

CALIFORNIA FISH AND GAME COMMISSION
STATEMENT OF PROPOSED EMERGENCY REGULATORY ACTION
Emergency Action to
Add Section 749.10,
Title 14, California Code of Regulations
Re: Take of Western Joshua Tree

Date of Emergency Statement: September 25, 2020

I. Statement of Facts Constituting the Need for Emergency Regulatory Action

On October 21, 2019, the Fish and Game Commission (Commission) received a petition from the Center for Biological Diversity to list the western Joshua tree (*Yucca brevifolia*; WJT) as threatened under the California Endangered Species Act (CESA). California Fish and Game Code (F&G Code) Section 2073.5 requires that the California Department of Fish and Wildlife (Department) evaluate the petition and submit a written evaluation with a recommendation to the Commission, which was received at the Commission's April 2020 meeting. CESA, and case law interpreting it, make clear that the Commission must accept a petition when the petition contains sufficient information to lead a reasonable person to conclude that there is a substantial possibility the requested listing could occur. Based upon the information contained in the petition and other relevant information, the Department determined in its 90-day evaluation that there is sufficient scientific information available to indicate that the petitioned action may be warranted.

On September 22, 2020, the Commission determined that listing may be warranted pursuant to F&G Code Section 2074.2, and therefore, WJT will become a candidate species under CESA, and the Department will undertake a one-year status review. After it receives the Department's status review, the Commission will make a final decision on listing. Candidate species are protected under CESA pursuant to F&G Code Section 2085 during the remainder of the CESA listing.

CESA also provides that the Commission may adopt regulations to authorize take of candidate species under F&G Code Section 2084. At its August 19, 2020 meeting, the Commission heard testimony from several stakeholders expressing concern about the inability to proceed with projects related to critical infrastructure and renewable energy during the candidacy period. Department staff indicated that there was the possibility to provide an exemption for certain projects under F&G Code Section 2084, and that the option could be explored in this case.

Following the August 2020 meeting, several renewable energy project proponents contacted the Department to express concern about projects that had already completed environmental permitting and review and were projected to initiate and complete construction activities during the western Joshua tree candidacy period. The proponents asserted that proceeding as quickly as possible with their projects is imperative as those projects will provide renewable energy sources needed to meet California's goals in reducing fossil fuel use and

their contribution to climate change impacts. Because climate change is the principal threat to western Joshua tree identified in the listing petition, the projects will also contribute to the species recovery in the long-term.

The Department subsequently requested that stakeholders interested in the 2084 incidental take option submit their projects for consideration. The Department met with stakeholders representing 24 renewable energy projects in Kern and San Bernardino counties to determine whether each of the projects met the criteria of having completed or nearly completed permitting processes and anticipated near-term ground-breaking activities.

The proposed addition of Section 749.10, Title 14, California Code of Regulations (CCR) creates a special order allowing incidental take of western Joshua tree during CESA candidacy for identified renewable energy projects that have met the above qualifications and continuation with planned development activities as well as take for research and monitoring. After consultation with renewable energy developers and local governments, the Department and stakeholders agreed on a list of 15 renewable energy projects to include in this proposed Section 2084 regulation. Throughout this process, the Department also consulted the Center for Biological Diversity, which filed the listing petition for western Joshua tree.

Climate change impacts in California will include more frequent and intense droughts and flood events; increasing extreme heat days; increased wildfire intensity, extent and frequency; worsening air quality; and higher electricity demand resulting from these impacts (Pierce et al. 2018). The impacts are a clear threat to public health in California. The Department therefore agrees that the 15 projects included in the 2084 regulation should move forward to stay on track to meet climate change goals during the western Joshua tree candidacy period, if mitigation occurs for any unavoidable impacts.

The Commission considered the following factors in determining whether an emergency exists: the magnitude of potential harm; the existence of a crisis situation; the immediacy of the need; and whether the anticipation of harm has a basis firmer than simple speculation and determined that an emergency regulation authorized under F&G Code Section 2084 is needed.

