



United States Department of the Interior



In Reply Refer to:
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2016-TA-2377

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

Aug 09 2017

Rick M. Bottoms, PhD
Attn: Keith Hess
Department of the Army
San Francisco District, U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Subject: Information Request for the Permanente Creek Restoration Project near the City of Cupertino, Santa Clara County, California (U.S. Army Corps of Engineers (Corps) file number 2008-00356)

Dear Dr. Bottoms:

This letter is in response to the Corps' June 6, 2017, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Permanente Creek Restoration Project (proposed project) near the City of Cupertino, Santa Clara County, California (Corps file number 2008-00356). Your request was received by the Service on June 9, 2017. At issue are the proposed project's effects on the federally threatened California red-legged frog (*Rana draytonii*). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402). Critical habitat has been designated for the California red-legged frog but does not occur within the action area for the proposed project.

The federal action we are consulting on is the Corps' issuance of a permit to Lehigh Southwest Cement Company (Lehigh) pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*) for the restoration of approximately 9,000 linear feet of Permanente Creek (127 acres) along the southern edge of the Lehigh Permanente Quarry west of the City of Cupertino, Santa Clara County, California. Pursuant to 50 CFR 402.12(j), you submitted a draft biological assessment (GEI Consultants, Inc. and AECOM 2016) for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is likely to adversely affect the California red-legged frog.

The Service has the following comments and requests for information on the proposed project:

1. The Corps or Lehigh should provide updated information on the total acres of each habitat type for the California red-legged frog that will be temporarily disturbed or permanently removed and the total acres of each habitat type that will be restored or enhanced within the action area. The Corps or Lehigh should provide information comparing the acres of each habitat type within the action area before and after completion of the proposed project. The Mitigation and Monitoring Plan should be provided for the Service to review and approve prior to the initiation of construction of the proposed project.

2. The letter from the Corps states that Lehigh will follow the avoidance and minimization measures for the California red-legged frog that are in the Conservation Measures section of the Service's June 18, 2014, *Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Project that May Affect the Threatened California Red-Legged Frog in Nine San Francisco Bay Area Counties, California* (Programmatic Biological Opinion) (Service file number 08ESMF00-2014-F-0389, Service 2014). The Programmatic Biological Opinion requires habitat compensation at a ratio of 3:1 for permanent effects and 1:1 for temporary effects. Therefore, the Corps should provide information on how the proposed project will meet the compensatory mitigation requirements in the Programmatic Biological Opinion including the effects of the removal of a potential California red-legged frog breeding pond (Pond 13). In order for the Service to consider lands protected for the benefit of listed species, conservation lands should be placed under a conservation easement, and have a long term management plan and non-wasting endowment sufficient to fund all long term management. Therefore, the Service recommends that Lehigh place a conservation easement over the riparian restoration areas along Permanente Creek, the adjacent California red-legged frog breeding ponds (*e.g.*, Ponds 14 and 21), and the surrounding upland habitat. The conservation easement should include a fully funded Service-approved long term management plan with an endowment that includes monitoring and bullfrog control.
3. The Service encourages using the conservation measures in the Programmatic Biological Opinion but would like to clarify that the proposed project is too large to be appended to the Programmatic Biological Opinion. Only projects that disturb less than 1.0 acre of suitable habitat can append to the Programmatic Biological Opinion (unless agreed to by the Service and the Corps on a case by case basis).
4. The Corps should include in the proposed project the sediment clean-out and lining work at the operational stormwater detention basin (Pond 30) as proposed by WRA, Inc. (WRA) and Lehigh to reduce selenium levels entering Permanente Creek (R. Schell, WRA, *in litt.* 2016). The Corps should also include in the proposed project WRA's proposal for the relocation of the California red-legged frog from Pond 30 and the creation of a new breeding pond (WRA 2017). The new breeding pond should be placed under a conservation easement with a Service-approved long term management plan and non-wasting endowment sufficient to fund all long term management including monitoring and bullfrog control.
5. The Corps, Lehigh, or the County of Santa Clara should provide for the cumulative effects analysis a summary of the effects of all non-federal State, local, or private actions that are reasonably certain to occur in the action area. For example, the Service is aware of some ongoing or proposed actions within or near the action area by Lehigh that may affect the California red-legged frog such as ongoing quarry operation and maintenance activities, stormwater detention basin maintenance, the construction of a new water treatment plant, and the installation of new flow diversion or outlet points along Permanente Creek. The success of the proposed riparian restoration in the proposed project may be affected by any proposed changes in the flow regime in Permanente Creek due to a new water treatment plant and/or new flow diversion or outlet points along Permanente Creek.
6. The Corps or Lehigh should provide more information on the potential for the injury, mortality, or sub-lethal effects to the California red-legged frog due to the excavation of selenium-contaminated sediments within the action area. The Corps or Lehigh should provide information on how these effects would be monitored and minimized.

