

consistent with the requirements of the corresponding onshore area ("COA"), as mandated by the Clean Air Act ("the Act"). The portion of the OCS air regulations that is being updated pertains to the requirements for OCS sources in the Commonwealth of Massachusetts. The intended effect of approving the OCS requirements for the Commonwealth of Massachusetts is to regulate emissions from OCS sources in accordance with the requirements onshore. The change to the existing requirements discussed below is incorporated by reference into the Code of Federal Regulations and is listed in the appendix to the OCS air regulations.

DATES: Written comments must be received on or before September 23, 2010.

ADDRESSES: Submit your comments, identified by Docket ID Number EPA-R01-OAR-2010-0442 by one of the following methods:

1. *http://www.regulations.gov*: Follow the on-line instructions for submitting comments.

2. *E-mail*: mcdonnell.ida@epa.gov.

3. *Fax*: (617) 918-0653.

4. *Mail*: "Docket Identification Number EPA-R01-OAR-2010-0442", Ida McDonnell, U.S. Environmental Protection Agency, EPA New England Regional Office, 5 Post Office Square—Suite 100, (Mail Code OEP05-2), Boston, MA 02109-3912.

5. *Hand Delivery or Courier*: Deliver your comments to: Ida McDonnell, Air Permits, Toxics and Indoor Air Unit, Office of Ecosystem Protection, U.S. Environmental Protection Agency, EPA New England Regional Office, 5 Post Office Square—Suite 100, (Mail Code OEP05-2), Boston, MA 02109-3912. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding legal holidays.

Please see the direct final rule which is located in the Rules Section of this **Federal Register** for detailed instructions on how to submit comments.

FOR FURTHER INFORMATION CONTACT: Ida E. McDonnell, Air Permits, Toxics and Indoor Air Unit, U.S. Environmental Protection Agency, EPA New England Regional Office, 5 Post Office Square—Suite 100, (Mail Code OEP05-2), Boston, MA 02109-3912, telephone number (617) 918-1653, fax number (617) 918-0653, e-mail mcdonnell.ida@epa.gov.

SUPPLEMENTARY INFORMATION: In the Final Rules Section of this **Federal**

Register, EPA is incorporating applicable provisions of 310 Code of Massachusetts Regulations (CMR) 4.00: Timely Action Schedule and Fee Provisions, as amended through September 4, 2009 and 310 CMR 6.00: Ambient Air Quality Standards for the Commonwealth of Massachusetts, 310 CMR 7.00: Air Pollution Control, and 310 CMR 8.00: The Prevention and/or Abatement of Air Pollution Episode and Air Pollution Incident Emergencies, as amended through May 20, 2010 as a direct final rule without prior proposal because the Agency views this as a noncontroversial submittal and anticipates no adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If no adverse comments are received in response to this action rule, no further activity is contemplated. If EPA receives adverse comments, the direct final rule will be withdrawn and all public comments received will be addressed in a subsequent final rule based on this proposed rule. EPA will not institute a second comment period. Any parties interested in commenting on this action should do so at this time. Please note that if EPA receives adverse comment on an amendment, paragraph, or section of this rule and if that provision may be severed from the remainder of the rule, EPA may adopt as final those provisions of the rule that are not the subject of an adverse comment.

For additional information, see the direct final rule which is located in the Rules Section of this **Federal Register**.

Dated: June 8, 2010.

H. Curtis Spalding,

Regional Administrator, EPA New England.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R3-ES-2010-0034]
[MO 92201-0-0008]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Oklahoma Grass Pink Orchid as Endangered or Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a

90-day finding on a petition to list *Calopogon oklahomensis* (Oklahoma grass pink orchid) as endangered or threatened under the Endangered Species Act of 1973, as amended (Act). Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing the plant species, *C. oklahomensis*, as endangered or threatened may be warranted. Therefore, with the publication of this notice, we are initiating a review of the status of the species to determine if listing *C. oklahomensis* as endangered or threatened is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding this species. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted, as provided in section 4(b)(3)(B) of the Act.

DATES: To allow us adequate time to conduct this review, we request that we receive information on or before October 25, 2010. Please note that if you are using the Federal eRulemaking Portal (see "ADDRESSES" section, below), the deadline for submitting an electronic comment is midnight Eastern Standard Time on this date.

