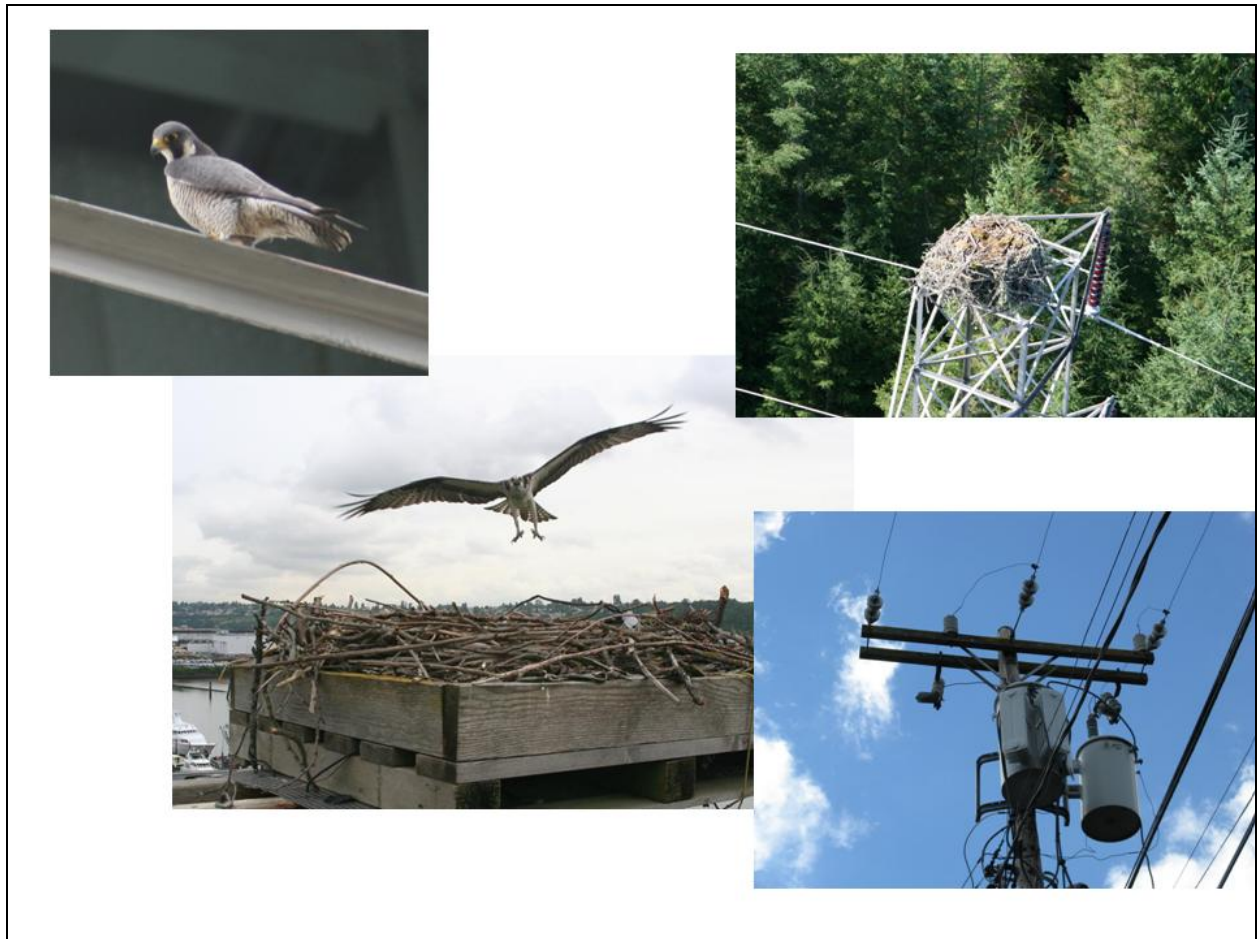


Avian Protection Plan Seattle City Light

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Version 1



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1 Introduction

Estimates of bird mortality from electrocution by power lines worldwide ranges from tens to hundreds of thousands annually; avian death from collisions with power lines ranges from hundreds of thousands to millions (Manville 2005). Over the last several decades, the problem of bird mortality from power lines has received increasing attention from electric utilities, wildlife management agencies, and the public. The Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) and the U.S. Fish and Wildlife Service (USFWS) have studied and documented the risk to different bird species from electrical power lines in the United States, the problems that avian issues create for electrical utilities, and the measures that can be taken to reduce the bird injuries and mortalities (APLIC 1994 and 2009, APLIC and USFWS 2005).

The purpose of Seattle City Light's (City Light) **Avian Protection Program (APP)** is to minimize bird injuries and mortalities caused by City Light power lines and other equipment. Implementation of the APP ensures compliance with state and federal regulations, increases system reliability, and promotes positive recognition from regulators and the public. The APP applies to all City Light-owned facilities, equipment, and power lines and is administered by the Environmental Affairs and Real Estate Division (EA&RED).

This **Avian Protection Plan (Plan)** provides the framework for the APP. It documents City Light's policies and procedures for 1) responding to and documenting bird/electrical equipment interactions when they occur, and 2) reducing overall avian risk to electrical generation, transmission, and distribution systems, and related infrastructure. The Plan also describes the 12 major components of the APP and summarizes the recent history of power line - avian interaction problems at City Light.

The Plan is intended to serve as a reference to assist City Light personnel in managing avian related issues. The Plan will be updated periodically by the EA&RED, in coordination with federal and state authorities, to incorporate new information and maintenance procedures. The most recent version of this Plan can be downloaded from the APP page on the City Light's website (<http://www.seattle.gov/light/environment/app/>); hard copies can be obtained by contacting City Light's EA&RED at (206) 684-3270.

The remainder of this introductory chapter provides additional background on regulatory requirements, City Light's environmental stewardship policy, and energy reliability considerations of the APP.

1.1 Regulatory Requirements

There are three federal laws that protect birds in the United States: (1) the Migratory Bird Treaty Act of 1918 (16 USC 703-712), (2) the Bald and Golden Eagle Protection Act, and (3) the Endangered Species Act. These Acts generally prohibit "take", which is any activity that results in harassing, harming, pursuing, wounding, killing, trapping, capturing, or collecting a protected species.

The USFWS is the federal agency principally responsible for enforcement of the three Acts. While none of these Acts allow for the unauthorized take of a protected species, the USFWS realizes that utility activities result in some bird mortality or injury even if all reasonable prevention measures are implemented. Therefore, the USFWS Office of Law Enforcement not only carries out investigation and enforcement, but also works with utilities to minimize their impacts on birds. The USFWS worked with the APLIC to develop guidelines for voluntary APPs (APLIC and USFWS 2005). Developing and implementing an APP using these guidelines demonstrates a commitment to reducing risks to birds, and is critical for the USFWS to authorize utility activities that unintentionally take birds. In recent years, the USFWS has increased its efforts to ensure adherence to federal laws, as demonstrated by recent case law.

1.1.1 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, makes it “...*unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest, or egg thereof.... (The Act) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of Interior.*”

The MBTA protects the 836 species of migratory species (50 CFR 10.13) that are native to the United States. The list of protected species includes waterfowl, shorebirds, seabirds, wading birds, raptors (eagles, hawks, falcons, and owls), and passerines (“songbirds”). Generally, the only species not protected in the area covered by City Light’s APP are gallinaceous birds (pheasant and quail), and the non-native pigeon (*Columba livia*), European starling (*Sturnus vulgaris*), and English house sparrow (*Passer domesticus*).

It is a misdemeanor offense to take a bird species protected by the MBTA; the law provides for strict liability, meaning there is no need for the USFWS to prove intent, negligence or fault. Individuals as well as corporations can be fined under the MBTA; corporate officers can be subject to imprisonment.

1.1.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC 668-688d) has similar prohibitions as the MBTA for these two species. The BGEPA imposes criminal and civil penalties, including enhanced penalties for subsequent offenses. Penalties for violations of the BGEPA are up to \$250,000 and/or 2 years imprisonment), with fines doubled for organizations. Violations are defined as felonies. Bald eagles (*Haliaeetus leucocephalus*) are relatively common throughout Washington and could be impacted by City Light power lines in Seattle and at all of the hydro plants. Golden eagles (*Aquila chrysaetos*) occur primarily east of the Cascade Mountains. Although there are records of this species in western Washington,

including a nest along the Skagit River, golden eagles are mostly likely to be found near the Boundary Project.

1.1.3 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 USC 1531-1543) was passed to protect endangered and threatened species and to provide a means to conserve their ecosystems. This law directs federal agencies to use their authorities to conserve listed species, as well as “candidate” species that may be listed in the near future, and ensure that the agency’s actions do not jeopardize the continued existence of these species. Under Section 9 of the ESA, it is unlawful to “take” a listed species. Take is defined as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The Secretary of the Interior has defined the term “harm” as “an act which actually kills or injures wildlife by significantly impairing essential behavioral pattern, including breeding, feeding, or sheltering.” Violations of the ESA are punishable by fines and imprisonment

Currently, there are four bird species in Washington State that are protected under the ESA: northern spotted owl (*Strix occidentalis*), marbled murrelet (*Brachyramphus marmoratus*), snowy plover (*Charadrius nivosus*), and brown pelican (*Pelecanus occidentalis*). The snowy plover and brown pelican are strictly coastal species, well away from City Light transmission, distribution, and generation systems. The occurrence of spotted owls or marbled murrelets in the vicinity of City Light’s facilities is possible but would be very unusual.

1.1.4 Case Law

The responsibility of utility companies to take measures to protect birds from being injured or killed by power lines and other equipment has been reinforced by the courts. In 1999, a court case settled in the United States District Court in Colorado (U.S. v. Moon Lake Electric Association, Inc. 45 F.Supp.2d 1070 [D. Colo. 1999]) set a precedent by determining that migratory birds and golden eagles electrocuted on power lines and poles represented “takings” prohibited by the MBTA and BGEPA. Officers from Moon Lake Electric Association, Inc. served three years on probation while the utility paid \$100,000 in penalties and was ordered to retrofit its lines to prevent further electrocutions. The retrofits were estimated to cost between \$1 and 2 million.

Another more recent example of MBTA enforcement occurred in 2009, when PacifiCorp pleaded guilty to 34 counts of MTBA and GBEPa violations in Wyoming and was ordered to pay a \$510,000 criminal fine and an additional \$900,000 in restitution. PacifiCorp was also ordered to spend \$9.1 million over a 5-year probationary period to repair or replace its equipment to protect migratory birds from electrocution in Wyoming.

1.2 Environmental Stewardship

Part of City Light’s mission is to produce and deliver environmentally responsible, low cost, and reliable power. In addition to being legally mandated, protecting birds from the negative effects of our operations is environmentally responsible and increases system reliability. The

importance of environmental stewardship is further emphasized by the following policy statement from City Light's General Manager and Chief Executive Officer:

"Seattle City Light is committed to very high standards of environmental protection. We will operate in a manner that is compatible with the long-term sustainability of the ecosystems that we affect. We believe that sound environmental performance is a key component of sound business performance. Environmental stewardship is a responsibility of all Seattle City Light employees."

1.3 Energy Reliability

City Light must operate the utility in a manner that provides maximum electricity reliability, while controlling costs to ratepayers. Avian electrocutions and collisions can be significant causes of power outages. For example, in the period from 2007 and 2012, birds caused over 1,400 power outages in City Light's Service Territory. These outages not only negatively affect customers who lose power, but also increase the overall cost to the utility. One outcome of implementing an APP is a reduction in the long-term frequency of avian-caused outages. By making small investments to prevent electrocutions and collisions from reoccurring in the same locations, energy reliability can be improved and cost savings passed on to customers.

2 Background

2.1 Summary of Avian-Power Line Issues

Large birds, particularly raptors (eagles, hawks, ospreys) that inhabit open country often use power poles for perching for hunting, feeding, or roosting. Some species also occasionally use, or attempt to use, power poles and other electrical equipment as structures for nesting. In a survey conducted by APLIC in 2005, utilities reported that birds caused up to 10% of all outages (APLIC 2006). Observation of eagle deaths in the 1970s raised some of the first serious concerns about the effects of power lines on raptors and other birds.

2.1.1 Electrocution

A bird can be electrocuted when it completes an electrical circuit by touching two uninsulated energized parts or energized and grounded equipment. Avian electrocutions generally occur on distribution lines because conductors on most of these lines are narrowly spaced and can be bridged by birds, particularly those with large wing spans. Similarly, electrical equipment, such as transformers, that have numerous closely spaced energized parts can present an electrocution hazard to even small birds. Transmission lines, which typically have much wider spacing between conductors, cause few avian electrocutions (APLIC 2006). Factors influencing avian electrocution include:

- Species with large wingspan (eagles, hawks, owls, osprey, vultures)
- Presence of nests
- Open habitat – power poles provide hunting and perching sites in open areas
- Weather – wet feathers are conductive, dry feathers act as insulation
- Conductor spacing - < 60-inches separation between conductors and/or other energized equipment
- Under-built transmission lines (APLIC 2006)

Bird electrocutions do not necessarily result in outages. Based on data from Puget Sound Energy, only 16% of bald eagle electrocutions between 2000 and 2005 caused outages (APLIC 2006).