II. Proposed Emergency Regulations

Incidental take of western Joshua tree during the candidacy period that may result from activities related to authorized renewable energy projects

The Commission will authorize the incidental take of western Joshua tree during the candidacy period that may result from activities related to authorized renewable energy projects. This authorization will only apply to the projects listed in the regulation.

Tree Census Report

Understanding the number of trees and the age classes of trees removed during grading and project implementation provides the basis for comparing and contrasting the functional qualities of project areas to support, sustain, and enhance western Joshua tree with the amount and functional quality of compensatory habitat needed to ensure the take of individual western Joshua tree is minimized and mitigated.

Even small western Joshua trees are relatively easy to inventory (although some may be obscured by nurse plants). There is some evidence that plants that have grown to be at least one meter in height have a much greater likelihood of survival (and therefore, eventually reproduction) than plants that are less than this height (DeFalco et al. 2010, p. 246; Esque et al. 2015, p. 89). Western Joshua trees that are over one meter in height therefore represent a reasonable approximation of the future population, even if they may take several more years or decades to reproduce.

Western Joshua trees are capable of clonal growth, which can lead to clumps of genetically identical plants, growing together very closely. This could confound counting efforts, but because these plants are capable of surviving and reproducing independently, plants that appear to be separate should be considered as separate western Joshua tree plants for the purposes of the census. Western Joshua trees that have one or more secondary axes (branches) are generally considered to be reproductive adult plants, because branching usually occurs after flowering. Flowering has been observed in plants as short as one meter, but adult plants are typically taller, often greater than five meters in height.

Implementation of project activities may result in the incidental take of individuals in the form of mortality (“kill”) as a result of tree removal, habitat loss, and modification; trampling by construction workers or earthmoving equipment; removal of soil that renders living seeds in the soil inviable or causes them to be killed; erosion of substrates supporting individuals which could cause uprooting, washing away, and burying of individuals and/or could make substrates unstable for growth; death of living seeds due to mold, disease, or other reasons that cause inviability; and pesticide application.

Potential indirect and long-term indirect impacts to western Joshua tree and its habitat include introduction or spread of invasive species; altering or eliminating seed dispersal mechanisms; changes in drainage patterns that favor different vegetative growth; construction related fugitive dust that can coat individuals and reduce photosynthesis and evapotranspiration efficiency; pesticide application; increased edge effects; altered drainage patterns, and reduced input of water necessary to create and maintain appropriate soil moisture, vegetation cover, and humidity requirements that make western Joshua tree more vulnerable to competition, disease, or reduced fecundity. Individuals displaced due to habitat loss and degradation may be unable to survive in adjacent areas if these areas are already at carrying capacity or are unsuitable for dispersal.

A complete census of the western Joshua trees present within an impact area is the most straightforward and efficient methodology to obtain robust data to directly quantify take of western Joshua tree within a project area. As part of approval for incidental take under this 2084 emergency regulation, project proponents must prepare a tree census report and submit it to the Department for review and approval prior to removing any western Joshua tree or engaging in ground-breaking activities within the project site. The tree census report must be conducted by one or more qualified biologists and by walking transect surveys to ensure a complete and accurate report is achieved. To ensure that the project can start during the western Joshua tree candidacy period, the tree census report must be submitted to the Department within six months of the effective date of the regulation. Within 15 days of receipt, the Department shall either approve the tree census report or inform the project proponent in writing of any additional information required for its approval.

Project Impact Area

Three size classes of western Joshua trees are identified in the proposed regulation; trees less than one meter in height; trees one meter or greater but less than five meters in height; and trees five meters or greater in height. Of these three size classes, take of trees that are five meters or greater in height represents the greatest impact to western Joshua tree populations. Trees of this height are typically considered to be adults with multiple branches. Not only does it take many decades for western Joshua trees to reach this size and become reproductive, but when flowering does occur, trees with multiple branches produce significantly more flower clusters and therefore produce significantly more seeds than the trees in the other size classes. These larger trees can be over 100 years old and are critically important for the persistence of the population.

Western Joshua trees that are one meter or greater in height but less than five meters in height are also very important to conserve, because they represent the trees that have already become established, and that are already reproductive, or are likely to survive to become reproductive adults in the future. These trees represent the future of the population, but do not yet produce as significant of a contribution to the reproductive output of the population as the trees that are already five meters or greater in height.

