CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Proposal for

Phytophthora elongata Rea, Stukely & Jung (2010)

Current Pest Rating: none

Proposed Pest Rating: B

Kingdom: Chromista, Phylum: Oomycota,
Class: Oomycetes, Order: Peronosporales,
Family: Peronosporaceae

Comment Period: 06/11/2026 through 07/26/2026

Initiating Event:

In the fall of 2018, CDFA plant pathologist Suzanne Rooney-Latham isolated multiple *Phytophthora* species from stormwater runoff collected from a nursery plant holding area in a Federal park in San Francisco County. One of the species that she identified by culturing and with PCR was *Phytophthora elongata*. This detection was not an official sample or from an identifiable host plant, but it provided some evidence that this species could be present in California nurseries. This pathogen has not been through the pest rating process. The risk to California from *Phytophthora elongata* is described herein, and a permanent rating is proposed.

History & Status:

Background:

In 1861, De Bary coined the name *Phytophthora* from the Greek phyton, "plant," and phthora, "destroyer" to describe what he believed to be a fungus that was infecting potato leaves and the cause of late blight disease. From 1876 to 1999, approximately 60 species were described based on morphology. Since 1999, species descriptions have been based on morphological and molecular characteristics. Currently, the number of named species exceeds 200 (Abad et al., 2023). Worldwide, members of the genus *Phytophthora* cause diseases with high economic and environmental impacts in commercial agriculture, nurseries, orchards, forests, landscapes, and natural ecosystems (Hansen et al., 2012; Jung et al., 2016).

Most *Phytophthora* species have a soilborne or waterborne lifestyle, producing persistent sporangia and releasing motile zoospores. The majority are necrotrophic or hemibiotrophic pathogens that infect herbaceous and woody plant hosts and cause a variety of diseases, but a small number of species can

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also live as saprophytes in aquatic environments. Fine root death, root rot, collar necrosis, and trunk or stem cankers are the primary symptoms of soilborne pathogenic *Phytophthora* diseases. At the canopy level, plants with root and collar infections sometimes exhibit dramatic secondary symptoms, including bleeding cankers, epicormic shoot production, and even abrupt mortality. *Phytophthora* species with airborne or mixed airborne and soilborne lifestyles produce caducous sporangia and infect fruits, leaves, shoots, twigs, and branches, causing necrosis, blights, and rots (Erwin and Ribeiro, 1996).

Phytophthora elongata was first described in association with the rhizosphere of *Eucalyptus marginata* and other woody species in Western Australia with dieback symptoms in 2004. In their initial study, Rea et al. (2010) demonstrated the pathogenicity of this species to *Eucalyptus marginata* and *Banksia* spp. The pathogenicity of *P. elongata* on *E. marginata* was confirmed from inoculation studies by a reduction in shoot growth by Belhaj et al. (2018). In the same paper, they found *P. elongata* reduced root growth for *Corymbia calophylla* but did not cause damage to the other native plants they tested.

The first report of *P. elongata* in the United States was made by Bienapfl et al. (2014) in Maryland during a 2010-2012 detection survey for the presence of *Phytophthora* spp. on newly arrived nursery plants, mainly from West Coast suppliers. They isolated *P. elongata* from symptomatic *Buxus sempervirens, Ilex* x *meserveae*, and *Rhododendron* sp. with dieback. The pathogenicity of *P. elongata* on *Rhododendron* was confirmed by Pham et al. (2026). After they isolated *P. elongata* from rhododendrons growing under eucalyptus trees in Marin County, they showed that zoospores could infect wounded leaves and reproduced the black necrotic leaf symptoms. They described the disease severity as “limited and mild”.

Phytophthora elongata has been placed in Clade 2e, close to *P. bishii*, an important pathogen of raspberries in California (Chitambar, 2015). Sporangia are produced in water cultures but not in solid media. It is homothallic and produces oospores, but chlamydospores have not been observed. Its most distinguishing feature is the elongated sporangia after which it is named (Abad et al., 2023). A 2023 California study that catalogued *Phytophthora* species using meta-analysis did not identify any isolates of *P. elongata* (Bourret et al., 2023). This suggests that *P. elongata* is either rare or under-detected in California.

Hosts or associated plants: Andersonia sp., *Banksia grandis* (giant Banksia), *B. squarrosa* (pingle), *Buxus sempervirens* (common box), *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Ilex x meserveae* (Meserve holly), *Patersonia xanthina* (yellow flags), *Rhododendron* sp., *Styphelia propinqua* (prickly conesticks), *Xanthorrhoea gracilis* (slender grasstree), and *X. preissii* (grasstree) (Farr et al., 2026; Abad et al., 2023; Rea et al., 2010).

Symptoms: In Western Australia, *P. elongata* causes root and collar rot of *Eucalyptus marginata,* resulting in significant dieback of saplings and trees and, to a much lesser extent, *Corymbia calophylla*, growing on restored mine sites (Rea et al., 2010). On Rhododendron leaves, infection causes V-shaped black necrotic lesions extending from the leaf tip (Pham et al., 2026).

Transmission: The presence of water is critical for short-distance and long-distance transmission of *P. elongata*. In California, as a foliar pathogen of rhododendrons, it is likely to be driven mainly by splash

dispersal via windblown rain, as is the case for *P. ramorum* (Schweigkofler et al., 2021). Chlamydospores have not been reported; oogonia are produced. *Phytophthora elongata* has semipapillate sporangia that can act directly as infective propagules or release motile zoospores (Erwin and Ribeiro, 1996). This pathogen also has the potential to spread with any method that moves soil, infested nursery stock, as well as through waterways (Rooney-Latham et al., 2019).