2.1.2 Collisions

In addition to electrocution from power lines and other electrical equipment, birds can be killed or injured by colliding with electrical or fiber optic cables, on either transmission towers or distribution poles. Raptors typically are agile fliers, have keen eyesight, and are therefore usually at low risk of colliding with power lines. Waterfowl and waterbirds are more prone to colliding with power lines because they have relatively large wingspans and lack agility. Low altitude flight and flocking behavior also limits flight maneuverability, which can be problematic if flocks are taking off or landing in conditions where visibility is poor (fog, rain, low light). Therefore, power lines near waterbodies or in terrestrial feeding areas used by waterfowl and waterbirds pose a higher risk for collisions than lines in other locations. As an example, several

recent notable power line collision events involving injury and death of snow geese (*Chen caerulescens*) and trumpeter swans (*Cygnus buccinator*) have occurred on the Skagit Flats, an area that supports large numbers of wintering waterfowl.

2.1.3 Nesting

Power poles and other equipment provide attractive nest locations for some birds, particularly in open habitats where there are few trees. Transmission towers in eastern Washington are sometimes used for nesting by a variety of raptors, including red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks (*Buteo swainsoni*), and ferruginous hawks (*Buteo regalis*), (APLIC 2006) as well as by ravens (*Corvus corax*) and great-horned owls (*Bubo virginianus*). Ospreys (*Pandion haliaetus*), however, use utility structures for nesting more than any other North American bird (APLIC 2006). Transmission towers and double dead-end and dead-end distribution configurations that have relatively broad cross arms or narrow lattice structure on top, are most frequently used by osprey and some other raptors (APLIC 2006). In urban areas American crows (*Corvus brachyrhynchos*), English house sparrows, and pigeons are commonly observed nesting in substations and on other utility structures. Woodpeckers have been known to excavate nesting cavities in wooden power poles, and several swallow species often build nest on dams and other structures near water.

At many locations, such as some transmission towers and buildings, bird nests present no risk for electric operations. Nests at other sites, for example in substations and on distribution poles, can pose a risk of fire or an outage if nest material, prey remains, or excrement were to drop onto energized equipment (APLIC 2006).

2.2 History of Avian Issues at City Light

2.1.1 Avian Electrocution

Between 1962 and 1990, City Light changed its entire distribution system from 4 kV to the current 26 kV. As the system transition progressed, City Light crews noticed that the placement of terminals on top of transformers, instead of on the sides, increased risk of electrocution of crows. Employees occasionally observed crows pecking at energized components on transformers or getting their feathers under terminal covers. In an attempt to address the increasing problem, City Light began tracking crow-caused outages in 1973. Between 1973 and 1996, data on crow-caused outages were systematically collected, providing information on the historical pattern of electrocutions. Beginning in 1997, City Light began collecting data on all bird species killed by electrocution. Unfortunately, data collected between 1997 and 2006 lacked quality control and appear to have substantially under-reported bird-caused outages in the service territory. In 2007 City Light was asked by the USFWS to begin annual reporting of avian mortalities. Since then, City Light's EA&RED has been responsible for coordinating avian reporting and has incorporated rigorous data quality control procedures to ensure accuracy.

Between 1973 and 1988, documented avian mortalities increased from slightly more than 100 per year to a peak of 602; by the early 1990s, the annual mortalities declined to a range of 340-370 (Figure 2-1). In the six years between 2007 and 2013, mortalities have fluctuated between

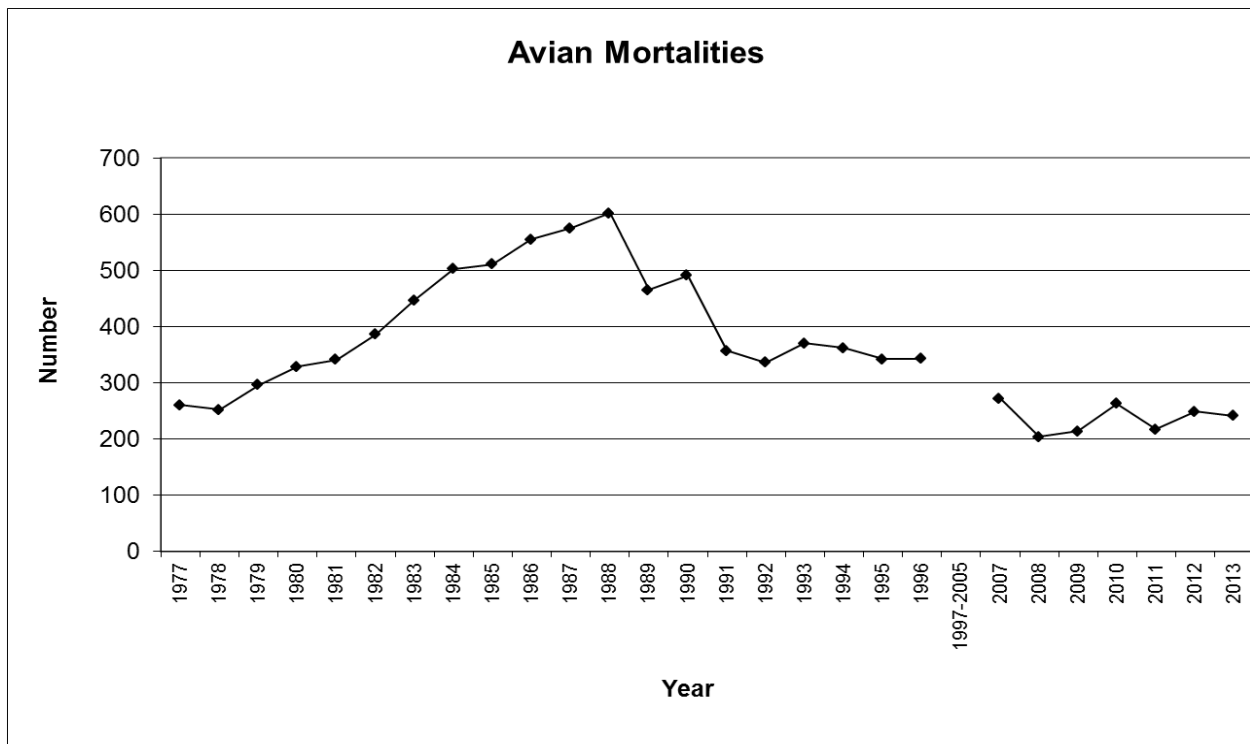


Figure 2-1. Documented avian mortalities in City Light service territory.

204 and 272 annually and have been distributed widely throughout much of the City Light Service Territory with no identifiable pattern (Figure 2-2).

In the 1980s, crows represented 97-99 percent of all avian mortalities; the remaining mortalities were listed simply as unidentified species. Of the 1,657 mortalities documented in 2007-2013, over 96 percent were species protected under the MBTA, with almost 90 percent being crows (Table 2-1). In all years, avian mortalities from electrocution peak in the summer months, shortly after young birds have fledged. The summary reports submitted to the USFWS for 2007-2013 avian mortalities are included as Appendix A.

There have been two bald eagles electrocuted by City Light equipment. One incident occurred in February 2001 on a distribution pole in northeastern Seattle. The other bald eagle mortality occurred in June 2003, when an eagle made contact with energized distribution lines in Tukwila, either on top of poles or possibly flying into them mid-span. Raptors electrocuted since 2007 include one Cooper's hawk (2012); two osprey (2012 and 2014); and four red-tailed hawks (2013).

2.2.2 Bird-Line Collisions

Bird collisions with power lines can be difficult to detect unless observed or an outage results. It is, for example, likely that the 13 Canada goose mortalities between 2007 and 2013 (Table 2-1) were collisions that resulted in outages. Although waterfowl probably occasionally collide with City Light's power lines over water, there is no evidence to suggest this is a common

Avian Caused Outages 2007 - 2013

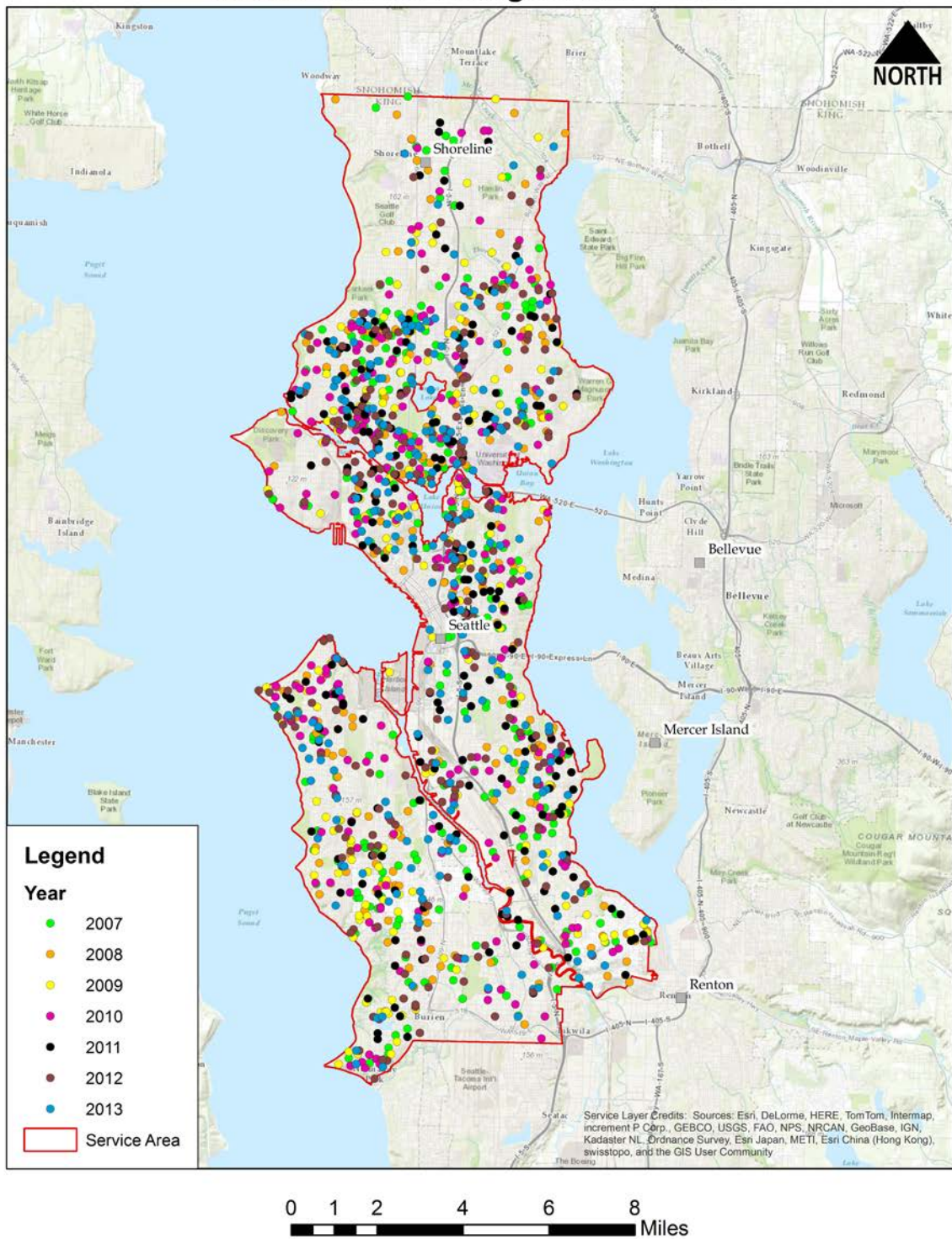


Figure 2-2. Distribution of avian mortalities in City Light service territory, 2007-2013.

Table 2-1. Number of documented mortalities in service territory, 2007-2013.

Species	No.	Percent
Protected by the MBTA		
American Robin	1	0.06
Canada Goose	13	0.78
Crow	1,485	89.62
Great Blue Heron	1	0.06
Gull	49	2.96
Red-tailed Hawk	4	0.24
Cooper's Hawk	1	0.06
Osprey	1	0.06
Owl	1	0.06
Steller's Jay	1	0.06
Woodpecker sp.	2	0.12
Unidentified	44	2.66
Unprotected by the MBTA		
European Starling	26	1.57
Pigeon	28	1.69
Total	1,657	

occurrence. Transmission lines over water are typically above the flight level of most waterfowl that use Seattle's waterways. Within City Light's service territory, many power lines over water are clustered with other wires and/or near bridges or other structures, making them fairly visible even in low-light conditions. And although there are numerous waterfowl within the city limits, feeding areas are usually small and dispersed and large flocks typical of more rural areas are rare.

To assess the collision risk posed to bald eagles by the Skagit River Hydroelectric Project transmission lines crossing the Skagit River and major tributaries, City Light monitored several crossings sites in 1996-1998. The monitoring found that 35 percent of eagle flights at altitudes similar to the electrical lines included sudden maneuvers ("flaring") to avoid the line (Springwood Associates, Inc. 1998). There has been only one documented bald eagle mortality since 1973 along City Light transmission lines (occurred at Corkindale crossing of Skagit River) (Springwood Associates, Inc. 2000). While bald eagle mortality from collision with the City Light transmission line is likely very rare, the one documented mortality and flight maneuvers indicated there was a collision risk to bald eagles that needed to be addressed.

2.2.3 Nesting

City Light does not keep track of bird nests on or in electrical equipment. Nests are not reported unless a power outage occurs or it is determined that there is a risk of an outage or fire. Western Washington has numerous large trees, so power poles are less attractive as nest sites than they are in more open areas. Nonetheless, ospreys, crows, pigeons, starlings, woodpeckers, and swallows have all been observed nesting on or in City Light power poles and/or other electrical equipment. Other birds nest on City Light buildings; the mud nests of

cliff and barn swallows (*Hirundo pyrrhonota* and *H. rustica*) are particularly common on City Light dams and buildings near water.