ADDRESSES: You may submit information by one of the following methods:

• *Federal eRulemaking Portal*: <http://www.regulations.gov>. In the box that reads "Enter Keyword or ID," enter the docket number for this finding, which is FWS-R3-ES-2010-0034. Check the box that reads "Open for Comment/ Submission," and then click the Search button. You should then see an icon that reads "Submit a Comment." Please ensure that you have found the correct rulemaking before submitting your comment.

• *U.S. mail or hand-delivery*: Public Comments Processing, Attn: FWS-R3-ES-2010-0034; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will post all information received on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the **Request for Information** section below for more details).

After the date specified above in **DATES**, you must submit information directly to the Field Office (see **FOR FURTHER INFORMATION CONTACT** section below). Please note that we might not be able to address or incorporate information that we receive after the date noted above.

FOR FURTHER INFORMATION CONTACT:

Janice C. Engle, Field Supervisor, Chicago, Illinois Ecological Services Field Office, 1250 South Grove, Suite 103, Barrington, IL 60010, by telephone (847-381-2243), or by facsimile (847-381-2285). If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:**Request for Information**

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on *Calopogon oklahomensis* (Oklahoma grass pink orchid) from governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties. We seek information on:

- (1) The species' biology, range, and population trends, including:
 - (a) Habitat requirements;
 - (b) Genetics and taxonomy;
 - (c) Historical and current range, including distribution patterns;
 - (d) Historical and current population levels, and current and projected trends; and
 - (e) Past and ongoing conservation measures for the species, its habitat, or both.
- (2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 *et seq.*), which are:
 - (a) The present or threatened destruction, modification, or curtailment of its habitat or range;
 - (b) Overutilization for commercial, recreational, scientific, or educational purposes;
 - (c) Disease or predation;
 - (d) The inadequacy of existing regulatory mechanisms; or
 - (e) Other natural or manmade factors affecting its continued existence.
- (3) The potential effects of climate change on this species and its habitat.

If, after the status review, we determine that listing *Calopogon oklahomensis* is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act), in accordance with section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, within the geographical range currently occupied

by *C. oklahomensis*, we request data and information on:

- (1) What may constitute "physical or biological features essential to the conservation of the species";
- (2) Where these features are currently found; and
- (3) Whether any of these features may require special management considerations or protection, including managing for the potential effects of climate change.

In addition, we request data and information on "specific areas outside the geographical area occupied by the species" that are "essential to the conservation of the species." Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if the species is proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made "solely on the basis of the best scientific and commercial data available."

You may submit your information concerning this status review by one of the methods listed in the **ADDRESSES** section. If you submit information via <http://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the website. If you submit a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on <http://www.regulations.gov>.

Information and supporting documentation that we received and used in preparing this finding will be available for you to review at <http://www.regulations.gov>, or you may make an appointment during normal business hours at the U.S. Fish and Wildlife Service, Chicago, Illinois Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of the finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly commence a review of the status of the species, which will be subsequently summarized in our 12-month finding.

Petition History

On May 28, 2008, we received a petition dated May 22, 2008, from Dr. Douglas Goldman of the Harvard University Herbaria requesting that *Calopogon oklahomensis* be listed as endangered or threatened under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioner, as required by 50 CFR 424.14(a). In a September 15, 2008, letter to the petitioner, we responded that we reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the species as per section 4(b)(7) of the Act was not warranted because the species has extant populations in several States and most of the threats mentioned in the petition are not immediate in nature, but consist of ongoing issues (for example, fire suppression, overgrazing, and unfavorable mowing regimes) that may make areas less suitable for the species, but are not likely to cause immediate extirpation. We also stated that due to court orders and judicially approved settlement agreements for other listing determinations under the Act that required nearly all of our listing funding for fiscal year 2008, we would not be able to further address the petition at that time but would complete the action when workload and funding

allowed. On December 14, 2009, we received a 60-day notice of intent to sue for violation of sections 4(b)(3)(A and B) of the Act, relating to late petition findings for 140 species, including *C. oklahomensis*. On February 17, 2010, we received a complaint for failure to make timely petition findings on eight species, including *C. oklahomensis*. This finding addresses the petition.

