multifilis* ("ich") (CDFW 2021). Juvenile and adult fish kills associated with disease are common in the

Klamath River (CDFW 2021). Environmental factors that may exacerbate disease include elevated water temperature, low dissolved oxygen, low water flow, elevated pH, and elevated nutrient levels. Toxic cyanobacteria blooms have also been detected in the Klamath River watershed (Fetcho 2006).

The Commission finds disease to be a significant threat to the continued existence of UKTSCS.

Other Natural Events or Human-Related Activities

Small Populations

Small, isolated populations are inherently vulnerable. There are only two occurrences of Chinook returning in the spring within the state of California and the other spring returning Chinook salmon (Central Valley) in decline; it is listed as threatened under the federal Endangered Species Act (50 Code of Fed. Regs. 17.11). Small population size in the Salmon and South Fork Trinity groups, and overall fragmentation of spawning aggregations of UKTSCS, is of concern from the standpoint of diversity loss (CDFW 2021). The more robust wild population today is in the Salmon River (Karuk Tribe and Salmon River Restoration Council 2018; CDFW 2021). Other populations are either small and intermittent or heavily influenced by hatchery-raised fish, so may not be self-sustaining and are likely to be extirpated in the near future (Moyle et al. 2008). Therefore, small population size is a threat to the persistence of UKTSCS.

Climate Change

The Earth's climate is warming, and the primary causes are greenhouse gas emissions and deforestation (IPCC 2007; USGCRP 2009; USGCRP 2017). Since 1900, global average temperature has increased 0.7° C (NRC 2006) due to carbon dioxide emissions. Ice core data indicates that atmospheric carbon dioxide is currently 30% greater than its peak in the last 800,000 years. Over the last 150 years, carbon dioxide levels have increased 37.5% (CDFW 2021).

Greenhouse gas increases have resulted in changes in seasonal precipitation, decreased snowpack, earlier snowmelt, and increased storm severity (USGCRP 2009; USGCRP 2017), 0.1° C increase in seas surface temperature since 1961 and increased ocean acidification (USGCRP 2009), 203 mm increase in sea level after approximately 2000 years of stability (USGCRP 2009), and approximately a 20% decrease in the amount of arctic sea ice since the 1950s (Curran et al. 2003).

If current conditions remain unchanged, studies project that global climate will change drastically. Projections include an increase of 1.1 – 6.4° C in average global surface temperature (USGCRP 2009), sea level rise of 1 – 3 m (IPCC 2007; USGCRP 2009; USGCRP 2017), and greater extremes in storm events and wildfire (Krawchuck et al. 2009). In particular, conditions in the Klamath basin are likely to change drastically in the foreseeable future (Barr et al. 2010; Thorsteinson et al. 2011; CDFW 2021).

A warming climate is likely to result in poorer future environmental conditions for California's salmonids in general (Isaak et al. 2018; Katz et al. 2012; Crozier et al. 2019), and for UKTSCS specifically (CDFW 2021). Based on long- and short-term evaluations, and climate warming predictions, it seems likely that UKTSCS in the Salmon and South Fork Trinity rivers could be extirpated as an ecotype in those places, and that extirpation could progress rapidly (CDFW 2021; NMFS 2019). Additionally, changing climate could adversely affect marine habitats during the life stages in which UKTSCS inhabits the ocean (CDFW 2021; NMFS 2019). Therefore, climate change is a threat to the persistence of UKTSCS.

The Commission finds the natural or human-related activities discussed above to be a significant threat to the continued existence of UKTSCS.

Conclusion

Therefore, the continued existence of UKTSCS is in serious danger or threatened by significant threats, including present or threatened modification or destruction of habitat, disease, and other natural events or human-related activities.

IV. Final Determination by the Commission

The Commission has weighed and evaluated the information for and against designating UKTSCS as a threatened species under CESA; this information includes scientific and other general evidence in the petition; the Department's petition evaluation report; the Department's status review; the Department's related recommendations; written and oral comments received from members of the public, the regulated community, various public agencies, and the scientific community; and other evidence included in the Commission's record of proceedings.

Based upon the evidence in the record the Commission has determined that the best scientific information available indicates that the continued existence of UKTSCS is in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, disease, or other natural occurrences or human-related activities, where such factors are considered individually or in combination. (See generally Cal. Code Regs., tit. 14, § 670.1, subd. (i)(1)(A); Fish & G. Code, §§ 2062, 2067.) The Commission determines that there is sufficient scientific information to indicate that designating UKTSCS as a threatened species under CESA is warranted at this time, and that with adoption and publication of these findings UKTSCS, for purposes of its legal status under CESA, shall be listed as threatened.

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