In a small number of cases each year, City Light has had to remove nests (always outside of the nesting season or prior to egg laying) to eliminate the risk of the nest material causing a fire and power outage. In recent years, an increasing number of osprey nests have been constructed on top of City Light transmission towers and distribution poles. While there have been no documented cases of osprey fatalities related to nesting, there have been incidents when osprey nests have caught fire or posed a risk of fire and had to be removed. For example, after the 2010 nesting season, a pole-top nest caught fire and was removed and a second nest had to be removed because nest material was in contact with the energized conductors.

2.2.4 Other

One other avian issue noted over past years is the entrapment of birds in buildings. This has occurred in only one location—at the Diablo Boathouse on the Skagit Project. In the years immediately after its construction City Light personnel observed that birds occasionally entered the Diablo Boathouse and perched on the rafters but then had difficulty exiting the building. These birds occasionally succumbed to heat or stress unless personnel successfully chased birds out. During the first years of the boathouse operation, as many as 5 to 10 dead hummingbirds were found each week in summer months. Other small birds, as well as owls and accipiters, were reported dead as well.

2.3 History of City Light Corrective Actions

Several factors in City Light's service territory contribute to a lower number of avian mortalities from electrocution than many other utilities. Fewer raptors, which tend to be at greatest risk for electrocution, inhabit the urban and suburban areas of Seattle compared to more rural service territories. In addition, the 10-ft long cross arms that are standard for much of City Light's distribution system probably reduce the number of birds electrocuted by conductor-to-conductor or ground contact.

2.3.1 Measures to Reduce Electrocutions

Transformers have long been identified as the major source of avian mortality associated with City Light's distribution system. To address this problem, in about 1975, City Light began installing plastic bushing covers (bird guards) on all new 26 kV distribution transformers in the service territory and on transformers where avian electrocutions were documented. A 2009 inventory of City Light distribution equipment found 25,592 (47.7%) of the 53,599 transformers in the service territory had bird guards. Three of the 119,886 support structures (poles) had perch preventers to prevent raptors, including bald eagles, from perching in dangerous locations.

In response to a bald eagle electrocution in Tukwila (June 2003), City Light installed bird flight diverters, conductor insulation, and jumper wire covers along 500 ft of distribution lines near the meat rendering plant that attracted these birds. To prevent future electrocutions at the

site of the only other documented bald eagle electrocution in the Service Territory, City Light de-energized the center line, thus eliminating the risk of birds touching two phases simultaneously.

Ospreys commonly nest on power poles and the population of this species in the Seattle area has been increasing in recent years. Since 2000 City Light has relocated a number of osprey nests from power poles to nearby artificial nesting platforms to reduce electrocution risk to the birds as well as to protect electrical equipment. City Light crews also routinely remove nesting material from ospreys and other birds, either before egg-laying or after the nesting season, from substations, power poles, and other electrical equipment.

2.3.2 Measures to Reduce Collision Risk

Based on observations that wintering bald eagles regularly modify their flight paths near the Skagit transmission lines where they cross the Skagit River near Corkindale Creek, City Light included an Aviation Marker Program in the Settlement Agreement for the Skagit Project License. City Light then prepared an Avian Marker Plan that was approved by the Federal Energy Regulatory Commission (FERC) in 1998 and subsequently implemented. In 1999 bird flight diverters (BFDs) (Preformed Line Products, Inc.) were installed at six sites between Rockport and Newhalem where the transmission lines cross the Skagit River or a tributary stream. These streams included: Corkindale, Illabot, Diobsud, Bacon, Pinky's, Shovel Spur, and Goodell creeks. At each site, the BFDs were installed at a 15-30 feet spacing. In 1999, a study determined that the transmission lines crossing the Stillaguamish and Snohomish rivers are located well above the typical flight path altitude of bald eagles, and represented a very low collision risk.

Data from tracking avian mortality documented two Canada goose collisions with City Light power lines along the Duwamish River near Boeing within a 3-year timeframe. These lines were marked with bird flight diverters in October 2011. Since then, several other sites where Canada geese have collided with lines have been marked with bird flight diverters as well.

2.3.3 Other Remedial Measures

In 2004-2005, City Light installed mesh netting (0.75-inch openings) in the Diablo boathouse and the Ross Powerhouse Boat Landing boathouse to prevent birds from becoming entrapped in the buildings. Since the installation, the incidence of bird fatalities has declined to near zero. Only 3-4 hummingbird fatalities have been documented between 2005 and 2012.

3 Program Overview

The overarching goal of the APP is to prevent avian mortality from City Light's electrical distribution and generation facilities in order to comply with state and federal laws and improve system reliability.

3.1 Program Elements

City Light's APP incorporates the guidelines provided by the APLIC and USFWS (2005) and includes the following 12 elements:

- **Corporate Policy** – A statement of City Light's commitment to minimizing its impacts on migratory birds and complying with state and federal laws protecting birds (Chapter 4).
- **Key Resources** – Roles and responsibilities of City Light divisions charged with implementing the APP and a list of external experts and/or organizations that can provide assistance as needed (Chapter 4).
- **Permit Compliance** – A list of all necessary avian-related permits, their requirements, and the process for obtaining them (Chapter 5).
- **Training** – Education for City Light employees and contractors about avian protection issues, policies, and procedures (Chapter 5).
- **Nest Management** – Procedures for assessing and managing nests on utility structures (Chapter 6).
- **Avian Mortality/Injury Response and Documentation** – Methods for responding to and documenting incidents of avian mortality to comply with state and federal permits and regulations (Chapter 7).
- **Mortality Reduction Measures** – Corrective and preventative measures that City Light will take to reduce avian mortality (Chapter 8).
- **Risk Assessment** – Methods used to identify specific areas within City Light's service territory that represent elevated risk to migratory birds and that will be prioritized for avian safe retrofit efforts (Chapter 8).
- **Design Standards** – Guidelines for installing protective devices on equipment where avian incidents have occurred and design standards for retrofitting and constructing new equipment and power lines that reduce risk of avian mortalities (Chapter 8 and Appendix E).

- **Quality Control** – Procedures City Light will use to periodically assess the effectiveness of the APP (Chapter 8).
- **Avian Enhancement Options** – Proactive measures that have been or will be taken to benefit migratory bird populations within City Light’s service territory and hydroelectric project areas (Chapter 9).
- **Public Awareness** – A description of how City Light will coordinate internally and with the media to inform the public about bird electrocution and collision issues and City Light’s successful avian protection efforts and enhancement actions (Chapter 10).

Each of these elements is addressed in the subsequent chapters of this Plan.

3.2 Definitions

A number of terms are commonly used throughout this Plan. Definitions are provided below.

Avian Protection Program (APP): City Light’s program for reducing impacts to migratory birds from energy delivery and generation facilities. The APP is defined and established in the Avian Protection Plan (Plan) and is implemented by an APP manager and lead biologist from the Department’s EA&RED.

Avian Safe Standards: Separation distances between conductors and other protective devices used on power lines and associated energy delivery equipment and facilities to provide adequate insulation or isolation to prevent avian electrocution (see APLIC 2006).

Avian Sensitive Areas: Areas near water and forested parks that are typically more heavily used by native birds than urban sites and areas near known bald eagle nest locations. In these areas power lines may represent more of an electrocution risk.

Avian Species: Bird species; there are over 300 bird species in Washington.

Corrective Action: Actions taken to prevent future avian mortality at equipment that has killed or injured a protected bird. Corrective actions may include installation of appropriate protective devices (i.e. bird guards, perch guards, flight diverters) and/or increased spacing between energized conductors or equipment.

Energy Delivery Equipment: Cables, wires, conductors, transformers, switches, poles, bushings, relays, and other devices associated with electricity delivery.

Energy Delivery Facilities: Distribution (≤ 26 kV) and transmission (≥ 115 kV) power lines, substations, and switchyards.

Listed Species: Any bird protected by the Endangered Species Act.

Migratory Bird: Species that traverse certain parts of the United States, Canada, Mexico, Russia, or Japan in the course of their annual migration. This includes not only neotropical (long-distance) migrants, but also temperate (short-distance) migrants and resident species. In practical terms it is all bird species native to the United States.

Mortality Reduction Measures: Includes (1) corrective actions at sites where Department equipment has resulted in avian mortality and (2) preventative measures at existing or new equipment identified during the risk assessment as potentially representing a high risk of electrocution or collision.

Nesting Season: The period during the year when birds build nests, lay eggs, and raise young. This period is species-dependent and influenced by weather, but is typically from early-April through mid-August in Washington.

Nuisance Nest: The nest of a protected species that is (1) in a location where nest material or bird droppings could foul electrical equipment over time; (2) in a building; (3) in a streetlight; or (4) near a frequently used door. These nests do not represent an immediate risk to equipment or facilities.

Non-protected species: Bird species that are not protected by the Migratory Bird Treaty Act. In the City Light Service Area, non-protected species include pheasant and quail and three non-native introduced species: pigeon, European starling, and English house sparrow.

Power Line: Two or more cables used to deliver electricity from one location to another.

Problem Nest: An active bird nest that presents an imminent risk to electrical equipment or facilities and that needs to be relocated or removed.

Protected Bird/Species: All bird species protected under the Migratory Bird Treaty Act.

Protective Devices: Materials that can be installed on electrical equipment to prevent electrocution or collisions including, but not limited to:

- Bird Guard: A cover installed over transformer bushings to prevent birds from contacting the conductor.
- Perch Guard: A triangle of plastic or row of plastic spikes that are mounted on power line cross arms to prevent birds from perching.
- Bird Flight Diverter: Small devices that can be installed on power lines to make them more visible to birds in flight and easier to avoid, particularly under low light conditions. Includes various types of line markers, such as coils made from colored polyvinyl chloride, “flappers”, and fireflies.

- Nest Deterrent: Materials installed on cross arms to prevent birds, particularly raptors, from nesting.
- Insulation: Silicon tape or hose installed on lines to insulate them from contact
- Raptor Construction Retrofits: Various measures and materials used to make power lines safe for raptors, including (1) modifying the configuration of conductors and/or grounded equipment to ensure there is at least 60 inches between them (avian-safe spacing) or (2) installing a silicon guard on the primary insulator to mitigate lines that cannot be modified to avian-safe spacing standards.

See Appendix E of the Avian Protection Plan for a comprehensive list of available materials.

Raptors: Birds of prey (eat other birds, mammals, or reptiles); including eagles, hawks, owls, falcons, and osprey.

Retrofit: Actions taken and/or devices installed on existing equipment or facilities that represent a high risk for electrocution as identified by a risk assessment.

Service Territory: The area served by City Light's electrical distribution facilities.

U.S. Fish and Wildlife Service: The federal agency charged with managing and enforcing the Migratory Bird Treaty Act, Endangered Species Act, and Bald and Golden Eagle Protection Act.

Washington Department of Fish and Wildlife: The state agency responsible for protecting and managing wildlife, including birds, within Washington.

4 Policy & Key Resources

4.1 Policy

City Light is committed to implementing an Avian Protection Program (APP) to minimize impacts on migratory birds from its facilities and to comply with all applicable laws and regulations related to avian protection. City Light believes that its APP is consistent with the utility's mission of "delivering environmentally responsible, safe, low cost and reliable power". City Light will allocate the financial, management, and staff resources necessary to implement all elements of the APP throughout all divisions of the utility.

City Light understands that its APP represents a binding commitment to the USFWS to reduce its impacts on birds. To demonstrate this commitment City Light has prepared and will implement an Avian Protection Department Policy and Procedure (DPP). A signed copy of the DPP and the full text is provided in Appendix B.

4.2 Key Resources

Implementation of the APP is primarily the responsibility of City Light but there are a number of key agency contacts and external experts who can provide technical assistance. City Light roles and responsibilities, as well as agency and external contacts, are summarized in the following sections.

4.2.1 City Light

Implementation of the APP will involve seven divisions within City Light.

4.2.1.1 Environmental Affairs and Real Estate Division

City Light's EA&RED is responsible for coordinating the development and implementation of City Light's APP. Within EA&RED, there will always be two APP biologists who will be responsible for the following:

- **External Coordination** – Serve as the primary points of contact for communicating with and reporting avian issues to the USFWS, WDFW, local jurisdictions, non-governmental organizations, and the public.
- **Permit Acquisition** – Obtain necessary authorizations from federal and state agencies to manage occupied nests and remove dead or injured birds. Comply with permit conditions for coordination and reporting.
- **First Response** – Respond to avian mortalities and injuries (protected bird events not involving crows or gulls), or ongoing problems (e.g., problem nests endangering the electrical system or property) to assess the situation and collect data. Work with City Light engineers and line crews to identify and implement appropriate measures or remedies, as required.

- **Landowner Permission** – Obtain legal permission to use property for designated nest platform poles. Acquire any needed easements or permits.
- **Data Management** – Download avian incident data from City Light’s Outage Management System (OMS). Develop, maintain and quality control check the database that tracks avian issue locations, species affected, and implemented corrective actions.
- **Report Preparation** - Prepare annual reports for submission to the USFWS and WDFW to comply with permit requirements. Reports are based on the avian document annual avian mortality and associated prevention measures.
- **APP Update and Implementation** – Work with City Light Engineering and Energy Delivery Asset Management divisions to develop and implement measures under the APP. Oversee continual improvements in the APP as new information and products become available.
- **Education and Training** – Provide training to staff and field personnel on City Light policy, regulatory requirements, documentation and reporting procedures, field techniques, and safety concerns when dealing with avian issues.