Previous Federal Action

There have been no previous Federal actions concerning this species.

Species Information

Calopogon oklahomensis was described by D.H. Goldman as a new species in 1995 (Goldman 1995, p. 37). Morphological and phenological variation of the genus in the midwestern States was not previously recognized by Correll (1978) or Luer (1975) (in Goldman 1995, p. 41). However, genetic testing among the five species of the terrestrial orchid genus *Calopogon* for genetic variation indicates that *C. oklahomensis* is the most genetically distinct species out of the five species tested (Trapnell *et al.* 2004, p. 314). For this reason, we accept the characterization of *C. oklahomensis* as a distinct species of *Calopogon*, with a large geographic range, and many consistent morphological features (Goldman 1995, p. 41).

Calopogon oklahomensis has a forked corm (a modified underground stem), with the new corm at the base of the leaf and the inflorescence (a branching stem with flowers) rapidly growing distally at the time of anthesis (the period from flowering to fruiting) (Goldman 1995, p. 39). The leaf is almost always as long as or longer than the inflorescence (Goldman 1995, p. 39). The flower buds are deeply grooved longitudinally, waxy and shiny, with elongated acuminate apices (narrowing to a point at the tip). The flowers are fragrant and open in succession (Goldman 1995, p. 39). The labellum disk (portion of the lower petal that is attached to the center of the flower) is pinkish with a basal region of short to long yellow hairs, above which there is a triangular region of short, stout, pinkish hairs, which extends to the labellum apex (terminal end of the lower petal) (Goldman 1995, p. 39). The stigma (part of the female reproductive part of the flower) is flat against the column surface (Goldman 1995, p. 40).

Calopogon oklahomensis occupies moist, loamy prairies, savannas, and sandy woodlands from central Minnesota southward to Texas, including the States of Wisconsin, Iowa, Illinois, Indiana, Kansas, Missouri, Tennessee, Arkansas, Oklahoma,

Mississippi, Louisiana, and Florida, with a few scattered populations further east in South Carolina, Georgia, and Alabama (Goldman 1995, p. 40; Goldman *et al.* 2004a, p. 707). *C. oklahomensis* appears to prefer moist to seasonally dry-mesic prairies, prairie-haymeadows, savannas and open woodlands, avoiding the wetter habitats preferred by other species of *Calopogon* (Goldman 1995, p. 40). This species appears to thrive under a frequent burning regime or haymeadow management where most or all of the above ground vegetation is effectively removed once every 1 to 2 years, with subsequent flowering within a year after the last burn or haymowing.

Goldman (1995, p. 41) based the range of the species on collected specimens in six States (Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas) and hypothesized that it may have occurred historically in two additional States (Iowa and Illinois). The petition states that, historically, the range covers 17 States (Alabama, Arkansas, Florida, Georgia, Iowa, Illinois, Indiana, Kansas, Louisiana, Minnesota, Missouri, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, and Wisconsin) (Petition, p. 2). NatureServe identifies the range of the species in only 12 States (Arkansas, Illinois, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Oklahoma, Tennessee, Texas, and Wisconsin) (NatureServe 2009).

Information on the persistence and status is lacking for many areas historically occupied by *Calopogon oklahomensis*. We are unaware of specific information on population abundance of this species. Other than the petition, we are unaware of any year-round or long-term monitoring data on *C. oklahomensis*. Throughout its range, *C. oklahomensis* specimens have historically been confused with *C. tuberosus*, due to the difficulty in distinguishing the two species (Goldman 1995, pp. 37–41; Goldman *et al.* 2004b, pp. 37–38). For these reasons, the status of this species remains unclear.

Evaluation of Information for This Finding

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations at 50 CFR 424 set forth the procedures for adding a species to, or removing a species from, the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or

curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

In considering what factors might constitute threats, we must look beyond the exposure of the species to a factor to evaluate whether the species may respond to the factor in a way that causes actual impacts to the species. If there is exposure to a factor and the species responds negatively, the factor may be a threat and, during the subsequent status review, we attempt to determine how significant a threat it is. The threat is significant, if it drives, or contributes to, the risk of extinction of the species such that the species may warrant listing as threatened or endangered as those terms are defined in the Act. However, the identification of factors that could impact a species negatively may not be sufficient to compel a finding that the information in the petition and our files is substantial. The information must include evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of threatened or endangered under the Act.

