

Portland General Electric Coyote Springs Draft Amended Ecological Monitoring Program

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[Attachment 1 - Coyote Springs Poplar Stand Assessment and Replacement Plan](#)



1. Introduction

1.1 Monitoring Requirements

The Coyote Springs Ecological Monitoring Program (the Program) is designed to comply with applicable Oregon Administrative Rules as implemented by the Energy Facility Siting Council (EFSC), and the Coyote Springs Site Certificate. The original Program was designed and implemented in 1994. In January of 2001, Portland General Electric (PGE) received approval from the Oregon Department of Energy (the Department), with concurrence by EFSC, to revise the Program, resulting in the reduction of required terrestrial monitoring. In January of 2023, PGE requested revisions to the Riparian Buffer and Hybrid Poplar portion of the program. While discussing the revisions PGE and the Department determined that the Program should be updated to reflect the requested changes and current status of activities conducted at the site. This document describes the revised monitoring program.

1.2 Project Description

The Coyote Springs Project is a natural gas-fired, combined-cycle generating facility with a nominal net generating capacity of 442 megawatts (MW). In addition to electrical generation, the facility supplies steam to industries within the Port of Morrow Industrial Park. Natural gas is delivered to the facility by a pipeline running from the Pacific Gas Transmission (PGT) intertie near the town of Lone.

The Plant site occupies about twenty acres within the Port of Morrow's (the Port) 5,700-acre industrial complex. The facilities are situated about one-quarter mile due south of the Columbia River between the John Day and McNary Dams near the town of Boardman. Facilities associated with the Power Plant include a 210-foot exhaust stack, substation, cooling tower, and water storage tanks. Process water is obtained from the Port and the City of Boardman. Wastewater, including cooling tower blowdown and neutralized demineralizer and condensate backwash water, is discharged to the Port's industrial wastewater system. The Port's wastewater system mixes the cogeneration water with process water from food processes and with other fresh water for use in agricultural crop irrigation.

The facility occurs entirely within the Columbia Basin shrub-steppe vegetation zone. Most of the native plant communities no longer exist, primarily due to the impacts of grazing, agriculture, and commercial and industrial development. Adjoining the east boundary of the site is an approximately thirty-acre embayment, Messner Pond, which was created by diking the northern end of the bay from the Columbia River.

Habitats associated with Messner Pond include a Russian Olive riparian zone, hybrid poplars planted in 1996, and cattail and forested wetlands. Habitats along the transmission line route consist primarily of the following: 1) a section of disturbed shrub-steppe vegetation characterized by Russian thistle, bitterbrush, rabbitbrush, and cheatgrass, 2) a section of cultivate crops/irrigated circles, 3) a section of seasonal cattail/Russian Olive wetland.

2. Terrestrial Ecosystem

The first five years of wildlife monitoring during operation of the gas-fired facility did not show any changes in species or relative abundance of mammals, songbirds, raptors, waterfowl, amphibians, or reptiles. Direct monitoring of these species was removed as a requirement from the Program that was approved in 2001. In November 2003 PGE requested and the Department approved via a letter dated November 14, 2003, discontinuation of the aerial photography monitoring portion of the Terrestrial Ecosystem. Other terrestrial concerns will be addressed as described below.

2.1 Osprey Nesting Structure

An artificial platform placed on the shoreline of Messner Pond in 1996 had not been used by ospreys as a nesting site. In March 2017 the Department requested PGE install a new osprey nest platform at a new location. The work was completed in January 2018. The new nesting platform is located on the west side of Messner Pond just east of the Plant; the platform is higher and meets current PGE nest platform standards. The platform will be observed monthly from April through June; activity of any nesting pairs will be observed, number of young determined, and success of fledglings noted.

2.2 Riparian Buffer

The hybrid poplars planted in 1995 along Messner Pond east of the PGE evaporation pond have been monitored during late spring and early summer to determine the number of dead or dying trees. When determined appropriate by Oregon Department of Fish and Wildlife (ODFW) personnel, replacements will be planted, which may include different types of native trees and shrubs to create a vegetation complex that is other than monotypic.

In 2021 and 2022 PGE evaluated the hybrid poplar stand and, in consultation with ODFW personnel, developed a Coyote Springs Poplar Stand Assessment and Replacement Plan. PGE submitted the plan to the Department for review and approval in January 2023. The Department approved the plan via an email dated January 23, 2023, and requested it be incorporated into the Program. See Attachment 1 for the approved replacement plan.

3. Aquatic Ecosystem

3.1 Water Quality

In November 2003 PGE requested and the Department approved via a letter dated November 14, 2003, the discontinuation of the water sampling portion of the Aquatic Ecosystem. There are no other requirements within the Aquatic Ecosystem monitoring.

4. Reporting and Agency Involvement

4.1 Annual Report

An annual report describing the results of the monitoring program will be submitted to the appropriate agencies within 120 days of the end of the calendar year.