EA&RED – APP Biologists (2014)		EA&RED Pager (after hours)
Colleen McShane (206) 684-4238 (office) (206) 335-4842 (cell 1) (206) 794-4202 (cell 2) Colleen.Mcshane@seattle.gov	Ron Tressler (206) 386-4506 (office) (425) 890-9001 (cell) Ron.Tressler@seattle.gov	(206) 995-2460

4.2.1.2 System Operations Division

System Operations Dispatchers receive information from field crews on avian incidents and problem nests and are responsible for entering the information into the OMS. The Dispatcher contacts one of the APP biologists or EA&RED Pager if the incident involves a bird nest or an injury to or death of a protected species (other than crow or gull). The APP biologists will consult with the Dispatchers to obtain additional information on specific avian incidents, as necessary.

SO - Chief Power Dispatchers (2014)	
Dana Wheelock (206) 706-0241 (office) Dana.Wheelock@seattle.gov	Pawel Krupa (206) 706-0240 (office) Pawel.Krupa@seattle.Gov

4.2.1.3 Energy Delivery Field Operations Division

The field crews in the Energy Delivery Field Operations Division are responsible for reporting all avian injuries or mortalities, and problem nests to the System Dispatcher and/or APP biologists. The field crews also identify and implement appropriate corrective actions to prevent future

avian mortality at sites where birds have been killed. Measures will be based on APP guidelines and specific work plans provided to them by supervisors and may include installation of specific protective devices (i.e. bird guards, perch guards, nest deterrents). Crew chiefs also ensure that crews under their supervision properly implement APP procedures and inform the APP biologists if personnel need APP training.

Energy Delivery – Field Operations (2014)		
Bernie Ziemiank (206) 615-1162 (office) (206) 437-6640 (cell) Jeff.Joy@seattle.gov	Rich Morlaz (South Area) (206) 386-1624 (office) (206) 423-1574 (cell) Richard.Moralez@seattle.gov	Lee Simpkins (North Area) (206) 684-4902 (office) (206) 718-4149 (cell) Lee.Simpkins@seattle.gov

4.2.1.4 Asset Management Division

The Asset Management Division is responsible for developing and maintaining the OMS, which tracks all electrical outages in City Light's service territory. The OMS fields include outage cause, location, and corrective actions taken. Outages caused by birds include data on bird species. The Standards Group within the Assessment Management Division is responsible for preparing Materials Standards and Construction Standards for all avian protection devices and construction. These standards must be approved by the APP biologists.

Asset Management – OMS & Standards (2014)	
Joyce Miceli (OMS) 206-233-2519 Joyce.Miceli@seattle.gov	John Shipek (Standards) (206) 684-3950 (office) John.shipek@seattle.gov

4.2.1.5 Energy Delivery Engineering Division

The Energy Delivery Engineering Division is responsible for designing new and upgraded power lines and other facilities to avian safe standards. Engineers coordinate with the APP biologists to determine if new or upgraded facilities should have other devices installed to reduce the probability of avian mortality from electrocution or collision.

Energy Delivery Engineering (2014)	
John Nierenberg (Distribution) (206) 615-1150 (office) (206) 615-0177 (cell) John.Neirensberg@seattle.gov	Bob Risch (Transmission) (206) 684-3269 (office) (206) 718-8625 (cell) Bob.Risch@seattle.gov

4.2.1.6 Power Production Division

City Light-owned hydroelectric projects are in forested rural areas that support a wide variety of native birds, some of which are listed as sensitive by the WDFW. The Power Production Division coordinates, as needed, with the EA&RED on construction and maintenance activities that may affect birds at Department dams, powerhouses, and associated facilities.

Power Supply – Project Managers (2014)		
Skagit (206) 386-4481 (office)	Terry Borden (Boundary) PAX-28-3203 (office) (509) 589-0871 (cell) Terry.Borden@seattle.gov	Don Nation (SF Tolt, Cedar Falls) (206) 706-2010 (206) 963-0178 Donald.Nation@seattle.gov

4.2.1.7 Communications and Public Affairs:

The Communications and Public Affairs handles public inquiries and media related to avian issues on City Light facilities and equipment.

Communications & Public Affairs (2014)	
Director (206) 615-0050 (office)	Scott Thomsen (206) 615-0978 (office) Scott.Thomsen@seattle.gov

4.2.2 Regulatory Contacts

The U.S. Fish and Wildlife Service is the federal agency responsible for administering and enforcing the Migratory Bird Treaty Act, Endangered Species Act, and Bald and Golden Eagle Protection Acts. USFWS is the main agency point of contact for the APP and can also provide technical assistance on avian issues. USFWS must be contacted prior to removing eagle nests or nests of threatened or endangered species.

The Washington Department of Fish and Wildlife (WDFW) manages all wildlife within Washington and can provide information on species and habitats. WDFW is the main agency point of contact for activities that involve disturbing, removing, or relocating nests of native species other than eagles or threatened or endangered species.

Agencies (2014)		
U.S. Fish and Wildlife Service Jennifer Miller, Migratory Bird Permits (503) 872-2715 Jennifer_Miller@fws.gov	U.S. Fish and Wildlife Service Amanda Crook, Special Agent (425) 883-8122 (office) Amanda_Crook@fws.gov	Washington Department of Fish and Wildlife Chris Anderson, Wildlife Biologist 425-775-1311 Ext 111 Christopher.Anderson@dfw.wa.gov

4.2.3 Other Contacts

Osprey Solutions, LLC is a firm specializing in working with utilities on designing and installing nest platforms for osprey as well as devices to discourage osprey from nesting on power poles.

Osprey Solutions, LLC

Jim Kaiser
P.O. Box 16775
Seattle, WA 98116
(541) 231-7090

There are a number of rehabilitation centers that work with injured wildlife. A full list of rehabilitators with permits is available from the WDFW (<http://wdfw.wa.gov/conservation/health/rehabilitation/>). Several rehabilitation centers in Seattle and near the Skagit and Boundary hydroelectric projects are listed.

- **PAWS Wildlife Center**

Seattle area - all injured/orphaned wildlife
15305 44th Ave W
Lynnwood 98046
425-787-2500 ext 817
<http://www.paws.org/wildlife/>

- **Northwest Wildlife Rescue and Rehabilitation**

Whatcom and Skagit counties only. All species, provides transportation to appropriate facility.
3671 Mt. Baker Highway
Everson 98247
360-592-8845
<http://www.northwestwildlife.org>

- **Sarvey Wildlife Center**

Western Washington. Ambulance service to pick up injured or sick wildlife, call numeric pager number
206-609-1611
13106 148th St NE
Arlington, WA 98223
360-435-4817
<http://www.sarveywildlife.org/>

Island Wildlife Shelter

Injured or orphaned wildlife
7501 NE Dolphin Dr
Bainbridge Is., WA 98110
206-855-9057
<http://www.islandwildlife.org/>

- **Dorothy Cooper**

All species except large carnivores
411 Daisy Ln
Cusick, WA 99119
509-671-5069
Night/Cell Phone: 509-671-5069

Assistance with issues specific to peregrine falcons can be obtained from the following agency wildlife biologists:

- **Paul DeBruyn**
Washington Department of Fish and Wildlife District 14
(360) 466-4345 ext. 281
(360) 480-5252 cell
Paul.DeBruyn@dfw.wa.gov
- **Joseph Buchanan**
Washington Department of Fish and Wildlife
(360) 902-2697
Joeph.Buchanan@dfw.wa.gov

5 Permit Compliance & Training Program

5.1 Permit Compliance

City Light holds federal and state permits that allow certain utility employees to handle injured birds, dispose of dead birds, and move nests. These permits are applied for by, and issued to, the APP biologists.

- **Federal Fish and Wildlife Permit** – The Federal Fish and Wildlife Permit is issued by the USFWS, typically for a 3-year period, upon request by City Light. It authorizes salvage of migratory birds found dead or injured near utility lines and other electrical equipment. It also authorizes City Light to take, transport, and relocate active nests from transformers and conductors when there is a threat of fire or power outage. City Light is required to document birds killed or injured by its equipment and report this information annually to the USFWS. There are special handling and reporting requirements for bald and golden eagles and for threatened and endangered species. See Appendix C for copy of current permit (MB-161960-0) and all conditions and an example of an annual report to USFWS.
- **Washington Department of Fish and Wildlife Take Letter** – The WDFW authorizes City Light to remove or relocate nests of native bird species as required for the safe operation of electric facilities. This permit covers the removal of active nests as well as material from inactive nests. City Light is required to file an annual summary with WDFW that details the number of birds impacted by nest removal activities. The take letter is issued annually upon written request from City Light (see Appendix C).

It is important to note that neither of these permits authorize City Light to kill or injure a migratory bird. It is unlawful at any time, by any means, or in any manner, to pursue, hunt, take, capture, kill, or attempt to do these acts. If City Light equipment causes the death or injury of a migratory bird corrective actions must be taken to prevent future avian mortality at that site. Without corrective action, City Light is out of compliance with its APP and is in violation of the Migratory Bird Treaty Act.

5.2 Training

APP biologists from the EA&RED are responsible for providing avian protection training to City Light employees who work in the field or typically receive information from field personnel. The training covers regulations, history of avian-power line issues in North America and at City Light, field procedures, safety precautions, corrective actions, and internal requirements for reporting dead or injured birds or a bird nest on electrical equipment.

EA&RED presents training workshops to field crews (electrical and civil), dispatchers, and operators, at least every two years, or more frequently if requested. The training workshop material consists of a Power Point (Microsoft, Inc.) presentation and laminated handouts with

reporting procedures for avian incidents and problem nests, and bird species identification aids (see Appendix D for APP training power point presentation and handouts). In addition, EA&RED maintains an APP web page where employees can review training materials, maps, and other data, and this Plan.

6 Bird Nest Management

Within City Light's service territory, different types of equipment provide nesting structures for different species. Crows commonly construct nests on power pole transformers and cross-arms and on equipment in substations. English house sparrows and starlings frequently nest in streetlights. Pigeons tend to nest in the eaves of substations and other buildings. Flickers and other woodpeckers will excavate nest cavities in power poles; these cavities are often used by other species, such as chickadees and starlings, in subsequent years. The only raptor known to nest on City Light equipment is the osprey. Populations of this species in western Washington have increased greatly over the last 20 years and ospreys are relatively common in Seattle as well as at the Skagit and Boundary projects.

Bird nests on City Light poles, towers, substations, and other infrastructure that could interfere with safe operations are defined as "problem nests". For City Light, osprey and crow nests typically result in the most operational problems. "Nuisance nests" are not a concern for operations, but constitute a nuisance because they are (1) in a location where nest material or bird droppings could foul sensitive equipment over time and/or create extra maintenance; (2) in a building; (3) in a streetlight; or (4) near a frequently used door. At City Light facilities, nuisance nests typically belong to pigeons, starlings, English house sparrows, and barn swallows.

6.1 Permit Requirements

The MBTA prohibits the take, possession or transportation of a nest from any migratory bird species. All active or occupied nests of migratory birds are protected by the MBTA and cannot be disturbed without specific authorization from the WDFW and/or USFWS Regional Office in Portland, Oregon. To do so without permission is a violation of laws and can result in prosecution.

City Light's Federal Fish and Wildlife Permit authorizes the take, transport, and relocation of active (eggs or young present) migratory bird nests from electrical equipment when there is the threat of a fire or power outage or when maintenance is required to avoid an imminent outage. Removal of empty nests or partially completed nests does not require federal authorization.

City Light's state permit from the WDFW requires adhering to the following guidelines for nest management:

- All nests are to be left in place if they do not represent a threat to reliable operations or to the nesting birds themselves, or constitute a nuisance;
- If possible, nests that represent a threat to reliable operations or safety will be removed when the nest is inactive or prior to egg laying;
- Nuisance nests will be removed only when the nesting season is complete and the nest is inactive;

- If it is necessary to remove a nest with eggs or young the WDFW will be contacted to ensure the disposition of nests, eggs, offspring to the most appropriate recipients.

6.2 Nest Management Considerations

As a general rule, nests that are not a problem or nuisance will be left in place. Before removing or otherwise disturbing any nest on City Light facilities between the months of January and August, personnel must get authorization and instruction from one of the APP biologists. It is critical that APP biologists or a qualified agency biologist evaluate the nest to determine the species involved and the nesting status (occupied vs. unoccupied and active vs. inactive). Only in the case of imminent danger (see Section 6.3) can personnel move nest material prior to authorization. Even under imminent danger conditions, an attempt should be made to contact an APP biologist prior to initiating the action. The APP biologist will coordinate with the USFWS and WDFW and ensure that the necessary permits are in hand. The work flow for dealing with problem nests is presented in Figure 6-1.

City Light personnel can help ensure compliance with regulations and provide maximum flexibility for managing problem nests by reporting all problem or nuisance bird nests on City Light infrastructure as soon as they are detected. For example, corrective actions can often be implemented before or after the nesting season (eggs or young present in nest) without agency approval as long as an APP biologist is involved in decisions. Similarly, nests identified as belonging to pigeons, starlings, or English house sparrows can be removed at any time and without agency approval because these species are not protected by the Migratory Bird Treaty Act.