7. The Corps or Lehigh should provide more information on the definition of the action area in Exhibit 8 of the draft biological assessment (GEI Consultants, Inc. and AECOM 2016). The action area is portrayed as covering 662.44 acres along the entire reach of Permanente Creek adjacent to and upstream of the Lehigh Permanente Quarry; however, the Designated Restoration Plan Area (where ground disturbance would occur as described in the draft biological assessment) only covers 24.49 acres. The Corps or Lehigh should clarify what potential direct or indirect effects to the California red-legged frog may occur outside of the 24.49-acre Designated Restoration Plan Area. Would the proposed project result in any changes to the hydrology of the creek upstream of the Designated Restoration Plan Area or in between the Designated Restoration Plan areas? What proposed project activities would occur outside of the 24.49-acre Designated Restoration Plan Area? Are the staging areas and all other project elements that would result in ground disturbance included in the 24.49-acre estimate of ground disturbance in the May 2016 draft biological assessment? The Service needs for the effects analysis and incidental take statement an estimate of the total acres over which California red-legged frogs may be harassed, harmed, captured, injured, or killed by the proposed project.
8. The draft biological assessment should be updated to include all relevant proposed project components that were added since the May 2016 draft biological assessment was issued including the information presented at the March 7, 2017 Santa Clara County California Environmental Quality Act (CEQA) Pre-Application Meeting (Lehigh 2017). For example, the presentation included: increasing instream habitat complexity by adding large woody debris at 24 locations; removing overburden and relocating the north toe of slope 25 feet to the north; maintaining vehicle access to Pond 13; reducing road width and excavating a floodplain bench for approximately 3,250 linear feet from Pond 9 to the Rock Pile Area; removing three culverts to create open channel segments; restoring a tributary (upstream of Culvert #8) by removing fill, the alluvial fan of gravel at Permanente Creek, and revegetating the area; planting native riparian vegetation along approximately 1,500 linear feet of the southern bank of the concrete channel to provide improved shading of the channel and reduce suitable areas for cattail and bulrush growth. The habitat disturbance and restoration estimates in the May 2016 draft biological assessment should be updated to incorporate these features.
9. The Corps' June 6, 2017, letter states that adjacent ponds will be enhanced by the proposed project. The Corps should clarify which ponds will be enhanced, how they will be enhanced, and their suitability for supporting breeding California red-legged frogs before and after construction of the proposed project. Would any new California red-legged frog breeding habitat be created by the proposed project? Based on California red-legged frog use of stormwater detention ponds within and adjacent to the action area, the Service believes the California red-legged frog would benefit from the creation of more suitable off-channel breeding habitat for the California red-legged frog and recommends the incorporation of off-channel breeding habitat into the proposed project design.
10. The Corps or Lehigh should clarify how direct and indirect effects to breeding California red-legged frogs and their tadpoles in Pond 14 and Pond 21 will be avoided. Would the proposed project result in any changes in the hydrology of those ponds that may affect California red-legged frog breeding and tadpole rearing? Could the proposed project result in the introduction of fish or other predators into these off-channel breeding ponds that would prey on California red-legged frogs?

11. The Corps and Lehigh should incorporate the measures in the enclosed document “Guidance for environmental regulators to reduce the risk of *Phytophthora* and other plant pathogen introductions to restoration sites” to minimize the potential for the introduction and spread of plant pathogens such as *Phytophthora* among the riparian, wetland, and woodland vegetation (<http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthoras-in-native-habitats/>; Working Group for Phytophthoras in Native Habitats 2017). For example, the Corps and Lehigh should minimize the use of nursery-grown container plants unless the nursery can demonstrate best management practices that ensure that the nursery-grown container plants and soils are free of *Phytophthora*. Any irrigation water used within the action area should also be free of *Phytophthora*.