4.2 Conference

All elements of this monitoring program will be performed as an on-going cooperative effort between PGE and ODFW personnel. As much as possible, ideas and expertise of both PGE and ODFW biologists will continuously be utilized to ensure a net positive environmental effect on habitat and wildlife in the vicinity. A conference will be periodically held with appropriate state agencies to discuss the effectiveness of this program.

Attachment 1

Coyote Springs Poplar Stand Assessment and Replacement Plan

Coyote Springs Poplar Stand Assessment and Replacement Plan

Fall 2021 Site Visit

Colin MacLaren, PGE Wetland Ecologist

Leah Hough, PGE Wildlife Biologist

Current Status:

- 30 mature poplar trees are dead or dying (Figure 1).
- Five mature poplars are alive but most look stressed.
- Two healthy recruits at north end of poplar stand.
- All recruits located at west edge of poplar stand in 2020 now appear to be dead.

The monotypic hybrid poplar (*Populus sp.*) tree stand was planted in 1995 and trees are naturally nearing the end of their lifespan. Russian olive has colonized the area between Messner Pond and the poplar stand, and has invaded the understory of the poplar stand, competing for water and nutrients. The highly permeable Burbank and Quincy loamy fine sand soils may also be a contributing factor, due to their lack of water retention. All fallen poplars have shallow, weak root systems. Additionally, PGE has previously reported that ground disturbance from an underground water pipe, installed by the Port of Morrow near the tree stand, may have damaged tree roots and changed the hydrology in the immediate area; the poplar stand did not appear stressed prior to the pipe replacement project. Stand age, coupled with drought and resource competition, has likely resulted in the rapid die-off of the stand. Current poplar recruitment and survival is now insufficient to replace the stand.

Replanting Strategy:

1. Remove unwanted and hazard trees.
 - a. Russian olive invading the poplar stand will be cut and removed from the site. Remaining stumps will be treated with herbicide to prevent regrowth.
 - b. Hazardous, dead poplar trees will be cut and either placed as on-site habitat or removed from the site. Some standing snags will be left as habitat trees, including trees containing nests or cavities that do not pose a hazard to infrastructure.
2. Assess soils and amend if needed.
3. Install irrigation system: The stand can be irrigated from a water source at the east side of the Coyote Springs plant. The irrigation system will need to run on a timer and the water will need to be piped to the tree stand. PGE suggests installing a soaker hose irrigation system that will simulate a water table. If the hose degrades or breaks down over time, it will function the same way without costly repairs.
4. Plant 3-4 tree species to provide diversity and prevent future mass die-offs. Trees will be caged to protect from browsing until above the browse line. Trees must grow relatively quickly, be adapted to permeable loamy fine sand soils, withstand full sun to partial shade, and be drought tolerant.

Recommended Species:

- Hybrid poplar
- Black cottonwood (*Populus trichocarpa*)
- White alder (*Alnus rhombifolia*) - nitrogen fixing
- Douglas hawthorn (*Crataegus douglasii*)

5. Native species adapted to floodplains and loamy fine sand soils, such as Great Basin wildrye (*Leymus cinereus*), thickspike wheatgrass (*Elymus lanceolatus*), needle and thread (*Hesperostipa comata*), Indian ricegrass (*Oryzopsis hymenoides*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and antelope bitterbrush (*Prushia tridentata*) will be planted between trees to prevent establishment of undesirable species and provide forage and cover diversity for wildlife. Species used will depend on seed and plant stock available at the time of planting.

6. Monitoring

- Monitor irrigation system (April - September). Once plants are well established, irrigation may be reduced or no longer needed. Assess need for ongoing irrigation.
- Continue to treat noxious weeds.
- Remove encroaching Russian olive as needed.
- Monitor tree survival, maintain caging, and replant, as needed, to ensure sufficient stand establishment.
- Monitor stand health and regeneration for the life of the facility, as required in the Site Certificate.

Proposed Timeline:

July - September 2023:

- Treat and remove Russian olive trees.
- Remove hazard trees.
- Treat noxious weeds.
- Assess soils.

October - November 2023:

- Amend soils if needed.
- Seed understory with native grasses.
- Plant 50-60 trees (bare root stock or restoration plugs).

March - September 2024:

- Install irrigation drip system (March).
- Monitor plant establishment and irrigation system performance (April - September).
- Treat noxious weeds.

October - November 2024:

- Plant 50-60 additional trees (bare root stock or restoration plugs).
- Plant understory with native shrub and grass restoration plugs to supplement 2023 seeding.

Long-term monitoring:

- Monitor plant survival annually and replant, as needed, until ODOE and ODFW agree the replacement tree stand is established.
- Continue to monitor irrigation system performance during growing season. Once trees are well established, assess the need for ongoing irrigation and adjust watering accordingly.
- Monitor stand health in accordance with Site Certificate requirements.



Figure 1. Condition of hybrid popular trees in summer 2021.



Figure 2. Condition of hybrid poplar trees in summer 2017.



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