Nests or nest material on City Light equipment can be removed without contacting an APP biologist and/or the agencies at any time in the months of September, October, November, and December. These months are outside the nesting season for all bird species that breed in Washington and any nests found during this period are inactive. However, it is desirable to coordinate the removal of any raptor nests (i.e. hawks, osprey) with the APP biologist as there are often public relations issues.

6.3 Imminent Danger

Nests defined as an “imminent danger” are those that pose an obvious risk of fire, compromised public safety, property damage, or avian electrocution. In cases of imminent danger nest material may be trimmed or moved, conductors moved, or other appropriate action taken prior to receiving a permit. However, every attempt should be made to coordinate with one of the APP biologists prior to the action. In these situations it may be necessary to temporarily handle eggs or young birds while working with the nest material. It will be important to minimize agitating the birds and to keep the young birds and/or eggs warm during the transfer process.

The WDFW permit requires City Light to immediately contact their agency when active nests need to be handled; the APP biologists are responsible for communication with WDFW. If APP

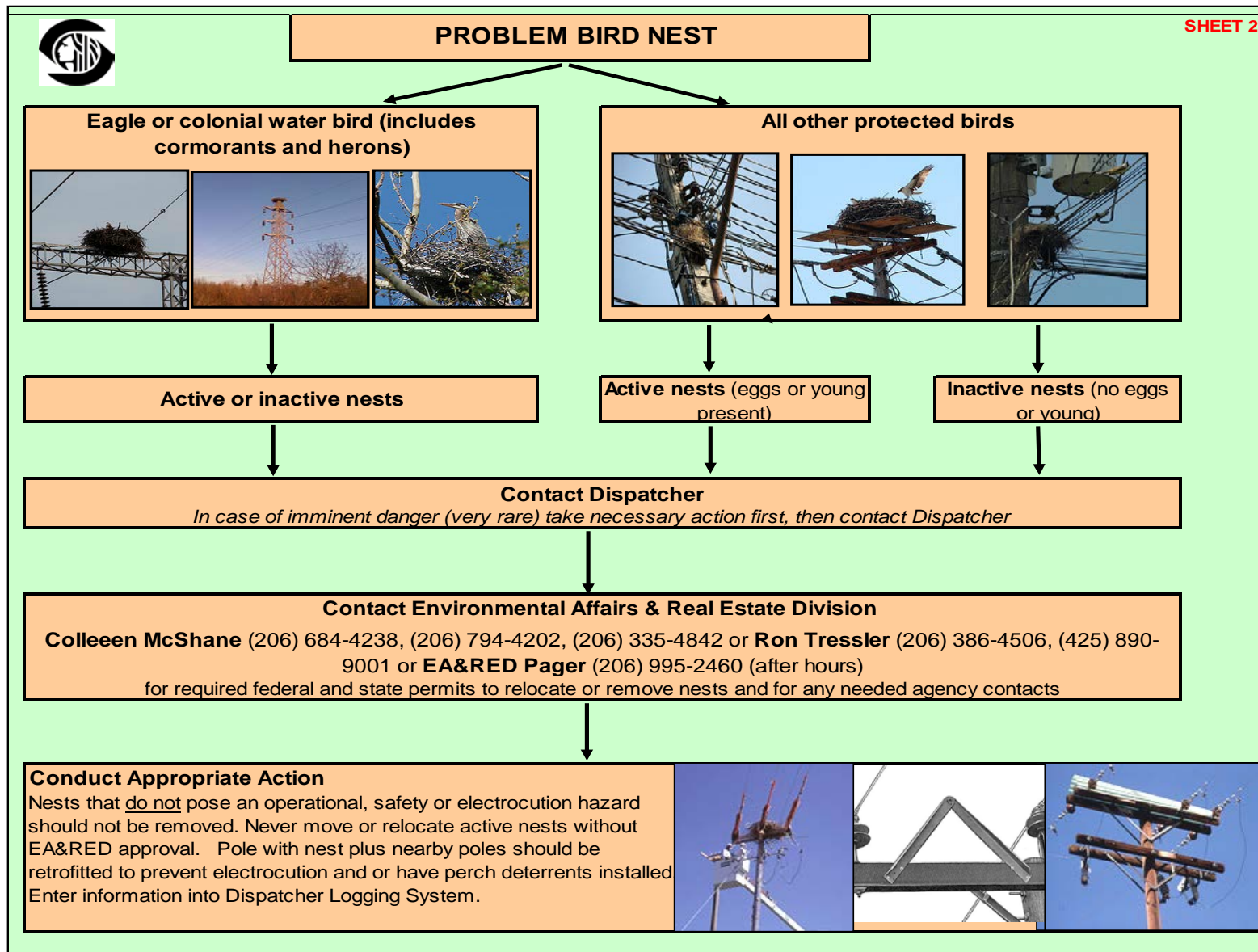


Figure 6-1. Field procedures for dealing with problem nests.

biologists cannot be contacted prior to the action, they should be contacted as soon as possible after the work is completed, so that agencies can be notified and permits received retroactively.

6.4 Actions Associated with Osprey Nest Removal

Ospreys have a high fidelity to a site once they have begun to build a nest and will continue to attempt nest construction even if the branches and other materials are removed repeatedly. If an osprey nest or nest material needs to be removed from a power pole or transmission tower City Light will install an “excluder” (Figure 6-2) on the pole to prevent re-nesting attempts. Osprey nest site excluders to cover cross arms are often site-specific designs but in general, they will be constructed to specifications developed for City Light by Osprey Solutions, LLC in 2011 (see Appendix E). Insulated conductor covers will be installed concurrently with the excluder to prevent electrocution if ospreys land on the wires in an attempt to re-nest. Installation will be by City Light crews.



Figure 6-2. Osprey nest excluder and insulated conductor covers.

When possible, City Light will also install an osprey platform (Figure 6.3) on a dedicated pole located near the original nest site, as determined by the following steps:

- An APP biologist will assess the surrounding area to determine if the osprey pair has relocated from a nearby tree or platform nest. If a nearby nest has been abandoned, the APP biologist will coordinate with City Light electrical crews and property owners to check the nest and vicinity to identify any problems that may have prevented the site



Figure 6-3. Osprey nest platform example.

from being reused. These could include (1) the presence of dead birds, large dead fish, or trash in the nest bowl; (2) a structural problem with the nest or platform; (3) a nearby bald eagle or great horned owl nest; (4) adjacent trees that have grown too tall and over topped the nest; (5) increased disturbance in the area; or (6) nest removal by the landowner of the structure (i.e. cell phone tower or railroad trestle). Removing debris from the nest bowl or fixing a nest or platform may result in ospreys returning to the site.

- If there are no nearby osprey nest sites or platforms the APP biologist and an energy delivery engineer will evaluate the surrounding area for a potentially suitable location to install a dedicated pole with an osprey nest platform. A suitable site for an osprey platform must:
 - 1) be within 300 ft of the former nest site;
 - 2) be close to water;
 - 3) be away from exiting power lines and poles;
 - 4) not be adjacent to trees or structures that are taller than the pole/platform;
 - 5) not be in a location where debris from the nest or excrement could drop onto buildings or vehicles;
 - 6) have an owner willing to agree to installation of the pole and platform; and
 - 7) have access suitable for bucket trucks and other heavy equipment.
- If a suitable site is available, the APP biologist will coordinate landowner permission and any needed permits or approvals for installation.

The APP biologist will facilitate construction and installation of the platform. Osprey platforms will be constructed to the specifications provided by APLIC (2006) or Osprey Solutions, LLC (Appendix E). Platforms will include an elevated perch and nest material to attract osprey. In addition, perch guards will be installed on any nearby poles.

7 Avian Mortality/Injury Response, Documentation, & Reporting

The success of the APP and City Light's compliance with federal and state laws is dependent on personnel dealing appropriately with dead or injured birds, accurately reporting avian incidents, and implementing corrective measures to reduce future risks to birds. This section presents guidelines and procedures for dealing with incidents of avian mortality or injury as well as City Light's documentation and reporting requirements.

7.1 Avian-Electrical Equipment Incident Response

All avian injuries and mortalities resulting from an interaction with City Light's electrical system or infrastructure must be reported, even if the interaction does not result in a power outage. It is expected that most avian-electrical equipment incidents will be discovered by City Light operators or field operations crews. However, any City Light personnel who discover or confirm a bird electrocution or collision, or receives notification from the public or other sources regarding a bird injury or mortality should follow the "Bird Incident Work Flow Diagram" (Figure 7-1) to immediately document the incident. The following sections describe details for dealing with avian mortalities and injured birds.

7.1.1 Bird Mortalities

Upon finding a dead bird, personnel should enter the following data into the OMS and/or Dispatcher's Log: species, date/time, location (address), pole identification number, problem (outage, flicker, etc.) and any corrective actions taken to eliminate future mortality risk. Disposition of the carcass and further reporting requirements depend on the species involved:

- **Crow, gull, English house sparrow, European starling, or pigeon.** The carcass should be buried or moved to a less conspicuous location, as warranted. Carcasses that cannot be moved to an inconspicuous location or buried on site (i.e. areas consisting primarily of buildings and pavement) may be put in a bag and disposed in approved dumpsters at one of City Light's field service centers. See Bird Incident Work Flow Diagram (Figure 7-1).
- **Bald eagle, marbled murrelet, spotted owl, or a bird marked with leg bands, collars, or other markings.** Personnel should leave the carcass in place and immediately contact the Dispatcher, who will contact one of the APP biologists to deal with the carcass and inform the USFWS and/or state agency, as required by law. In the event the carcass is discovered in a location where it could be a public nuisance or be further damaged, the carcass should be moved just far enough to be inconspicuous and/or maintained intact. In the case of a bald eagle or other significant mortality incident, personnel may be asked to remain with the carcass until the APP biologist or federal or state agency personnel can secure it for possible necropsy. See Bird Incident Work Flow Diagram (Figure 7-1).

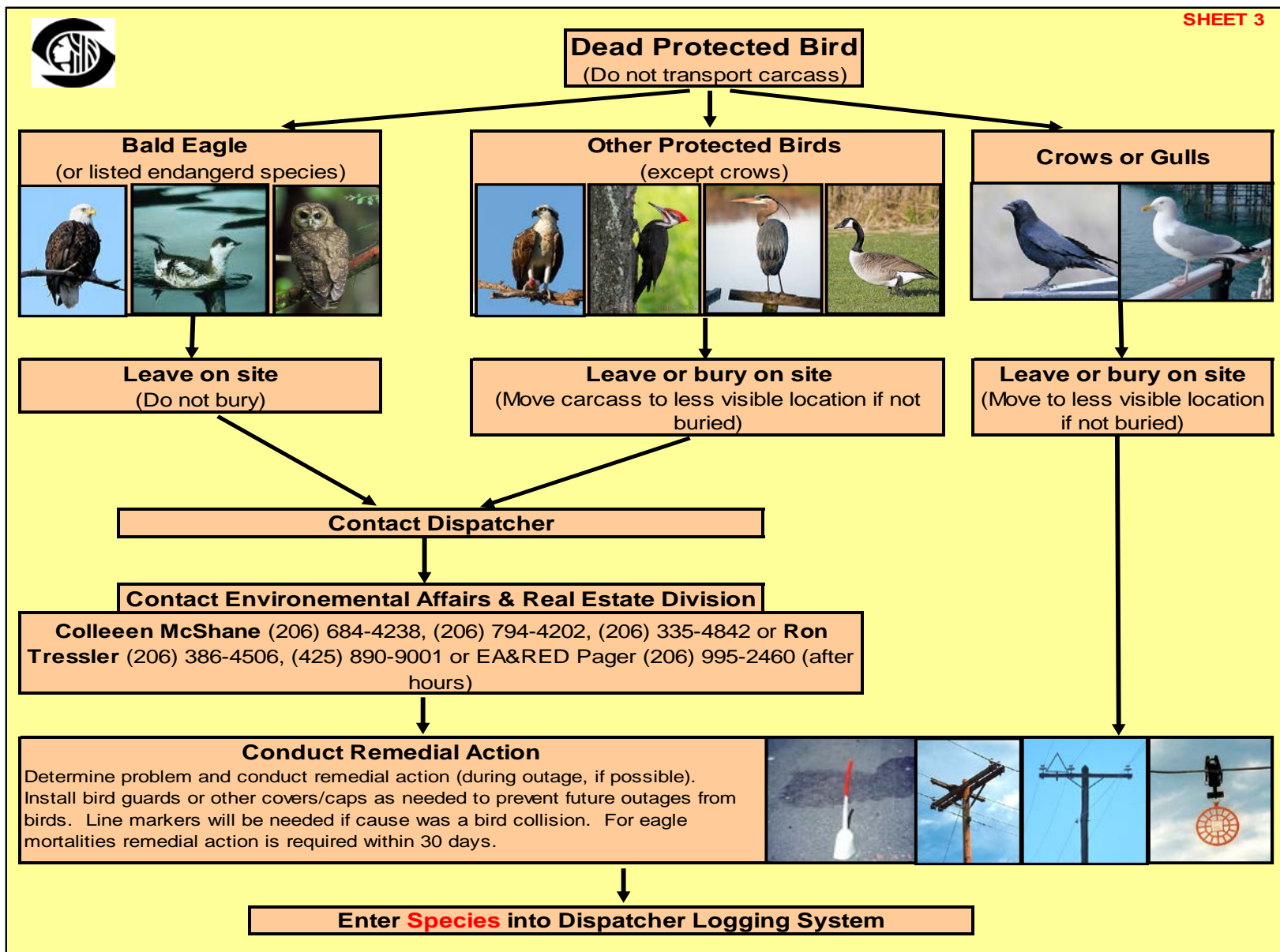


Figure 7-1. Field procedures when finding a dead bird.