Western Joshua trees that are less than one meter in height are less likely to survive (and therefore, eventually reproduce) than plants that have exceeded this height.

For this regulation, project impact area means all areas in which there will be permanent or temporary impacts to an individual live western Joshua tree and the area around each live western Joshua tree, defined by a radius, as measured from a single point at its trunk, of:

- 40 feet for western Joshua trees five meters or greater in height.
- 12 feet for western Joshua trees one meter or greater but less than five meters in height.

- 6 feet for western Joshua trees less than one meter in height.

Herbicide Use

The proposed regulation states that the project proponent shall limit herbicide use for invasive plant species and shall use herbicides only after it has documented that hand or mechanical efforts are infeasible and submitted that documentation to the Department. Limiting herbicide use will help to protect the other native plants and wildlife in the project area and directly adjacent to the project area.

As-built Development Plans

To ensure the Department is aware of the final outcomes of a project, and can confirm that the project contains only the approved elements and that the elements are sited in the locations where the Department was informed they would go, each project proponent shall submit as-built development plans in portable document format (PDF) to the Department within 90 days of completing all construction and ground-disturbing activities.

Mitigation

The compensatory mitigation ratio for impacts to western Joshua tree shall be determined by the functional quality of the habitat based on the size and reproductive class of trees within the project impact area as confirmed in the Department-approved tree census report. The compensatory mitigation ratio for impacts to western Joshua tree shall be at 1.5:1 of the project impact area.

To satisfy the compensatory mitigation requirement, prior to commencing any project activities in areas that may contain western Joshua trees, the project proponent shall pay a mitigation fee of \$10,521.95 per acre to be deposited into the Western Joshua Tree Mitigation Fund (to be established by the Department). The fee accounts for biological monitoring, infrastructure, short- and long-term habitat maintenance, and reporting activities (as shown in Table 1. Western Joshua Tree Management Fee Estimate.)

The fee estimate is a per acre mitigation cost for the purpose of calculating the individual project mitigation fee. The fee estimate was derived by the average number of acres and cost per acre of recent sales (previous six months) of lands that contained western Joshua trees in the Mojave desert; the prevailing wage rates for qualified biologists and land managers to conduct biological monitoring and other land management activities such as trash clean-up and removal; the cost (in 2020 dollars) of fencing materials, signage, and prevailing wage rates for fencing installation and repair, and equipment and materials for invasive species control; and the cost based on prevailing wage rates for data management and to produce an annual land management report. The cost per acre-fee is to be multiplied by the number of acres required as mitigation to offset the impacts of the individual project and will yield the total fee to be deposited into the Western Joshua Tree Mitigation Fund. For example, if the project is required to provide 15 acres of compensatory mitigation (based on 10 acres of project impact area at a

mitigation ratio of 1.5:1) the project proponent will pay \$157,829.25 into the Western Joshua Tree Mitigation Fund.

Additionally, prior to removing any western Joshua tree or engaging in ground-breaking activities within project impact areas, each participating project must contribute \$10,000 to cover the cost of account fees and retaining a land acquisition specialist to assist the Department in locating, acquiring, and conserving the mitigation lands.

Credit for Existing Mitigation

Some projects included in this proposed regulation are already obligated by other permits issued by the Department or other federal, state, or local agencies to complete mitigation for take of western Joshua tree. In consideration of projects that have already completed or are legally obligated to complete compensatory mitigation for take of or impacts to western Joshua tree woodlands, or take of or impacts to a species other than western Joshua tree where the mitigation for that species will also benefit western Joshua tree, the project proponent may elect to provide the Department with information about the project impacts, the mitigation obligation, and all compensatory mitigation land acquired and conserved. If, after assessment of the information, the Department determines that the mitigation land has comparable western Joshua tree density as the density in the project or is reasonably comparable in western Joshua tree habitat quality to the project impact area, and is subject to a conservation easement or reasonably comparable instrument with adequate management funding, the Department shall credit the project at a 1:1 ratio for all such mitigation lands acquired by the project proponent.

