

STAFF SUMMARY FOR AUGUST 22-23, 2018

20. LASSICS LUPINE (CONSENT)**Today's Item**Information Action

Consider adopting findings for the decision to list Lassics lupine (*Lupinus constancei*) as an endangered species under the California Endangered Species Act (CESA).

Summary of Previous/Future Actions

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|--|---------------------------------|
| • Received petition | Jul 19, 2016 |
| • Transmitted petition to DFW | Jul 29, 2016 |
| • Published notice of receipt of petition | Aug 12, 2016 |
| • Approved DFW request for 30-day extension | Oct 19-20, 2016; Eureka |
| • Received DFW evaluation and recommendation | Dec 7-8, 2016; San Diego |
| • FGC determined listing may be warranted | Feb 8-9, 2017; Rohnert Park |
| • Received DFW's status review report | Feb 7-8, 2018; Sacramento |
| • Determined listing is warranted | Apr 18-19, 2018; Ventura |
| • Today consider adopting findings | Aug 22-23, 2018; Fortuna |
| • Adoption hearing for regulation change | Oct 17-18, 2018; Fresno |

Background

On Apr 19, 2018, FGC made a finding pursuant to Fish and Game Code Section 2075.5, that the petitioned action to list Lassics lupine as endangered under CESA is warranted. FGC staff has completed a draft notice of findings substantiating FGC's action, for FGC's consideration today (Exhibit 1).

After findings are adopted, staff will submit a rulemaking to add Lassics lupine to the list of endangered plants in Section 670.2 of Title 14.

Significant Public Comments (N/A)**Recommendation**

FGC staff: Adopt FGC staff's proposed notice of findings that the petitioned action to list Lassics lupine as endangered is warranted pursuant to Section 2075.5 (e)(2) of the Fish and Game Code.

Exhibits

1. [Draft notice of findings](#)

Motion/Direction

Moved by _____ and seconded by _____ that the Commission adopts the consent calendar, items 19-21.

California Fish and Game Commission

DRAFT NOTICE OF FINDINGS

Lassics lupine
(*Lupinus constancei*)

NOTICE IS HEREBY GIVEN that the California Fish and Game Commission (Commission), at a meeting in Ventura, California on April 19, 2018, found pursuant to Fish and Game Code Section 2075.5, that the information contained in the petition to list Lassics lupine (*Lupinus constancei*) and other information in the record before the Commission, warrants adding Lassics lupine 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, subs. (i).)

NOTICE IS ALSO GIVEN that, at its August 23, 2018 meeting in Fortuna California, the Commission adopted the following findings outlining the reasons for its determination.

I. Background and Procedural History

Petition History

On July 19, 2016, the Commission received a petition (Petition) from Dave Imper and Cynthia Elkins from the Center for Biological Diversity to list Lassics lupine as an endangered species pursuant to CESA (Fish & G. Code, § 2050 et seq.).

On July 29, 2016, the Commission referred the Petition to the California Department of Fish and Wildlife (Department) for evaluation.

On August 12, 2016, as required by Fish and Game Code Section 2073.3, the Commission published notice of receipt of the Petition in the California Regulatory Notice Register (Cal. Reg. Notice Register 2016, No. 33-Z, p. 1463). The Department, on September 14, 2016, pursuant to Fish and Game Code Section 2073.5, requested a 30-day extension of time to complete its evaluation report. The Commission approved the extension at its October 20, 2016 meeting in Eureka, California.

On December 8, 2016, the Department provided the Commission with a report, "Evaluation of the Petition from Mr. David Imper and Ms. Cynthia Elkins to List Lassics Lupine (*Lupinus constancei*) as an Endangered Species under the California Endangered Species Act" (Evaluation). Based upon the information contained in the Petition, the Department concluded, pursuant to Fish and Game Code, Section 2073.5, subsection (a), that sufficient information exists to indicate that the petitioned action may be warranted, and recommended to the Commission that the Petition should be accepted and considered.