- **Other Species (Osprey, Canada Goose, Owls, Etc).** If the bird found is not a species listed above, personnel must immediately report it to the System Dispatcher, who will contact one of the APP biologists as described in the Bird Incident Work Flow Diagram (Figure 7-1). Field operations crews may be asked by the APP biologist to photograph the carcass. The carcass should be buried or moved to an inconspicuous location unless directed otherwise by the APP biologist.

When reporting avian incident information to the System Dispatcher for transmittal to the APP biologist, field operations crews or operators should provide the following additional information:

- Date and time of discovery
- Location (address)
- Pole/tower Identification Number
- Species of bird(s) and condition
- Evidence of bird of collision or electrocution
- Presence of any leg bands, neck collars, or other markers on the bird, in addition to any color or numbers on the band.
- Names and contact information for incident reporter and witnesses, if applicable.
- Type and condition of City Light equipment involved
- Remedial action taken (see Chapter 8)

City Light employees can also report dead birds to an APP biologist via e-mail:

[SCL Wildlife Report@seattle.gov](mailto:SCL_Wildlife_Report@seattle.gov). This e-mail address is listed on the APP web page. This may be a more efficient way for employees to report dead birds that did not cause an outage. The e-mail address is also available for use by members of the public who find dead birds or other wildlife and suspect the cause was from City Light equipment.

7.1.2 Injured Birds

If an injured bird is found, personnel should contact the Dispatcher who will contact one of the APP biologists and/or the nearest animal care or qualified wildlife rehabilitation facility (see Section 4.2.3) for further instructions. If the bird is entrapped by a City Light structure, personnel should attempt to free it, but only if it is safe to do so and the bird appears to be in condition to fly. However, no attempt should be made to capture or restrain the injured bird until receiving direction from the APP biologist or a wildlife rehabilitator. City Light personnel should take appropriate action to secure the area and to alert staff and the public (motorists or pedestrians). Personnel should remain at the site until receiving direction on dealing with the injured bird from the Dispatcher, APP biologist, or wildlife rehabilitator.

Personnel should provide the Dispatcher with the same information as listed for bird mortalities, plus type and severity of injuries.

7.1.3 Handling Bird Carcasses or Injured Birds

The Federal Fish and Wildlife Permit (MB-161960-0) and the permit from WDFW (Appendix C) allow City Light personnel to dispose of dead birds on site. However, no personnel should transport any live bird, nest, or carcass until receiving approval from an APP biologist and/or

authorization by the USFWS and/or WDFW, as applicable. The permits do not authorize the salvage or transport of live or dead birds or body parts, including feathers. Any City Light employee who takes bird parts is breaking federal law. Violations could result in fines to City Light and the individual and possible prosecution.

City Light personnel should always use caution when handling birds or bird carcasses because they can carry diseases. Shovels, leather gloves, and other personal protective equipment (PPE) should be used when handling dead or injured birds. Safety glasses and heavy gloves are particularly important when handling large injured birds such as Canada geese, herons, or hawks. The best way to capture larger birds is to cover them completely with a towel, blanket, or coat. Injured birds authorized for transport to a rehabilitation facility should be put in a well-ventilated, covered box of a size appropriate to the bird (small box for small bird). APP biologists and/or rehabilitation facility can provide additional instructions for handling and transporting injured birds or other wildlife.

7.2 Data Management and Reporting

City Light's federal and state permits require tracking and annual reporting of birds that are killed or injured by electrical equipment. Tracking is also important to assess the effectiveness of corrective actions over the long term and to identify sites with recurring problems. City Light's documentation and tracking process is based on the existing OMS for bird-caused outages and direct reporting of other avian incidents (nests, avian mortality not resulting in an outage) by System Dispatchers to APP biologists.

EA&RED also maintains a web page where employees can report observations of dead or injured birds that did not result in an outage and would therefore not be included in the Outage Management System. This web page is also accessible to the public and includes an e-mail contact and phone number for reporting avian incidents to City Light's APP biologists.

7.2.1 Outage Management System

All power outages in the service territory are entered into the OMS that is maintained by Energy Asset Management Division. Outage data are entered into the OMS by System Dispatchers based on information provided by Field Operations crews. The APP biologists frequently review the OMS database to identify outages involving birds and that may require corrective additional actions or follow-up with field crews or engineers.

7.2.2 Bird Incident Tracking Database

The EA&RED maintains a database that includes all of the avian incidences from the OMS, as well as all other reported avian incidences and problem nests received from City Light employees. For each incident, the avian incident database includes: date, address, asset identification number, species, type of issue, and corrective action. The database is updated when poles or transformers are retrofitted or new structures are added to the system. This database is linked to GIS data layers that contain geographic coordinates and other information. The GIS data is also integrated into the Avian Protection Program Viewer (<http://lc543wam/avianprotection/>). The Viewer allows City Light employees to see avian sensitive areas, existing infrastructure (e.g., poles, transformers, substations, etc.), avian protection devices that have been installed and create maps showing locations of avian incidences and corrective actions for each year.

7.2.3 Agency Reporting

APP biologists serve as the primary points of contact with the USFWS and WDFW for avian related issues. Each year, APP biologists summarize the number of avian injuries and mortalities, by species, location, and cause. The report also includes a summary of corrective actions taken, and nest management issues.

8 Mortality Reduction Measures & Avian Protection Standards

A primary objective of the City Light APP is to reduce avian mortality. There are two ways to reduce avian mortality from electrocution and collision:

- **Corrective measures**, which are implemented at specific sites in response to bird fatalities or injuries.
- **Preventative measures**, which involve using avian-safe designs and materials when installing new, or re-building existing, lines and electrical equipment. While some preventative measures are standard for all new construction or rebuilds, others are installed only in areas with high level of avian use. City Light has identified these “Avian Sensitive Areas” by conducting risk assessments of its Service Territory and major transmission lines.

City Light’s Avian Protection Standards Document specifies the avian protective devices suitable for corrective measures on its 26 kV distribution system. The document also includes design standards for preventative measures to be applied in the construction of new or rebuilt electrical equipment in areas with high level of avian use or in areas with a history of repeated avian issues (Appendix E). The Standards Document is continually re-evaluated to refine identification of high avian use areas and incorporate new techniques and equipment.

8.1 *Corrective Measures at Existing Equipment & Facilities*

When a dead or injured protected bird is found, City Light, as standard practice, retrofits structures with appropriate avian protection devices to prevent future electrocutions and collisions at that site. In addition, field crews may request approval to retrofit structures known on circuits that have had repeated avian-caused outage problems in the past. All corrective actions and materials used must follow the Avian Protection Standards (Appendix E). The primary measures used during the retrofitting can include the following:

- Modifying the configuration of conductors and/or grounded equipment to ensure there is at least 60 inches between them (avian-safe spacing).
- Installing covers or insulation on exposed hardware to prevent simultaneous contact of two phases or ground when avian-safe spacing is not feasible.
- Installing transformer bushing covers (bird guards) on transformers.
- Installing perch preventers or other devices on distribution cross arms that lack avian-safe spacing at locations where raptors, such as ospreys or great horned owls, may attempt to perch or nest.
- Installing line markers such as bird-flight-diverters (BFDs) on distribution and transmission lines that pose collision risk for raptors, wading birds, waterfowl, and waterbirds.
- Installing alternative nesting/perching structures (e.g., osprey nest platforms) in a safe location that is near problem site (see Chapter 6).

In some cases, it is necessary to implement a combination of actions at multiple structures in an area where avian mortalities or injuries are documented. For example, if multiple transformers in the immediate vicinity of an avian incident lack bushing covers and it cannot be determined which one was the source of the problem, each transformer should have bushing covers installed. Another example is that installation of perch preventers on unsafe pole cross-arms to prevent osprey use should not be limited to just one pole but should include all poles that are close to water. In some cases, it will be necessary for the APP biologists and City Light engineers to develop Site-Specific Plans (see example in Appendix F) with estimated costs and timeline for completing the work. Due to the need for planning these activities, it is important to coordinate with the APP biologists as early as possible.

8.2 Preventative Measures for New Construction & Re-Builds

The spacing of conductors and other energized equipment on many of City Light's distribution poles is less than the recommended avian protection standard of 60 inches horizontal and 40 inches vertical. However, City Light typically uses 10-foot long cross arms on its distribution poles and this standard undoubtedly reduces electrocution risk for many species native to the Seattle area, most of which have a wing span considerably less than 60 inches and are smaller than 40 inches high when perched. Nonetheless, City Light is committed to constructing new facilities and rebuilding existing structures using standards that will prevent electrocution or collision. The effective implementation of preventative measures includes two steps: (1) a risk assessment to identify specific areas with a potentially high level of avian use, particularly by raptors, waterfowl, waterbirds, or large wading birds; and (2) clear standards for avian safe design and materials.

8.2.1 Risk Assessment – Avian Sensitive Areas

A risk assessment of City Light's Skagit transmission lines for avian collision hazards was conducted in the late 1990's. This assessment resulted in the installation of line markers in several locations over the Skagit River (see Section 2.3.2); line crossings over the Stillaguamish and Sauk rivers were determined not to represent significant collision risks. The 1-mile long Boundary transmission line does not cross the nearby Pend Oreille River and observations during relicensing determined that this line did not pose a collision hazard.

In 2009 the APP biologists conducted a risk assessment of City Light's 131-sq mile Distribution Service Territory to identify areas with potentially high levels of use by raptors, waterfowl, waterbirds, or large wading birds. As a first step, the assessment used existing data to map areas within 0.25 mile of site designated by the WDFW as Priority Habitats or used by a Priority Species, such as bald eagle foraging or nesting/roosting areas. Areas within 200 ft of marine and lake shorelines, wetlands, rivers, streams, parks, and designated open space were also mapped.

Many of the areas identified as Avian Sensitive are close to water but are also in highly industrial locations that offer little or no habitat for most native bird species. APP biologists therefore refined the risk assessment to designate highest priority Avian Sensitive Areas using the following criteria:

- Areas in or near major greenbelts or parks;
- Known osprey or bald eagle nest and foraging sites

The Avian Sensitive Area Map was created in ArcGIS using WDFW PHS data and City and King County layers for wetlands, streams, parks, and critical areas (Figure 8-1). The map will be periodically updated and is maintained in City Light's APP website <http://www.seattle.gov/light/environment/app/>.

The map of Avian Sensitive Areas can be overlain with the results of a pole inventory, also conducted in 2009, which recorded equipment with bushing covers and/or perch guards, as well as the presence of whitewash and woodpecker holes. Using these two databases in combination allows City Light engineers, crews, and APP biologists to identify Avian Sensitive Areas that have few or no avian protective devices.

8.2.2 Avian Safe Standards

As standard practice, all newly installed transformers throughout City Light's service territory include bushing covers to prevent electrocution hazards. It is also standard practice that all new or rebuilt terminal poles (poles where electrical circuits transition between above- and below-ground configurations) include the avian protection measures identified in the Standards Document.

Implementing other preventative measures will be emphasized on new projects or re-builds of existing equipment within "Avian Sensitive Areas". This approach will help ensure that areas presenting the greatest risk to birds receive priority for implementing avian protection measures, while efficiently using limited resources. Engineers and other personnel involved with new construction or re-build projects should always review the maps to determine if their project requires avian protection devices. Distribution engineers need to consult with one of the APP biologists early in a project so that specific hazards to birds and unique site conditions can be evaluated (electrocution, collision, or both). If necessary, the APP biologist will work with the engineer to develop Site-Specific Plans (Appendix F).

8.3 Quality Control

City Light's APP will improve system reliability and reduce avian mortality only if corrective and preventative measures are implemented and if the Plan is periodically updated to include new data specific to City Light. To ensure that the APP is effective, APP biologists will:

- Randomly select 10% of the outages from the previous year and field check each site to confirm that the corrective measures indicated in the Bird Incident Tracking Database were actually completed (annually beginning in 2013).
- Check the Bird Incident Tracking Database for any records of multiple mortalities at the same site over the last 5-year period (annually beginning in 2013). Any identified sites will be field evaluated to determine if corrective measures were implemented as reported or if additional protective devices are needed.
- Analyze data from the Bird Incident Tracking Database to identify any trends in the number or distribution of avian mortalities (every 5 years beginning in 2018).
- Update this Plan every 5 years (first update scheduled for 2018).