In making this 90-day finding, we evaluate whether information regarding threats to *Calopogon oklahomensis*, as presented in the petition and other information available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

A. The Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range.

Information Provided in the Petition

The petition outlines several assertions regarding the present or threatened destruction, modification, or curtailment of *Calopogon oklahomensis* habitat or range, including:

(1) The loss of native prairie, savanna, and open woodland habitat throughout the range of the species as a result of expanding urbanization, agriculture, and forestry land use;

(2) Degradation of habitat due to fire suppression or infrequent burning; overgrazing; mowing without thatch removal, excessively frequent mowing, or mowing during the growing season before the fruit ripens; severe drainage of optimal habitat rendering mesic sites too dry to support the species; intense

soil disturbance and shading due to conversion to forestry plantations; and intensive trampling, deep local soil disturbance, and damage from vehicular traffic.

The petitioner describes the decline of *Calopogon oklahomensis* range compared to its historical range (Petition, pp. 2-4). The petition indicates that, based on 237 herbarium specimen records, the species may be extirpated from nine States of historical occurrence (Alabama, Florida, Georgia, Iowa, Indiana, Kansas, Minnesota, South Carolina, and Tennessee) (Petition, p. 2). The petition also states that these same herbarium records indicate the species is believed to be extant in eight States; Arkansas, Illinois, Louisiana, Missouri, Mississippi, Oklahoma, Texas, and Wisconsin (Petition, p. 2). However, 158 of those records date prior to 1958 (prior to 50 years ago), and 183 date prior to 1978 (prior to 30 years ago) (Petition, p. 2). According to the petition, of the 233 records that give specific localities, only 25 to 35 populations may remain (Petition, p. 2). Of the States that still contain the species, the two States suffering the greatest population losses are Illinois (one remaining population from an original 42 records) and Texas (1-3 populations from an original 27 records) (Petition, p. 2).

Evaluation of Information Provided in the Petition and Available in Service Files

We have no information in our files regarding the effects of expanding urbanization, agricultural or forestry land use, fire suppression, infrequent burning, intensive trampling, deep local soil disturbance, damage from vehicular traffic, intense soil disturbance and shading due to conversion to forestry plantations, severe drainage of optimal habitat, mowing without thatch removal, excessively frequent mowing, and mowing during the growing season before the fruit ripens, and whether the effects are destructive to *Calopogon oklahomensis* habitat.

The below information existed in the files of various Service offices throughout the country at the time the petition was received. That information was transmitted to the author of this notice, through personal communications, in 2009 and 2010. The citations reflect the date on which the information was transmitted to the author, and not the date the information was received by the Service. Information in our files indicates that Oklahoma has 45 records of this species from 15 counties dating from 1934 through 2004 (Dikeman 2009, pers.

comm.). Arkansas has 18 herbarium records of this species from 7 counties, and Texas has herbarium records from 12 counties. Our files also indicate that Kansas (Freeman 2009, pers. comm.) and Tennessee each have a single record of this species, with Tennessee's occurrence last observed in 1937 (Call 2009, pers. comm.). In Wisconsin, *Calopogon oklahomensis* is identified as a species of "special concern" with historical occurrence in Wisconsin, perhaps having not been verified in the past 20 years, but suspected to still be extant (Carnes 2010, pers. comm.). We do not have information in our files regarding distribution in other States. Our files also indicate that population numbers at particular sites fluctuate from year to year with the greatest numbers found in years following prescribed burns; however, the species is difficult to find if it is not in bloom and it appears to bloom for only a few days (Witsell 2009, pers. comm.). We intend to fully assess the historic and current records of *Calopogon oklahomensis* throughout its range during the status review for the species.

According to information presented in the petition, *Calopogon oklahomensis* has undergone a sharp decline as much of its habitat has been converted to other uses. Loss of native prairie, savanna, and open woodland habitat throughout the species' range is indicated as one of the major causes of decline (Petition, pp. 2, 5). According to NatureServe (2009), *C. oklahomensis* is "possibly extirpated" in Wisconsin and Tennessee; "critically imperiled" in Illinois, Kansas, Mississippi, and Louisiana; "imperiled" in Arkansas; and not ranked in Minnesota, Iowa, Missouri, Oklahoma, or Texas. In Iowa, only historical records exist for *C. oklahomensis* with no extant sites existing (Pearson 2009, pers. comm.).