On February 8, 2017, at its scheduled public meeting in Rohnert Park, California, the Commission considered the Petition, the Department's Evaluation and recommendation, and comments received. The Commission found that sufficient information existed to indicate the petitioned action may be warranted and accepted the Petition for consideration.

Subsequently, on February 24, 2017, the Commission published its Notice of Findings for Lassics lupine in the California Regulatory Notice Register, designating Lassics lupine as a candidate species (Cal. Reg. Notice Register 2017, No. 8-Z, p. 258).

Department Review

The Commission's action designating Lassics lupine 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. The Commission received the Department's status review report at its February 7-8, 2018 meeting in Sacramento, California. On April 19, 2018, in Ventura, California, the Commission found that the information contained in the petition and the other information in the record before the Commission warrants listing Lassics lupine as an endangered species under the CESA.

Species Description

Lassics lupine is an herbaceous perennial plant of the legume family (Fabaceae) that was described as a new species in 1983. Lassics lupine is only found near the summits of remote mountains in northern California called the Lassics, which have unique serpentine-influenced soils. The Lassics are located in Humboldt and Trinity counties within the Six Rivers National Forest. There are two known populations of Lassics lupine, occupying a combined area of approximately 1.6 hectares (4 acres). The smaller of the two Lassics lupine populations is found on a southwest-facing slope of a mountain called Red Lassic. The larger Lassics lupine population is located entirely within Mt. Lassic Wilderness on adjoining peaks of Mt. Lassic.

II. Statutory and Legal Framework

The Commission, as established by the California 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 Lassics lupine began in the present case with the Petitioners' submittal of the Petition to the Commission on July 19, 2016. The regulatory and legal process that ensued is described in some detail in the preceding section above, 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; and
- *Natural Resources Defense Council v. California Fish and Game Commission* (1994) 28 Cal.App.4th 1104, 1111-1116.

The "is warranted" determination at issue here for Lassics lupine stems from Commission obligations established by Fish and Game Code Section 2075.5. Under this 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 the petitioned action is warranted or is not warranted. Here, with respect to Lassics lupine, the Commission made the finding under Section 2075.5(e)(2) that the petitioned action is warranted.

The Commission was guided in making these 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, subsection (i)(1)(A), of the California Code of Regulations in making its determination regarding Lassics lupine. This provision provides, in pertinent part, that a species shall be listed as endangered or threatened under CESA if the Commission determines that the species’ 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. This section provides 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 these 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, subs. (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, subs. (c), (e), (g), (i); see also Gov. Code, § 11120 et seq.). All of these obligations are in addition to the requirements prescribed for the Department in the CESA listing process, including an initial evaluation of the petition and 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, subs. (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 Lassics lupine as an endangered species under CESA is warranted are set forth in detail in the Commission's record of proceedings including the Petition, the Department's Evaluation, the Department's status review, written and oral comments received from members of the public, the regulated community, tribal entities, the scientific community and other evidence included in the Commission's record of proceedings.

The Commission determines that the continued existence of Lassics lupine 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, subsection (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 Lassics lupine as an endangered species under CESA is warranted. Similarly, the Commission determines that Lassics lupine 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, overexploitation, predation, competition, or disease.

The items highlighted here and detailed in the threats section represent only a portion of the complex issues aired and considered by the Commission during the CESA listing process for Lassics lupine. 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 bases its “is warranted” finding for Lassics lupine most fundamentally on the rarity of Lassics lupine in combination with the immediate impact of predation and the long-term impact of climate change.