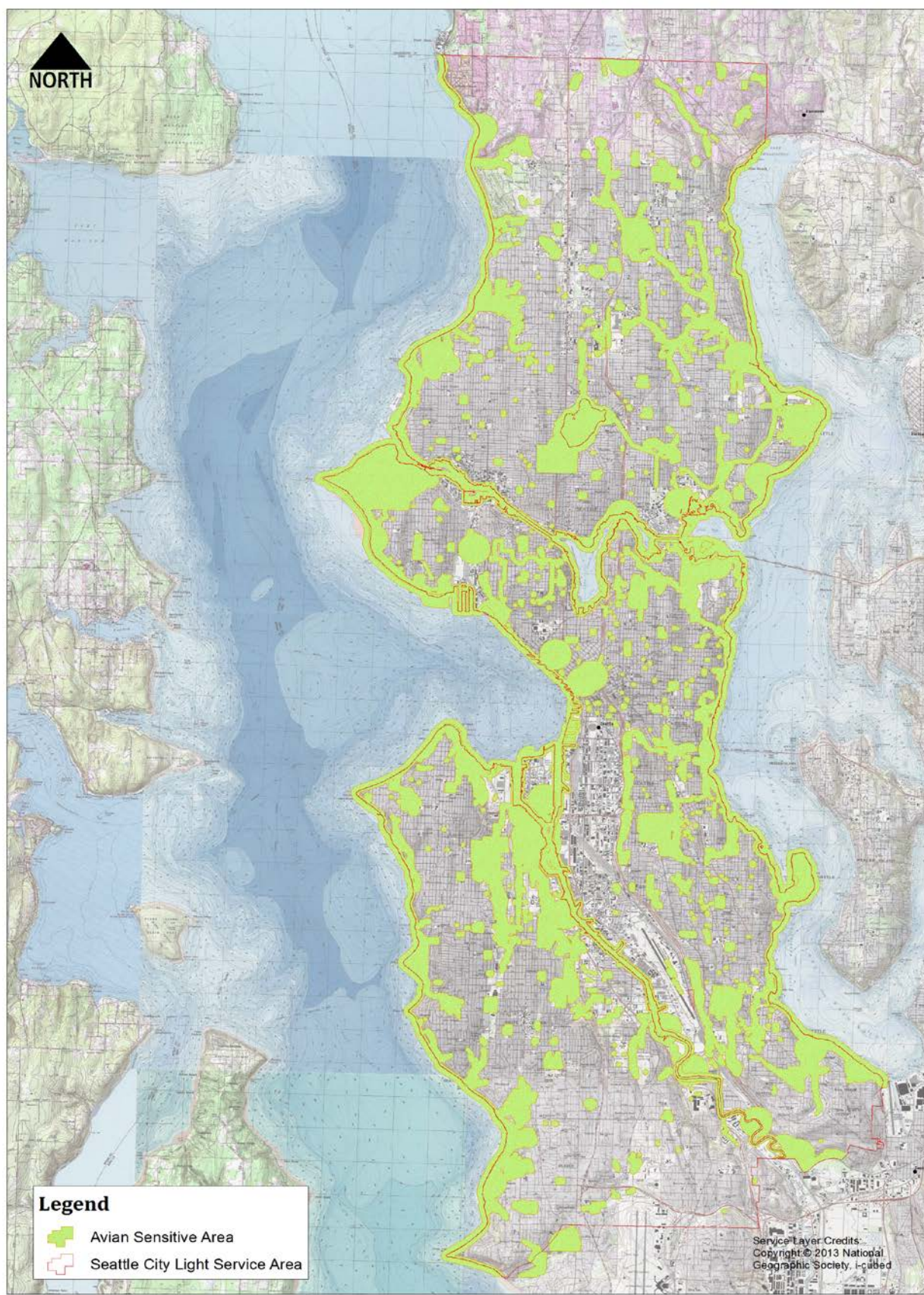


Figure 8-1 Avian Sensitive Areas Map

- Work with the Standards Group to periodically update the Avian Protection Construction Standards (Appendix E) as new information becomes available and product efficacy is monitored on City Light equipment.

9 Other Actions to Benefit Avian Species

In addition to the APP, there are several other City Light actions or programs that help maintain wildlife habitat or compensate for removal of bird nests or habitat. These include the following:

- Using Best Management Practices (BMPs) for vegetation management in the transmission line rights-of-way and near facilities. This includes maintaining vegetation in riparian zones to extent possible, limiting tree removal along rights-of-way to those that may damage towers or lines, retaining native plant species, and using native species for restoration,.
- Following the City of Seattle's Integrated Pest Management Program for the selection and application of herbicides on City Light property.
- Maintaining seasonal restrictions within 0.5 mile of three peregrine falcon nest sites near Skagit River Hydroelectric Project facilities and annually monitoring nesting activity of the pairs.
- Managing more than 12,000 acres of wildlife habitat along the Skagit and South Fork Nooksack rivers. These lands were acquired under the Skagit Wildlife Habitat Mitigation Program and the City of Seattle's Endangered Species Early Action Program and provide a wide diversity of habitats for birds and other wildlife.
- Funding research on birds and other wildlife as part of the Skagit Wildlife Research Program.
- Monitoring winter bald eagle populations and nesting peregrine falcons along the upper Skagit River in cooperation with other agencies.

10 Public & City Light Employee Awareness

City Light will maintain pages on its website that describe the APP. The website includes an e-mail address and phone number for reporting raptors that may have been killed or injured by equipment in City Light's Service Territory. The website also includes a copy of this Plan that can be downloaded as a PDF. The website also has links to maps and other resources for avian protection.

APP biologists will also work with City Light's Communications and Public Affairs Division on media coverage of osprey, bald eagle, and peregrine falcon nests on or near City Light facilities. APP biologists will be present when crews need to remove nests and will provide information to the public on the need for the action and City Light's APP.

Website address: <http://www.seattle.gov/light/environment/app/>

E-mail address: SCL_Wildlife_Report@seattle.gov

Phone number: (206) 684-3270

11 References

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested practices for avian protection on power lines: the state of the art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission, D.C. and Sacramento, CA.
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- Manville, A.M. 2005. Bird strikes and electrocution at power lines, communication towers, and wind turbines: State of the art and state of science – Next steps towards mitigation. USDA Forest Service General Technical Report. PWS-GTR 191.2005. pp 1051-1064.

Appendix A. Summary Reports of 2007-2013 Avian Mortalities in the City Light Service Territory