Summary of Factor A

In summary, we find that the information provided in the petition presents substantial information that listing *Calopogon oklahomensis* as endangered or threatened may be warranted due to the present or threatened destruction, modification, or curtailment of the species' habitat or range. The petition identifies numerous potential factors that may be affecting *C. oklahomensis*, including habitat loss and degradation due to expanding urbanization, agricultural or forestry land use, fire suppression, infrequent burning, intensive trampling, deep local soil disturbance, damage from vehicular traffic, intense soil disturbance and shading due to conversion to forestry plantations, severe drainage of optimal

habitat, mowing without thatch removal, excessively frequent mowing, and mowing during the growing season before the fruit ripens. We had very little information in our files prior to receiving the petition; therefore, we do not have information in our files that further supports or refutes the information provided in the petition. We, therefore, conclude the petition presents substantial information to indicate that the present or threatened destruction or modification of habitat may present a threat to *C. oklahomensis*.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

The petitioner provides no information addressing this factor, and we have no information in our files indicating that listing of the species due to overutilization for commercial, recreational, scientific, or educational purposes may be warranted. Based on our evaluation, we find that the petition does not present substantial information, and we do not have substantial information in our files, to indicate that listing *Calopogon oklahomensis* as endangered or threatened may be warranted due to overutilization for commercial, recreational, scientific, or educational purposes. However, we will evaluate all factors, including threats from overutilization for commercial, recreational, scientific, or educational purposes, when we conduct our status review.

C. Disease or Predation.

Information Provided in the Petition

The petitioner asserts that overgrazing, as well as, natural biological predation by insects, rodents, deer, or other herbivores, may threaten *Calopogon oklahomensis* (Petition, p. 10).

Evaluation of Information Provided in the Petition and Available in Service Files

We have no information in our files indicating whether overgrazing or natural predation by insects, rodents, deer, or other herbivores, may threaten *Calopogon oklahomensis*. The petitioners did not provide information or list disease as a threat to *C. oklahomensis*, and we do not have substantial information in our files to indicate that disease may be a threat to the species.

Based on our evaluation, we find that the petition does not present substantial information, and we do not have substantial information in our files, to

indicate that listing *Calopogon oklahomensis* as endangered or threatened may be warranted due to disease or predation. However, we will evaluate all factors, including threats from disease and predation when we conduct our status review.

D. The Inadequacy of Existing Regulatory Mechanisms.

Information Provided in the Petition

The petitioner asserts that *Calopogon oklahomensis* is not listed as endangered or threatened in the States of Alabama, Arkansas, Florida, Georgia, Iowa, Indiana, Kansas, Louisiana, Minnesota, Missouri, Oklahoma, South Carolina, Texas, and Wisconsin (Petition, pp. 5–9). The petitioner asserts that this species is State listed as endangered in Illinois and Tennessee (Petition, pp. 6, 9). The petitioner implies that the lack of State listing for *C. oklahomensis* in 14 of 16 States poses a threat to the species. However, there was no specific information provided in the petition about existing regulatory mechanisms beyond the two State listings that could protect these species.

Evaluation of Information Provided in the Petition and Available in Service Files

Calopogon oklahomensis is not listed as endangered or threatened in the States of Alabama, Arkansas, Florida, Georgia, Iowa, Indiana, Kansas, Louisiana, Minnesota, Missouri, Oklahoma, South Carolina, Texas, and Wisconsin (the States of Kansas and Louisiana do not list plant species as threatened or endangered (Mizzi 2010, pers. comm.)). Additional information in our files indicates that this species is State-listed as endangered in Illinois and Tennessee. An important provision of the Illinois Endangered Species Protection Act is the consultation provision, which requires State and municipal agencies taking actions that might affect State or federally listed species (including plants), to avoid, minimize, or mitigate impacts to the listed species (<http://dnr.state.il.us/INPC/VMG/Illinois Plant Translocation Policy.pdf> accessed on 05/12/2010). In Tennessee, the Rare Plant Protection and Conservation Act requires persons to obtain written permission from a landowner or manager before knowingly removing or destroying State-listed endangered plant species and requires nursery farmers to be licensed in order to sell State-listed endangered species (<http://www.state.tn.us/environment/na/nhp.shtml> accessed on 05/12/2010). However, as stated above, there was no specific information provided in the

petitions about existing regulatory mechanisms beyond the two State listings that could protect these species. We are also not aware of any regulatory mechanisms that address *C. oklahomensis*.