Limitations

To ensure clarity and transparency, it is imperative that nothing in Section 749.10 be construed as a general project approval. Each project proponent receiving take authorization is responsible for obtaining all necessary permits and approvals and must comply with all applicable federal, state, and local laws. The project proponents may also elect to obtain incidental take coverage through F&G Code Section 2081, subdivision (b). Nothing in Section 749.10 is intended to limit the terms and conditions that the Department includes in incidental take permits for western Joshua tree under Section 2081.

Research and Monitoring

Continued research of the western Joshua tree is important for monitoring the impact of projects on the tree and its habitat as well as the effectiveness of restoration programs. Take of western Joshua tree in the course of ongoing research and monitoring by public agencies other than the Department and by private parties is authorized provided that a written, detailed project progress report describing objectives, methods (gear, sampling schedules and locations), efforts to minimize adverse effects to the species, and estimated level of take of the species shall be provided to the Department's Habitat Conservation Planning Branch chief. All take in the course of research and monitoring by public

agencies other than the Department and by private parties is authorized subject to the same restrictions applicable to ongoing research and monitoring. Pursuant to F&G Code Section 2081, the Department may also authorize take of western Joshua tree for research and monitoring activities not addressed above.

Table 1. Western Joshua Tree Management Fee Estimate (2020\$)

Biological Monitoring	\$ 237,885.43
Transects (100% coverage, 4 people, 16 hours each, plus travel)	
Vegetation Baseline (100% coverage - # trees, map invasives)	
Travel = (1 hour each way* each person, 45 miles)*2/per day	
Habitat Feature Maintenance	\$ 151,795.74
Invasive Species Control (2 people, 1 day, plus travel)	
Follow-up Surveys (2 people, 1 day, plus travel)	
Invasive Species Removal (2 people, 2 days, plus travel)	
Equipment - Start-up (Backpack Sprayers, herbicide, hand tools)	
Equipment - Long-term (Backpack Sprayers, herbicide, tools)	
Infrastructure	\$ 229,569.80
Establish Fence (Contract)	
Fence Maintenance (2 people, 4 days, plus travel)	
Fence Replacement (Contract)	
Trash Clean-up (2 people, 1 day, plus travel)	
Materials for Fence Replacement - Interim	
Materials for Fence Replacement - Long-term	
Signage	
Signage - Maintenance	
Powder River Gate	
Reporting	\$ 191,954.29
Annual Report	
Data Management	
Stewardship Subtotal	\$ 811,205.26
Contingency	\$ 81,120.53
Administrative Cost	\$ 276,620.99
Grand Total	\$ 1,168,946.78
Cost/Acre	\$ 5,844.73
Total Endowment with Land	\$ 2,104,390.78
Mean Cost/Acre	\$ 4,677.22
Mitigation Cost/Acre	\$ 10,521.95

Source: Department Habitat Conservation and Planning Branch

III. Identification of Reports or Documents Supporting Regulation Change

A summary of general scientific information on the life history of western Joshua tree is presented in the United States Fish and Wildlife Service *Joshua Tree Species Status Assessment*, dated October 23, 2018, and available online at: <https://ecos.fws.gov/ServCat/DownloadFile/169734>. Specific sources cited above are listed below:

DeFalco, L.A., T.C. Esque, S.J. Scoles-Sciulla, and J. Rodgers. 2010. Desert wildfire and severe drought diminish survivorship of the long-lived Joshua tree (*Yucca brevifolia*; Agavaceae). *American Journal of Botany* 97:243–250.

Esque, T.C., P.A. Medica, D.F. Shrylock, L.A. DeFalco, R.H. Webb, and R.B. Hunter. 2015. Direct and indirect effects of environmental variability on growth and survivorship of prereproductive Joshua trees, *Yucca brevifolia* Engelm. (Agavaceae). *American Journal of Botany*. 102:85–91.