Pursuant to 50 CFR 402.14(c) we recommend you provide the Service with the requested information in order for formal consultation to be initiated on the proposed Permanente Creek Restoration Project in the Santa Clara County, California. We will review the documents you provide to us and make a determination if further information is necessary to adequately evaluate the effects of this proposed project on listed species.

Please contact Joseph Terry, Senior Biologist, or Ryan Olah, Coast-Bay Division Chief, at the letterhead address, electronic mail (joseph_terry@fws.gov; ryan_olah@fws.gov), or at telephone (916) 943-6721, if you have any questions regarding this response.

Sincerely,



Ryan Olah
Chief, Coast-Bay Division

Enclosure

LITERATURE CITED

- GEI Consultants, Inc. and AECOM. 2016. Revised Draft Biological Assessment for the Permanente Creek Restoration Project. May. Prepared for Lehigh Southwest Cement Company, Cupertino, California.
- Lehigh Southwest Cement Company (Lehigh). 2017. Permanente Creek Restoration Project Santa Clara County CEQA Pre-Application Meeting. March 7. Presentation at the County of Santa Clara, San Jose, California.
- U.S. Fish and Wildlife Service (Service). 2014. Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Project that May Affect the Threatened California Red-Legged Frog in Nine San Francisco Bay Area Counties, California. U.S. Fish and Wildlife Service file number 08ESMF00-2014-F-0389. Sacramento Fish and Wildlife Office, Sacramento, California. 31 pages.
- Working Group for Phytophthoras in Native Habitats. 2017. Guidance for environmental regulators to reduce the risk of *Phytophthora* and other plant pathogen introductions to restoration sites. June 1. <http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthoras-in-native-habitats/>. Accessed on July 26, 2017.
- WRA, Inc. (WRA) 2017. CRLF Pond Recovery Action – Study Plan and Recovery Permit Amendment Request, Permanente Quarry, Cupertino, Santa Clara County, California. February 13. Prepared for U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California.

In Litt. References

- Schell, Rob. 2016. Biologist, WRA, Inc., San Rafael, California. Electronic mail message to Joseph Terry, Senior Biologist, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California, on September 23, 2016. Subject: Request to relocate California red-legged frog at Permanente Quarry, Santa Clara County.

Guidance for environmental regulators to reduce the risk of *Phytophthora* and other plant pathogen introductions to restoration sites

This paper provides guidance for regulators on how to address the risk of introduction and spread of *Phytophthora* and other pathogens in restoration site plantings and mitigation projects. These recommendations were developed by the Working Group for Phytophthoras in Native Habitats (www.calphytos.org) with input from land managers, regulators, restoration nursery growers, and plant pathologists gathered at a Restoration Committee meeting held October 2016 in Albany, CA.

Background

In 2014-16, well over 50 *Phytophthora* taxa were identified in native plant nurseries and restoration sites, including *P. tentaculata* and *P. quercina* (both new to the USA); *P. uniformis*, a first detection in a US nursery, as well as new hybrid species; and new taxa still being described. The incidence and number of new pathogen taxa detected raises concerns about outplanting of native plant nursery stock into sensitive habitats, where the plants can serve as a high risk pathway for introduction of plant pathogens into wildlands.

Container plant movement can spread *Phytophthoras* long distances and facilitate their proliferation across landscapes. Once an area is contaminated, it is difficult to eradicate the pathogen and restore lands. For example, the sudden oak death pathogen, *P. ramorum*, was introduced to wildlands on horticultural nursery stock resulting in the death of millions of trees along the California Central Coast and Southern Oregon. The inadvertent spread of exotic *Phytophthora* species into natural ecosystems is a threat to environmental, social and economic resources in restoration areas and adjacent wildlands. Restoration areas are conservation investments; those endowments and surrounding natural habitats are threatened by plant pathogen contamination.