Summary of Factor D

The petitioner did not provide any additional information about existing regulatory mechanisms other than the State listings in Illinois and Tennessee that could protect these species, and we have nothing in our files that describes any regulatory mechanisms that address *Calopogon oklahomensis*. While information presented by the petitioner indicates that threats to the petitioned species may be posed by habitat destruction and degradation due to expanding urbanization, agricultural or forestry land use, fire suppression, infrequent burning, intensive trampling, deep local soil disturbance, damage from vehicular traffic, intense soil disturbance and shading due to conversion to forestry plantations, severe drainage of optimal habitat, mowing without thatch removal, excessively frequent mowing, and mowing during the growing season before the fruit ripens, none of these threats are posed by an inadequacy of regulatory mechanisms. We, therefore, find that the petition does not present substantial information indicating that the inadequacy of existing regulatory mechanisms may present a threat to *C. oklahomensis*. However, we will further evaluate the adequacy of existing regulatory mechanisms for protecting *C. oklahomensis* and its habitat during our status review.

E. Other Natural or Manmade Factors Affecting the Species' Continued Existence.

Information Provided in the Petition

The petitioner describes *Calopogon* species as having a unique biology that makes small or widely scattered populations more vulnerable to extirpation (Petition, pp. 4–5). A *Calopogon* corm contains only two growing points compared to other vascular plants that have multiple tiny, dormant buds (Petition, pp. 4–5). Because *Calopogon* does not form new buds if one or both of these growing points are damaged or destroyed, this species has only two chances for success at perpetuating the plant through the next winter (Petition, pp. 4–5). Therefore, the species is particularly vulnerable to stochastic events, which, if they occur at a certain time (when the buds have formed or are forming), may

destroy the chance for the plant to reproduce that year.

Furthermore, according to information in the petition, *Calopogon oklahomensis* is drought tolerant, but may still succumb to drought, even as dormant corms (Petition, pp. 4–5). Historically, the species relied on a widespread mosaic of large populations and abundant seed production (Petition, p. 5), and thus some populations were able to escape local or regional droughts, allowing the species to persist and recolonize the drought-affected areas. As described by the petitioner, however, this species now consists of smaller populations that are geographically disconnected from each other (Petition, p. 5). Existence in small, isolated populations can render the species highly vulnerable to local, regional, or widespread extirpation due to uncontrollable natural forces, including local or regional climate perturbation such as drought. Such an event could eliminate most or all of a small population, and, if the population is isolated from other populations of the species, a situation to which the species is not adapted, there would be little opportunity for recolonization (Petition, p. 5).

Evaluation of Information Provided in the Petition and Available in Service Files

We have no information in our files regarding the effects of the unique biology described by the petitioner for *Calopogon oklahomensis* that may make it more vulnerable to local extirpation. We do have information in our files, however, indicating that the effects of small population size may impact the viability of species populations. Species that are known from few, widely dispersed locations are inherently more vulnerable to extinction than widespread species because of the higher risks from genetic bottlenecks, random demographic fluctuations, and localized catastrophes such as hurricanes, landslides, and drought (Lande 1988, p. 1,455; Mangel and Tier 1994, p. 607; Pimm *et al.* 1988, p. 757). These problems are further magnified when populations are few and restricted to a limited geographic area, and the number of individuals is very small. Populations with these characteristics face an increased likelihood of stochastic extinction due to changes in demography, the environment, genetics, or other factors, in a process described as an “extinction vortex” by Gilpin and Soule (1986, pp. 24–25). Small, isolated populations often exhibit a reduced level of genetic variability or genetic depression due to inbreeding, which

diminishes the species' capacity to adapt and respond to environmental changes, thereby lessening the probability of long-term persistence (Soule 1987, pp. 4-7). Inbreeding depression as the result of isolated, small populations can result in death, decreased fertility, smaller body size, loss of vigor, reduced fitness, and various chromosome abnormalities (Smith 1974, p. 350).