Pierce, D.W., J.F. Kalansky, and D. R. Cayan. 2018. Climate, drought, and sea level rise scenarios for California’s fourth climate change assessment. Available online at https://www.energy.ca.gov/sites/default/files/2019-11/Projections_CCCA4-CEC-2018-006_ADA.pdf

IV. Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following determinations relative to the required statutory categories have been made:

- (a) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

The Commission anticipates that there will be costs to the State, specifically the Department for program startup and implementation as shown in Table 2. Startup costs are estimated to be \$4,227.23 and the implementation costs per project are estimated to be \$11,467.72. The Department anticipates approximately 15 separate projects, resulting in total program costs of \$176,243.09 over the 180 days of the proposed action. The identified program costs are within existing budgets.

Table 2. Estimated DFW Startup and Implementation Costs per Project for Western Joshua Tree (WJT) Take During Candidacy (2020\$)

STARTUP

DFW Classification	Activity/Task	Hourly Rate ¹	Hours per Task	Projected Cost
Associate Budget Analyst	Setup WJT Mitigation Fund	\$55.42	4	\$221.68
Attorney IV	Setup WJT Mitigation Fund	\$110.72	20	\$2,214.40

DFW Classification	Activity/Task	Hourly Rate ¹	Hours per Task	Projected Cost
Senior Environmental Scientist (Supervisory)	Setup WJT Mitigation Fund	\$96.42	10	\$964.20
	Subtotal			\$3,400.28
	Overhead ²	24.32%		\$826.95
	Total Startup			\$4,227.23

ONGOING IMPLEMENTATION (per Project)

DFW Classification	Activity/Task	Hourly Rate ¹	Hours per Task	Projected Cost
Senior Environmental Scientist	Approve qualified biologist in writing; work with Project Proponent	\$70.93	2	\$141.86
Senior Environmental Scientist	Review and approve tree census report; work with Project Proponent	\$70.93	8	\$567.44
Senior Environmental Scientist	Review as-built plans 45 d. of completing ground-disturbing activities	\$70.93	2	\$141.86
Senior Environmental Scientist	Work on compensatory mitigation, work with mitigation banks; ensure payments are made; approve compensatory mitigation lands	\$70.93	40	\$2,837.20
Attorney IV	Ensure all requirements met	\$110.72	50	\$5,536.00
	Subtotal	Per project		\$9,224.36
	Overhead ²	24.32%		\$2,243.36
	Total per Project Costs			\$11,467.72
	Total for 15 Projects			\$172,015.80
	Grand Total Costs			\$176,243.03

¹ Hourly Rate includes wages per CalHR payscale 2020-21 and Department benefit rates.

² Non-Federal Project Overhead rate for FY 2020-2021 is 24.32% per Department Budget Branch.

(b) Nondiscretionary Costs/Savings to Local Agencies:

This emergency regulation is not anticipated to impact costs or savings to local agencies because this action would not prevent the continuation of current activities.

(c) Programs Mandated on Local Agencies or School Districts:

None.

(d) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code:

None.

V. Authority and Reference

The Commission adopts this emergency action pursuant to the authority vested by sections 399 and 2084 of F&G Code and to implement, interpret, or make specific sections 399 and 2084 of F&G Code.

VI. Section 399 Finding

Climate change impacts in California pose a clear threat to public health and are identified in the petition as a primary threat to the western Joshua tree. The proposed emergency regulation is necessary to allow renewable energy projects that have completed or nearly completed the permitting and review process to proceed with groundbreaking activities during western Joshua tree candidacy under CESA. The projects are integral components in California's strategy to achieve greenhouse gas reduction goals and the State's contribution to global climate change. The allowance of incidental take of western Joshua tree specific to the included renewable energy projects will contribute to the species' recovery in the long-term.

Pursuant to Section 399, subdivision (b), of F&G Code, the Commission finds, based on the information above, that adopting this regulation is necessary for the immediate preservation of the public peace, health and safety, and general welfare.

VII. Statement on Immediacy of Harm

The Commission received oral testimony at its September 22, 2020 meeting explaining that the large-scale renewable energy projects identified in the regulation are likely to add approximately 20,000 megawatts of renewable energy to California's power grid. Even minimal delays in these projects could jeopardize the ability to meet California's greenhouse gas reduction goals and potentially result in additional shortfalls in the energy grid. Further the effort to address the greenhouse gas reduction goals is in part an effort to mitigate climate change, which is the primary threat to the western Joshua tree and other species.