Damage Potential: In Australia, multiple species of forest trees and shrubs have been suffering dieback for over 30 years, and *P. elongata* is recognized as one of the causes (Rea et al., 2010). The damage to rhododendrons is limited to leaf necrosis (Pham et al., 2026). Multiple nursery plants in Maryland were noted with dieback symptoms, and *P. elongata* was detected, but the cause of the dieback was not confirmed to be from this species (Bienapfl and Balci, 2014).

Worldwide Distribution: Australia, United States (California, Maryland) (Farr et al., 2026).

Official Control*:* none

California Distribution: There was a detection in an unofficial sample from San Francisco County (see 'initiating events') and a published report from Marin County (Pham et al., 2026).

California Interceptions: none

The risk that *Phytophthora elongata* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** This pathogen is likely to be found wherever its hosts are grown, with disease severity expected to increase under rainy conditions.

   Evaluate if the pest would have suitable hosts and climate to establish in California.

   Score: **2**

   - Low (1) Not likely to establish in California; or likely to establish in very limited areas.
   - **Medium (2) may be able to be established in a larger but limited part of California.**
   - High (3) likely to establish a widespread distribution in California.

2) **Known Pest Host Range:** The host range is plants native to Western Australia, *Buxus, Ilex,* and *Rhododendron*. *Eucalyptus marginata* is not widely planted in California.

   Evaluate the host range of the pest.

   Score: 2

   - Low (1) has a very limited host range.
   - **Medium (2) has a moderate host range.**
   - High (3) has a wide host range.

3) **Pest Reproductive Potential:** *Phytophthora elongata* reproduces with multiple types of spores. It moves with rain, irrigation water, streams and infested soils and nursery stock.

Evaluate the natural and artificial dispersal potential of the pest.

Score: 3

- Low (1) does not have high reproductive or dispersal potential.
- Medium (2) has either high reproductive or dispersal potential.
- **High (3) has both high reproduction and dispersal potential.**

4) **Economic Impact:** Loss of mature trees and shrubs has been reported in Australia. Damage to rhododendrons appears to be non-lethal.

Evaluate the economic impact of the pest on California using the criteria below.

Economic Impact: A, G

A. The pest could lower crop yield.
B. The pest could lower crop value (including increasing crop production costs).
C. The pest could trigger the loss of markets (including quarantines).
D. The pest could negatively change normal cultural practices.
E. The pest can vector, or is vectored, by another pestiferous organism.
F. The organism is injurious or poisonous to agriculturally important animals.
G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact Score: **2**

- Low (1) causes 0 or 1 of these impacts.
- **Medium (2) causes 2 of these impacts.**
- High (3) causes 3 or more of these impacts.

5) **Environmental Impact:** *Eucalyptus marginata* is not a common landscape tree in California. Rhododendrons are widely planted in urban landscapes and gardens. The susceptibility of California natives is not known, but the risks of *Phytophthora* spp. to forests is one of major concern.

Evaluate the environmental impact of the pest on California using the criteria below.

Environmental Impact: A, E

A. The pest could have a significant environmental impact, such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.
B. The pest could directly affect threatened or endangered species.
C. The pest could impact threatened or endangered species by disrupting critical habitats.
D. The pest could trigger additional official or private treatment programs.
E. The pest significantly impacts cultural practices, home/urban gardening, or ornamental plantings.

Environmental Impact Score: 3

- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.
- High (3) causes two or more of the above to occur.

Consequences of Introduction to California for *Phytophthora elongata:* Medium

Add up the total score and include it here. **12**
-Low = 5-8 points
-Medium = 9-12 points
-High = 13-15 points

6) **Post-Entry Distribution and Survey Information**: Evaluate the known distribution in California. Only official records identified by a taxonomic expert and supported by voucher specimens deposited in natural history collections should be considered. Pest incursions that have been eradicated, are under eradication, or have been delimited with no further detections should not be included.

Evaluation is 'Low'.

Score: 1
-Not established (0) Pest never detected in California or known only from incursions.
-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).
-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.
-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

7) **The final score is** the consequence of the introduction score minus the post-entry distribution and survey information score: (Score)

Final Score: *Score of Consequences of Introduction – Score of Post Entry Distribution and Survey Information* ***= 11***

Uncertainty:

Phytophthora elongata shares morphological similarities with *P. citricola*, and it is possible it could have been classified as that species before 2010 (Rea, 2011). Therefore, the distribution in California could be wider than is currently documented.

Conclusion and Rating Justification:

Based on the evidence provided above, the proposed rating for ***Phytophthora elongata*** **is B.**

References:

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Responsible Party:

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***Comment Period: 06/11/2026 through 07/26/2026**

***NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at permits[@]cdfa.ca.gov.

Comment Format:

- Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

  Example Comment:

  Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- Posted comments will not be able to be viewed immediately.
- Comments may not be posted if they:

  Contain inappropriate language which is not germane to the pest rating proposal;

  Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

  Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

  Violates agency regulations prohibiting workplace violence, including threats.

- Comments may be edited prior to posting to ensure they are entirely germane.
- Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

Proposed Pest Rating: B