Threats

Present or Threatened Modification or Destruction of Habitat

Lassics lupine habitat is threatened by climate change and, has been impacted by the 2015 Lassics Fire (particularly at the Red Lassic Population). The Mt. Lassic Population is subject to ongoing habitat degradation and loss from forest encroachment. Lassics lupine faces a particularly severe threat from climate change because as the climate system warms, potentially suitable habitat is expected to shift upwards in elevation, and suitable habitat for Lassics lupine is expected to disappear. Many trees in the vicinity of the Red Lassic Population were killed by the 2015 Lassics Fire, including some of the large trees that provide canopy shading for the Red Lassic Population during hot summer afternoons. These trees, and the shade that they provide, appear to be critical for the Lassics lupine habitat at the Red Lassic Population. The aftermath of the 2015 Lassics Fire is therefore a serious threat to the continued existence of the Red Lassic Population. Aerial imagery clearly shows that the forest has become denser and has encroached into Lassics lupine habitat on Mt. Lassic since the 1930s, a likely result of historical fire suppression activities. Forest is less suitable for Lassics lupine survival and reproduction than the treeless upper terrace and north slope ecological settings. Approximately 0.8 to 1.2 hectares (2 to 3 acres) of habitat with soil that is suitable for Lassics lupine at the Mt. Lassic Population has been encroached upon by forest, and forest encroachment is expected to continue into Lassics lupine habitat in the future. The Department considers degradation and loss of habitat to be a significant threat to the continued existence of Lassics lupine.

Predation

Pre-dispersal seed predation by rodents has the potential to drive Lassics lupine to extinction, and post-dispersal seed predation and herbivory are also significant threats to the species. Deer mice, chipmunks, and California ground squirrels are the most abundant seed predators near Lassic lupine populations, and are responsible for most of the seed predation impacts on Lassics lupine. Lassics lupine plants closer to vegetation, particularly chaparral vegetation, appear to be at greatest risk from seed predation, and therefore encroaching vegetation is an important contributing factor to seed predation. The Department considers predation to be a significant threat to the continued existence of Lassics lupine.

Competition

Jeffrey pine and incense cedar forest trees, saplings, and seedlings compete with Lassics lupine for light and moisture, particularly in the encroaching forest on the north slope of Mt. Lassic. The Department considers competition with encroaching trees to be a significant threat to the continued existence of Lassics lupine.

Other Natural Occurrences or Human-related Activities

The climate of California is certain to change due to warming of the global climate system. Climate change scenarios for northern California in the vicinity of the Lassics generally include similar annual precipitation levels, higher temperatures, and less snow pack. Lassics lupine is sensitive to climate extremes, and mortality appears to be highest when summer rainfall is low and summer temperatures are high, with these effects exacerbated by early snowmelt. Furthermore, as the climate system warms, potentially suitable habitat for mountaintop species such as Lassics lupine is expected to shift upwards in elevation, and suitable habitat may be reduced or disappear. Climate change is therefore expected to increase Lassics lupine mortality, and reduce or eliminate the amount of habitat that is suitable for the species.

Lassics lupine is also a narrowly distributed plant with only two populations and very low numbers of individuals (approximately 454 adult plants during 2017 monitoring). Lassics lupine's rarity and extremely limited distribution make the species very vulnerable to stochastic (chance) events such as landslide, drought or fire, and to all other threats. The loss of all or a significant portion of either Lassics lupine population would represent the loss of a significant portion of Lassics lupine's total range.

The 2015 Lassics Fire killed many trees in the vicinity of the Red Lassic Population, including trees that provide canopy shading that is critical for the suitability of the habitat at this location for Lassics lupine. While these trees are still standing, they are leafless and at greater risk of falling over. The aftermath of the 2015 Lassics Fire is a threat to the ability of the Red Lassic Population of Lassics lupine to survive and reproduce.

IV. Final Determination by the Commission

The Commission has weighed and evaluated the information for and against designating Lassics lupine as an endangered species under CESA. This information includes scientific and other general evidence in the Petition; the Department's Evaluation; 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 Lassics lupine is in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, predation, competition, 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, subs. (i)(1)(A); Fish & G. Code, §§ 2062, 2067.).

The Commission determines that there is sufficient scientific information to indicate that designating Lassics lupine as an endangered species under CESA is warranted at this time and that, with adoption and publication of these findings, Lassics lupine for purposes of its legal status under CESA and further proceedings under the California Administrative Procedure Act, shall be listed as endangered.