The Commission has already submitted a notice for publication in the California Notice Register related to a decision on the western Joshua tree CESA listing petition, as required by 2074.2(e)(2) F&G Code, and that notice should be published on October 9, 2020. With the publication of the notice, western Joshua tree will receive protection under CESA, which would prohibit activities from occurring on the project sites where western Joshua tree is found. Other than the

relief authorized in this regulation, nothing in California law could authorize take of western Joshua tree for these projects on such a short timescale.

Based on the timing of the notice and the importance of these projects moving forward without interruption, the Commission believes that this emergency situation requires prompt action and that delaying action is inconsistent with public interest. Because of this emergency, the Commission has chosen to utilize the provisions in Government Code sections 11346.1 (a)(3) and 11349.6(b) and subdivision 50(b)(3)(B) of Title 1, CCR, which allow the Commission to forgo typical notification of emergency action needed and public comment period.

Informative Digest (Plain English Overview)

On October 21, 2019, the California Fish and Game Commission (Commission) received a petition from the Center for Biological Diversity to list the western Joshua tree (*Yucca brevifolia*, WJT) as threatened under the California Endangered Species Act (CESA). California Fish and Game Code (F&G Code) Section 2073.5 requires that the California Department of Fish and Wildlife (Department) evaluate the petition and submit a written evaluation with a recommendation to the Commission, which was received at the Commission's April 2020 meeting. Based upon the information contained in the petition and other relevant information, the Department determined and informed the Commission that there is sufficient scientific information available to indicate that the petitioned action may be warranted.

On September 22, 2020, the Commission determined that listing may be warranted pursuant to F&G Code Section 2074.2, and therefore western Joshua tree will become a candidate species and the Department will undertake a one-year status review. After it receives the Department's status review, the Commission will make a final decision on listing. Candidate species are protected under CESA pursuant to F&G Code Section 2085 during the remainder of the CESA listing.

CESA also provides that the Commission may adopt regulations to authorize take of certain threatened or endangered species and candidate species under F&G Code Section 2084. At its August 19, 2020 meeting, the Commission heard testimony from several stakeholders expressing concern about the inability to proceed with projects related to protecting public health during the candidacy period. The proposed addition of subsection 749.10(a), Title 14, California Code of Regulations creates a special order allowing incidental take of western Joshua tree during CESA candidacy for certain renewable energy projects that will provide renewable energy sources needed to meet California's goals in reducing fossil fuels use and their contribution to climate change impacts. Because climate change is the principal threat to western Joshua tree identified in the listing petition, these projects will also contribute to the species' recovery in the long-term. However, mitigation must occur for any unavoidable impacts.

Project proponents will be required to comply with the terms and conditions specified in the regulation:

- A tree census report must be conducted by a qualified biologist who is approved in advance by the Department.
- Restrictions on herbicide use.
- As-built development plans must be submitted to the Department within 90 days of completion of all construction and ground-disturbing activities.
- Payment of a mitigation fee based on the number of acres to be mitigated.

Each project proponent will also be required to contribute \$10,000 to cover account fees and the cost of retaining a land acquisition specialist. Credit for existing mitigation may be provided.

Each project proponent receiving take authorization is responsible for obtaining all necessary permits and approvals and must comply with all applicable federal, state, and local laws.

The proposed addition of subsection 749.10(b) provides for take of western Joshua tree in the course of ongoing research and monitoring by public agencies other than the Department and by private parties provided that a written, detailed project progress report is provided to the Department's Habitat Conservation Planning Branch chief. All incidental take in the course of research and monitoring by public agencies other than the Department and by private parties is authorized subject to the same restrictions applicable to ongoing research and monitoring.

Commission staff has searched the California Code of Regulations and has found no other state regulation relating to the take of western Joshua tree during its candidacy under CESA, and therefore concludes that the proposed regulations are neither inconsistent nor incompatible with existing state regulations.