Although changes in the environment may cause populations to fluctuate naturally, small and low-density populations are more likely to fluctuate below a minimum viable population (the minimum or threshold number of individuals needed in a population to persist in a viable state for a given interval) (Gilpin and Soule 1986, pp. 25-33; Shaffer 1981, p. 131; Shaffer and Samson 1985, pp. 148-150). The problems associated with small population size and vulnerability to random demographic fluctuations or natural catastrophes are further magnified by synergistic interactions with other threats, such as those discussed above under Factor A. Despite evolutionary adaptations for rarity, habitat loss and degradation increase a species' vulnerability to extinction (Noss and Cooperrider 1994, pp. 58-62).

Historically, *Calopogon oklahomensis* was more widespread. An important benefit of this greater historical range resulted in an advantage of redundancy: additional populations separated by some distance likely allowed some populations to be spared the impacts of localized or more discrete catastrophic events, such as drought. However, this advantage of redundancy has been lost with the great reduction in *C. oklahomensis* range. Additionally, the unique biological features of *C. oklahomensis* described by the petitioner (Petition, pp. 4-5), as illustrated above, which limit reproduction and the ability to recolonize, may make this species particularly vulnerable to the effects of small population sizes and fragmented habitats. We will further assess this potential impact during the status review for the species.

Summary of Factor E

Based on our evaluation, we find that the petition presents substantial

information that listing *Calopogon oklahomensis* as a threatened or endangered species may be warranted due to other natural or manmade factors. Unique features of the species' biology increase its vulnerability to extirpation because it now exists in small, isolated populations. Specifically, because the species has only two growing points, which cannot regenerate, and thus only two chances to perpetuate the plant through the winter, this reduced reproductive capacity further exacerbates the effects and threats posed by the small population sizes and fragmented habitats in which the species now exists.

Finding

On the basis of our evaluation of the information presented under section 4(b)(3)(A) of the Act, we have determined that the petition presents substantial scientific or commercial information indicating that listing *Calopogon oklahomensis* may be warranted. This finding is based on information that indicates the continued existence of this species may be affected by destruction or modification of habitat from expanding urbanization, agricultural or forestry land use, fire suppression, infrequent burning, intensive trampling, deep local soil disturbance, damage from vehicular traffic, intense soil disturbance and shading due to conversion to forestry plantations, severe drainage of optimal habitat, mowing without thatch removal, excessively frequent mowing, and mowing during the growing season before the fruit ripens (Factor A); and other natural or manmade factors such as small population size, and the unique features of the species' biology (only two opportunities for reproduction each year) that make it particularly vulnerable to the effects of small population size (Factor E). The petitioner does not present substantial information that *C. oklahomensis* is threatened by overcollection (Factor B), disease or predation (Factor C), or the inadequacy of existing regulatory mechanisms (Factor D) currently or in the future.

Because we have found that the petition presents substantial information indicating that *Calopogon*

oklahomensis may be at risk of extinction now or in the foreseeable future and therefore listing under the Act may be warranted, we are initiating a status review to determine whether listing *C. oklahomensis* under the Act is warranted. At the conclusion of the status review, we will issue a 12-month finding in accordance with section 4(b)(3)(B) of the Act, as to whether or not the Service believes a proposal to list *C. oklahomensis* is warranted. To ensure that the status review is comprehensive, we request scientific and commercial information regarding *C. oklahomensis*.

The "substantial information" standard for a 90-day finding differs from the Act's "best scientific and commercial data" standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. In a 12-month finding, we will determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a substantial 90-day finding. Because the Act's standards for 90-day and 12-month findings are different, as described above, a substantial 90-day finding does not mean that the 12-month finding will result in a warranted finding.

References Cited

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Chicago, Illinois Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Author

The primary authors of this notice are the staff members of the Chicago, Illinois Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: July 22, 2010

Wendi Weber,
Acting Director, U.S. Fish and Wildlife Service.

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