To protect watersheds, and respond to new *Phytophthora* introductions, land managers suspended plantings, cancelled orders or invested millions in solarization and other treatments to clean-up contaminated sites but have achieved only partial eradication. Discontinuing restoration planting is not an ideal long-term solution to *Phytophthora* prevention since many of the benefits of restoration are lost or significantly delayed when nursery stock is avoided. Here we provide guidance for regulators to protect habitat in mitigation programs from *Phytophthora* infection and spread.

What are *Phytophthoras*? The genus *Phytophthora* (pronounced Fie-TOF-ther-uh) belongs to the Kingdom Stramenopila (formerly Chromista), which also includes aquatic organisms such as diatoms and kelp. The name "*Phytophthora*" derives from Greek and means "plant destroyer." There are currently more than 125 described species of *Phytophthora* worldwide. Commonly called "water molds", *Phytophthora* species produces swimming spores, called zoospores, and thrive under moist conditions.

Notorious *Phytophthoras* include *P. infestans* that caused the Irish potato famine of the 1840s, *P. cinnamomi* which infects more than 2000 plant species and is particularly damaging in Australian wildlands, and *P. ramorum*, cause of sudden oak death. *Phytophthora* species are among the most destructive pathogens of agricultural crops and forests in the world. There are no *Phytophthora* species that can be considered to be completely harmless, but *Phytophthora* species do show varying degrees of pathogenicity to different hosts and under dissimilar environmental conditions.

The concern for *Phytophthoras* in nurseries and forests is not new, but until recently we did not have data on the extent of infestation in CA native plant nurseries and restoration sites. There is little information on the risk of a particular *Phytophthora* species to a specific CA native plant host and ecosystem. The variability in environmental conditions (e.g. precipitation, soil type, topography, amount of disturbance), also increases the difficulty in defining risk. Due to the potential for irreparable, severe environmental damage to California's natural habitats, precautions to prevent pathogen introduction are warranted.

Goals and objectives

The purpose of this guidance is to assist regulators in the development of criteria that minimize the threat of *Phytophthora* contamination in restoration and mitigation projects while utilizing appropriate and measurable performance standards to assess project success.

Objective 1: Recommend restoration design elements that reduce the risk of *Phytophthora* contamination and spread in natural areas.

Objective 2: Recommend changes to common success criteria that will accommodate the restoration design recommendations and accurately measure restoration success.

Objective 3: Provide phytosanitary best management practices for all phases of restoration implementation, monitoring, management, and maintenance.

Recommendations

The following practices may be useful to prevent pathogen contamination in restoration and mitigation projects:

1. Restoration Design Considerations:

- A. **Allow designs with lower initial plant density.** Requiring large quantities of nursery plants to be installed increases the likelihood that some of those plants may be infested with *Phytophthora*. The greater the number of plants installed the higher the risk for pathogen introduction. Furthermore, the closer the plants are to one another the higher the likelihood of pathogen spread through root contact, overland flow or splash of contaminated water, or pathogen transfer from movement of contaminated soil during maintenance and monitoring activities. High cover requirements in the early years of a project can pressure the project proponent to plant in higher densities, which can inadvertently lead to increased disease transmission.
- B. **Consider the use of direct seeding native plant seeds or cuttings instead of container stock.** Planting locally-collected seeds or cuttings rather than installing container stock can minimize the risk of introducing pathogens to a site.
- C. **Allow flexibility in the project design.** Not all sites are the same and tailoring a restoration/mitigation project design to specific site conditions will ensure that the most appropriate methods are used, and will encourage the greatest chance of success for plant establishment.

2. Adapting Survivorship Success Criteria to Accommodate Direct Seeding:

Direct seeding at the site instead of installing nursery container stock could be a powerful tool to reduce *Phytophthora* contamination in restoration sites. However, individual plantings performance is commonly measured using a survivorship percentage which can result in penalties driven by aspects of direct seeding. Seeding requires multiple plantings, and survival of each planted seed or cutting is on average lower for direct seeded plantings in comparison to container stock which can adversely influence survivorship success criteria calculations. Below we suggest changes to the survivorship success criteria so restorationists are not penalized for utilizing direct seeding.

- A. **Increase the time allowed for plant establishment.** By allowing for more time for a restoration site to establish, revegetation techniques like direct seeding and natural recruitment can be included in the design which have a

lower risk of pathogen introduction than nursery plant installation. Percent cover benchmarks and survivorship criteria may take longer to achieve with these alternative techniques, and may need to be met over a longer period of time. Adjust the monitoring frequency to accommodate the longer project time by reducing the monitoring frequency after establishment while increasing the overall monitoring period.

B. Allow for greater direct seeding mortality by reducing the required survivorship percentage success criterion. Use of direct seeding in a restoration/mitigation project may result in lower recruitment and greater mortality during the early establishment period; however, the plants that survive will likely be healthier and more successful than container stock in the long term. Direct seeding facilitates on-site natural selection, so surviving plants are better adapted to local hydrologic and edaphic conditions than container plants grown in nonnative soil.

When direct seeding methods are used, a project benefits from successive years of seeding to achieve different age classes of recruits. Monitoring and reporting requirements should allow flexibility in plant survival performance and success criteria to encourage direct seeding and cuttings. Not resetting the restoration start time after each round of planting would allow for repeated plantings without handicapping the performance or lengthening the project time.

C. Replace “survivorship percentage” with a fixed number of recruits required per habitat. Using a fixed number instead of a percentage will not penalize the restorationist for implementing multiple years of plantings.

D. Allow mitigation credit for natural recruits. In areas where adjacent remnant native vegetation exists or in native soils with a seed bank, natural recruits of native species may be better adapted to local site conditions and can result in a more successful restoration. Allowing a project applicant to receive mitigation (survivorship) credit for natural recruits would ensure that site specific vegetation is encouraged on project sites and would reduce the potential for installation of non-local plants or potentially contaminated container stock. Flexibility of plant establishment methods may prevent pathogen introduction and enhance the ecological health of the plantings. Naturally occurring recruits could be counted and protected in summer; the total number found would be added to the number of survived first year recruits that count towards the survivorship criterion.

3. Use best management practices in every phase of restoration, from design through to maintenance. Complete guidance is posted at www.calphytos.org, “Guidelines for Restoration Activities”.

- A. **Ensure the use of clean nursery stock.** To prevent and manage the introduction and spread of Phytophthoras and other plant pathogens during restoration activities, it is essential that projects use clean nursery stock grown with comprehensive best management practices. For detailed guidance on how to minimize *Phytophthora* pathogens in restoration nurseries, see The Phytophthoras in Native Habitats Work Group “Nursery Management Resources” at www.calphytos.org.

- B. **Prevent contamination in site preparation, installation, performance monitoring, and maintenance.** Use of best management practices to prevent pathogen introduction and spread is also critical during all other phases of restoration to reduce contamination risk. For detailed guidance on how to prevent and manage Phytophthoras during various aspects of restoration, including nursery plant production, see The Phytophthoras in Native Habitats Work Group “Restoration Guidance” at www.calphytos.org. Restoration installation, maintenance and monitoring have potential for pathogen spread and introduction due to movement or use of non-sanitized vehicles, tools, footwear or inadvertent use of contaminated materials (e.g. soil erosion protection wattles and mulch, or non-sanitized materials recycled from other projects such as rebar, fencing materials, etc.).

Fundamental principles include:

- A. **Minimize project footprint and soil disturbance.** Provide guidance in mitigation and monitoring plans and project designs to minimize soil disturbance. Keep the number of vehicle pass-throughs and other disturbances during site maintenance and monitoring activities to the least necessary. Avoid visits when conditions are wet, and areas are muddy. Park vehicles in designated staging areas.

- B. **Require sanitation practices.** Phytophthoras and many other pathogens move when contaminated soil is transferred on vehicle tires, footwear, on the hoofs of grazing animals, on contaminated tools or infested plant materials. Require sanitation best management practices: tools, boots, and vehicles should be visibly free of soil before and after use.

- C. **Promote prevention through education.** Check that agency staff and contractors are aware of the risk of inadvertent pathogen introductions on native plant nursery stock

and understand how to prevent pathogen introduction and spread. To promote early detection, personnel need to recognize disease symptoms and continually scout for problems. Reporting questions, problems or concerns needs to be encouraged and rewarded. A pre-project meeting that provides appropriate BMP training to all workers and oversight managers who will be onsite during the project will help avoid confusion and delays in the field and will ensure in advance that everyone is clear on the project goals related to pathogen prevention.