	Seattle City Light Bird Mortalities in 2007 *				
Record #	Date & time	Feeder	Location	Actions taken	Species
1	1/3/07 10:37	2656	3216 16TH AVE W	Bird Guard installed; also fuse and limiter	Crow
2	1/19/07 10:21	2684	11022 18TH AVE SW	Bird Guard installed; also replaced fuse.	Crow
3	1/28/07 10:44	2781	346 NW 82nd St	Bird Guard installed; also fuse and limiter	Crow
5	2/11/07 10:26	2676	3703 S 150TH ST APT 1	Bird Guard installed; also replaced fuse and limiter.	Crow
6	2/11/07 15:04	2776	18207 Aurora Ave N	Replaced fuse	Unknown
7	2/15/07 18:17	2660	Terry Av N & Valley St	Replaced fuse	Unknown
8	2/26/07 16:56	2701	19846 8TH AVE NW	Bird Guard installed; also fuse and limiter	Unknown
9	3/7/07 7:32	2787	9233 PALATINE AVE N	Bird Guard installed; also fuse and limiter	Crow
10	3/26/07 14:10	2667	2008 MINOR AVE E UNIT C	Bird Guard installed; also fuse and limiter	Crow
11	4/1/07 14:09	2612	5536 35TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
12	4/10/07 13:06	2723	1148 NW 50 St	Replaced fuse	Gull
13	4/12/07 15:10	2677	12932 26TH AVE S	Bird Guard installed; also fuse and limiter	Crow
14	4/17/07 17:51	2667	2231 FRANKLIN AVE E APT HSE	Bird Guard installed; also fuse and limiter	Crow
15	4/18/07 12:03	2779	102 NW 95TH ST	Bird Guard installed; also fuse and limiter	Crow
16	4/20/07 6:50	2609	8254 Meridian Av N	Bird Guard installed; also fuse and limiter	Crow
17	4/28/07 8:07	2673	16911 21st Ave SW	Replaced Transformer	Pigeons
18	5/15/07 8:51	2735	304 NW 51ST ST	Bird Guard installed; also fuse and limiter	Crow
19	5/27/07 9:39	2808	3742 S Perry St	Bird Guard installed; also fuse and limiter	Crow
21	6/5/07 17:48	2612	6036 35TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
22	6/6/07 7:02	2813	11914 87 Av S	Bird Guard installed; also fuse and limiter	Gull
23	6/6/07 7:54	2814	7103 46TH AVE S	Bird Guard installed; also fuse and limiter	Gull
24	6/7/07 6:07	2748	7121 16 Av SW	Bird Guard installed; also fuse and limiter	Crow
25	6/7/07 6:36	2611	6818 23RD AVE NE	Bird Guard installed; also fuse and limiter	Crow
26	6/7/07 7:37	2615	10356 FISCHER PL NE	Bird Guard installed; also fuse and limiter	Crow
27	6/7/07 8:26	2645	5571 17TH AVE S	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
28	6/7/07 9:39	2685	622 SW 129TH ST	Bird Guard installed; also fuse and limiter	Crow
29	6/7/07 9:58	2732	1530 NW 57TH ST	Bird Guard installed; also fuse and limiter	Crow
30	6/8/07 6:30	2783	723 N 71 St	Bird Guard installed; also fuse and limiter	Crow
31	6/8/07 10:15	2780	2122 N 117TH ST	Bird Guard installed; also fuse and limiter	Crow
32	6/9/07 8:24	2782	11737 25 Av NE	Bird Guard installed; also fuse and limiter	Crow
33	6/9/07 19:35	2625	2707 10th Av E	Bird Guard installed; also fuse and limiter	Crow
34	6/10/07 12:42	2605	11002 35th Av NE	Bird Guard installed; also fuse and limiter	Crow
35	6/10/07 18:25	2672	1839 S 124th St	Bird Guard installed; also fuse and limiter	Crow
36	6/13/07 19:52	2612	NE 65 St / 33 Av NE	Fuse and Limiter Replaced	Crow
37	6/14/07 8:23	2680	9015 45TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
38	6/15/07 8:42	2774	11556 6TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
39	6/15/07 10:01	2680	9246 36TH AVE SW	Bird Guard installed; also fuse and limiter	Unknown
40	6/15/07 13:00	2657	1700 DEXTER AVE N	Bird Guard installed; also fuse and limiter	Crow
41	6/15/07 16:26	2609	1910 N 90TH ST	Bird Guard installed; also fuse and limiter	Crow
42	6/16/07 6:11	2613	6219 52 Av NE	Bird Guard installed; also fuse and limiter	Crow
43	6/16/07 8:45	2740	4727 46th Av SW	Bird Guard installed; also fuse and limiter	Crow
44	6/17/07 5:46	2814	7112 45 Av S	Bird Guard installed; also fuse and limiter	Crow
45	6/17/07 7:35	2645	4715 S Orcas St	Bird Guard installed; also fuse and limiter	Crow
46	6/17/07 7:53	2724	7552 Dibble Av NW	Bird Guard installed; also fuse and limiter	Crow
47	6/17/07 13:42	2630	6362 6th Av S	Bird Guard installed; also fuse and limiter	Crow
48	6/17/07 16:59	2787	7530 Mary Av NW	Bird Guard installed; also fuse and limiter	Crow
49	6/17/07 19:25	2679	10613 28TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
50	6/18/07 6:59	2779	9558 DAYTON AVE N & 517 N 97th St	Bird Guard installed; also fuse and limiter	Crow
51	6/18/07 7:18	2626	1724 NE 56TH ST & 1823 NE Ravenna Blvd	Bird Guard installed; also fuse and limiter	Crow
52	6/18/07 13:33	2779	9056 9TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
53	6/18/07 16:34	2613	6847 42ND AVE NE	Bird Guard installed; also fuse and limiter	Crow
54	6/18/07 18:38	2681	13711 6 Av SW	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
55	6/19/07 6:40	2629	2200 6 Av S	Bird Guard installed; also fuse and limiter	Crow
56	6/19/07 7:17	2734	4405 DAYTON AVE N	Bird Guard installed; also fuse and limiter	Crow
57	6/19/07 9:23	2756	1023 COLUMBIA ST	Bird Guard installed; also fuse and limiter	Crow
58	6/19/07 18:39	2814	4611 S Fontanelle St	Bird Guard installed; also fuse and limiter	Crow
59	6/19/07 19:51	2743	39 Ave SW & SW Stevens St	Bird Guard installed; also fuse and limiter	Crow
60	6/19/07 20:07	2751	904 21 Av E	Bird Guard installed; also fuse and limiter	Crow
61	6/20/07 5:10	2647	3310 20 Av S	Replaced Fuse	Crow
62	6/20/07 6:26	2743	3212 BELVIDERE AVE SW	Bird Guard installed; also fuse and limiter	Crow
63	6/20/07 7:23	2652	1825 7TH AVE W	Bird Guard installed; also fuse and limiter	Crow
64	6/20/07 7:51	2783	9535 FREMONT AVE N	Bird Guard installed; also fuse and limiter	Crow
65	6/20/07 10:34	2762	1604 E YESLER WAY	Bird Guard installed; also fuse and limiter	Crow
66	6/20/07 12:44	2684	10625 17TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
67	6/21/07 19:30	2679	11018 22ND AVE SW	Bird Guard installed; also fuse and limiter	Crow
68	6/22/07 10:41	2779	7706 25TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
69	6/22/07 12:37	2678	1010 SW 158TH ST	Bird Guard installed; also fuse and limiter	Crow
70	6/22/07 20:38	2779	9218 15 Av NW	Bird Guard installed; also fuse and limiter	Crow
71	6/23/07 5:31	2613	5837 Oberlin Av NE	Bird Guard installed; also fuse and limiter	Crow
72	6/23/07 17:59	2776	2146 N 158TH ST	Replaced fuse and installed limiter.	Crow
73	6/23/07 19:20	2812	10012 64TH AVE S	Bird Guard installed; also fuse and limiter	Crow
74	6/24/07 6:23	2652	600 W Olympic Pl	Replaced transformer; also fuse and limiter	Crow
75	6/24/07 8:16	2633	4423 Cascadia Ave S	Bird Guard installed; also fuse and limiter	Crow
76	6/24/07 8:50	2806	3519 S Webster St	Bird Guard installed; also fuse and limiter	Crow
77	6/24/07 9:05	2633	4514 34TH AVE S	Bird Guard installed; also fuse and limiter	Crow
78	6/24/07 9:24	2600	2434 Perkins Ln W	Replaced transformer; also fuse and limiter	Crow
79	6/24/07 9:58	2678	13219 10 Av S	Bird Guard installed; also fuse and limiter	Crow
80	6/24/07 12:50	2684	9421 10 Av SW	Bird Guard installed; also fuse and limiter	Crow
81	6/24/07 12:53	2814	8303 Renton Av S	Bird Guard installed; also fuse and limiter	Crow
82	6/24/07 20:08	2642	5316 32 Av S	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
83	6/25/07 15:46	2621	1007 NE BOAT ST	Bird Guard installed; also fuse and limiter	Crow
84	6/25/07 18:10	2679	38 8TH AVE SW & 16719 19th Ave	Bird Guard installed; also fuse and limiter	Crow
85	6/25/07 20:50	2673	16603 21 Av SW	Bird Guard installed; also fuse and limiter	Crow
86	6/26/07 8:48	2612	6058 34TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
87	6/26/07 9:21	2814	8309 37TH AVE S	Bird Guard installed; also fuse and limiter	Crow
88	6/26/07 20:11	2679	10622 27 Av SW	Bird Guard installed; also fuse and limiter	Crow
89	6/26/07 20:42	2729	1027 N 48 St	Bird Guard installed; also fuse and limiter	Crow
90	6/26/07 21:03	2649	7115 W Marginal Wy SW	Bird Guard installed; also fuse and limiter	Crow
91	6/26/07 21:05	2681	10656 2nd PI SW	Bird Guard installed; also fuse and limiter	Crow
92	6/27/07 11:30	2650	751 S Michigan St	Bird Guard installed; also fuse and limiter	Crow
93	6/27/07 13:26	2654	113 MCGRAW ST	Bird Guard installed; also fuse and limiter	Crow
94	6/27/07 20:55	2752	1141 20TH AVE E	Bird Guard installed; also fuse and limiter	Crow
95	6/28/07 5:30	2685	16628 14 Av SW	Bird Guard installed; also fuse and limiter	Crow
96	6/28/07 10:34	2622	4111 WHITMAN AVE N APT 204	Bird Guard installed; also fuse and limiter	Crow
97	6/28/07 18:57	2646	2826 31 Av S	Bird Guard installed; also fuse and limiter	Crow
98	6/28/07 19:00	2783	6731 1ST AVE NW	Bird Guard installed; also fuse and limiter	Crow
99	6/28/07 19:34	2678	1253 S 128 St & 1251 S 129th St	Bird Guard installed; also fuse and limiter	Crow
100	6/28/07 21:39	2803	1216 S Court St	Bird Guard installed; also fuse and limiter	Crow
101	6/29/07 5:24	2787	1106 NW 83 St	Bird Guard installed; also fuse and limiter	Crow
102	6/29/07 6:08	2650	6606 Ursula PI S	Bird Guard installed; also fuse and limiter	Crow
103	6/29/07 6:25	2803	4925 55 Av S	Bird Guard installed; also fuse and limiter	Crow
104	6/29/07 6:38	2803	5508 S OTHELLO ST	Bird Guard installed; also fuse and limiter	Crow
105	6/29/07 9:08	2738	4411 44TH AVE SW APT A	Bird Guard installed; also fuse and limiter	Crow
106	6/29/07 10:47	2814	4837 S HOLDEN ST APT 1	Bird Guard installed; also fuse and limiter	Crow
107	6/29/07 11:00	2630	5512 6TH AVE S	Bird Guard installed; also fuse and limiter	Crow
108	6/29/07 11:48	2630	601 S BRANDON ST	Bird Guard installed; also fuse and limiter	Crow
109	6/29/07 12:38	2675	1230 S TRENTON ST	Bird Guard installed; also fuse and limiter	Crow
110	6/30/07 7:02	2746	6322 50 Av SW	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
111	6/30/07 15:34	2791	9999 Holman Rd NW	Replaced fuse and installed limiter.	Crow
112	6/30/07 17:58	2705	219 NE 185 St	Bird Guard installed; also fuse and limiter	Crow
113	6/30/07 20:34	2679	12015 Marine View Dr SW	Bird Guard installed; also fuse and limiter	Crow
114	7/1/07 9:20	2812	11454 70TH PL S	Bird Guard installed; also fuse and limiter	Crow
115	7/1/07 16:23	2801	5314 S 140 St	Replaced Fuse	Crow
116	7/2/07 10:16	2622	3727 EASTERN AVE N	Bird Guard installed; also fuse and limiter	Crow
117	7/2/07 11:12	2813	8728 S 121ST ST	Bird Guard installed; also fuse and limiter	Crow
118	7/2/07 11:38	2605	11044 39TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
119	7/2/07 11:38	2755	520 34TH AVE	Bird Guard installed; also fuse and limiter	Crow
120	7/2/07 15:00	2806	7153 32ND AVE S	Bird Guard installed; also fuse and limiter	Crow
121	7/3/07 5:38	2782	9728 15th Av NW	Bird Guard installed; also fuse and limiter	Crow
122	7/3/07 8:04	2691	14219 31ST AVE S	Bird Guard installed; also fuse and limiter	Crow
123	7/3/07 19:38	2615	TP 145 S/s NE 88, 1 E 27 Av NE	Replaced fuse and installed limiter.	Crow
124	7/4/07 7:22	2777	940 N 103 St	Bird Guard installed; also fuse and limiter	Crow
125	7/4/07 7:35	2737	4500 W Marginal Wy SW	Replaced fuse and installed limiter.	Crow
126	7/4/07 9:33	2679	11425 10 Av SW	Bird Guard installed; also fuse and limiter	Crow
127	7/5/07 7:05	2755	2722 31st Av S	Bird Guard installed; also fuse and limiter	Crow
128	7/5/07 8:02	2710	13533 41ST AVE NE	Bird Guard installed; also fuse and limiter	Crow
129	7/6/07 13:11	2608	6850 WOODLAWN AVE NE	Bird Guard installed; also fuse and limiter	Crow
130	7/6/07 16:17	2781	320 N 85TH ST	Bird Guard installed; also fuse and limiter	Crow
131	7/6/07 17:20	2647	3422 19TH AVE S	Bird Guard installed; also fuse and limiter	Unknown
132	7/7/07 8:35	2732	6720 33rd Ave NW	Bird Guard installed; also fuse and limiter	Crow
133	7/7/07 9:00	2681	13806 1st Ave S	Bird Guard installed; also fuse and limiter	Crow
134	7/7/07 20:52	2600	2445 PERKINS LN W	Replaced Fuse	Crow
135	7/8/07 6:35	2732	7557 32nd Ave NW	Bird Guard installed; also fuse and limiter	Crow
136	7/9/07 7:40	2705	2316 N 186TH ST	Bird Guard installed; also fuse and limiter	Crow
137	7/9/07 20:56	2666	4126 MIDVALE AVE N	Bird Guard installed; also fuse and limiter	Crow
138	7/10/07 9:56	2612	6017 35TH AVE NE	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
139	7/11/07 7:05	2755	614 RANDOLPH PL	Bird Guard installed; also fuse and limiter	Crow
140	7/11/07 20:05	2801	6017 S 126 St	Replaced Transformer	Crow
141	7/11/07 21:59	2748	9202 3 Av SW	Bird Guard installed; also fuse and limiter	Crow
142	7/12/07 9:18	2652	1936 7TH AVE W	Bird Guard installed; also fuse and limiter	Crow
143	7/13/07 10:19	2741	5937 19TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
144	7/13/07 10:42	2684	8830 25TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
145	7/13/07 11:24	2790	718 N 86TH ST	Bird Guard installed; also fuse and limiter	Crow
146	7/14/07 19:11	2729	4800 Fremont Av N	Bird Guard installed; also fuse and limiter	Crow
147	7/15/07 7:42	2803	5415 S HUDSON ST	Bird Guard installed; also fuse and limiter	Crow
148	7/16/07 8:30	2780	1518 NE 117TH ST APT 102	Bird Guard installed; also fuse and limiter	Crow
149	7/16/07 8:50	2684	1616 SW 100TH ST	Bird Guard installed; also fuse and limiter	Crow
150	7/16/07 8:53	2784	10710 STONE AVE N	Bird Guard installed; also fuse and limiter	Crow
151	7/16/07 14:10	2761	2606 S Jackson St	Replaced Fuse	Crow
152	7/16/07 18:44	2654	2006 Warren Av N	Bird Guard installed; also fuse and limiter	Crow
153	7/17/07 8:09	2787	9046 7TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
154	7/17/07 8:55	2677	16229 13TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
155	7/17/07 10:44	2746	6007 37TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
156	7/18/07 8:13	2757	1821 30TH AVE	Bird Guard installed; also fuse and limiter	Crow
157	7/18/07 8:30	2754	Broadway & E Pine St	Bird Guard installed; also fuse and limiter	Crow
158	7/18/07 8:32	2652	2812 9TH AVE W	Bird Guard installed; also fuse and limiter	Crow
159	7/18/07 8:33	2782	10701 36th Ave NE	Bird Guard installed; also fuse and limiter	Crow
160	7/18/07 9:06	2765	300 E PIKE ST STE 2000	Bird Guard installed; also fuse and limiter	Crow
161	7/18/07 10:05	2710	4007 NE 120TH ST	Bird Guard installed; also fuse and limiter	Crow
162	7/18/07 10:11	2813	12001 71ST AVE S	Bird Guard installed; also fuse and limiter	Crow
163	7/18/07 10:16	2722	7052 ALONZO AVE NW	Bird Guard installed; also fuse and limiter	Crow
164	7/18/07 11:17	2729	2315 N 50TH ST	Bird Guard installed; also fuse and limiter	Crow
165	7/18/07 14:49	2647	4209 34TH AVE S	Bird Guard installed; also fuse and limiter	Crow
166	7/18/07 17:25	2647	3321B WETMORE AVE S	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
167	7/19/07 13:49	2779	343 N 104TH ST	Bird Guard installed; also fuse and limiter	Crow
168	7/20/07 5:55	2658	354 Crockett St	Bird Guard installed; also fuse and limiter	Crow
169	7/20/07 7:01	2735	7048 8th Av NW	Bird Guard installed; also fuse and limiter	Crow
170	7/20/07 11:24	2638	700 S DEARBORN ST	Bird Guard installed; also fuse and limiter	Crow
171	7/20/07 14:06	2791	9234 11TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
172	7/20/07 14:51	2673	13690 11TH PL S	Replaced transformer, fuse and limiter.	Crow
173	7/20/07 19:41	2656	452 Crockett St	Bird Guard installed; also fuse and limiter	Crow
174	7/21/07 7:54	2806	8611 Beacon Av S	Bird Guard installed; also fuse and limiter	Crow
175	7/21/07 9:36	2676	12052 46th Av S	Bird Guard installed; also fuse and limiter	Crow
176	7/21/07 11:26	2739	5071 DelridgeWy SW	Bird Guard installed; also fuse and limiter	Crow
177	7/22/07 8:33	2748	9028 4th Av SW	Bird Guard installed; also fuse and limiter	Crow
178	7/22/07 10:16	2791	9706 12th Av NW	Bird Guard installed; also fuse and limiter	Crow
179	7/22/07 11:07	2768	8615 25th Av SW	Bird Guard installed; also fuse and limiter	Crow
180	7/22/07 12:33	2676	S 150th S & Tukwila Inter Blvd S	Bird Guard installed; also fuse and limiter	Crow
181	7/23/07 8:39	2605	10714 39TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
182	7/24/07 8:11	2779	2641 NW 96TH ST	Bird Guard installed; also fuse and limiter	Crow
183	7/25/07 8:35	2736	8224 NORTHROP PL SW	Bird Guard installed; also fuse and limiter	Crow
184	7/25/07 18:01	2787	817 NW 92ND ST	Bird Guard installed; also fuse and limiter	Crow
185	7/26/07 8:14	2679	1021 SW 117TH ST	Bird Guard installed; also fuse and limiter	Crow
186	7/28/07 7:58	2621	5702 35 Av NE	Bird Guard installed; also fuse and limiter	Crow
187	7/28/07 9:19	2666	200 NE 42ND ST	Bird Guard installed; also fuse and limiter	Crow
188	7/28/07 9:52	2761	2011 E Fir St	Bird Guard installed; also fuse and limiter	Crow
189	7/28/07 11:57	2777	Feeder 2777 Cycled	Replaced Fuse	Crow
190	7/28/07 13:53	2684	9616 17 Av SW	Bird Guard installed; also fuse and limiter	Crow
191	7/29/07 10:17	2791	123 NW 105 St	Bird Guard installed; also fuse and limiter	Crow
192	7/29/07 12:14	2664	154 N 35 St	Bird Guard installed; also fuse and limiter	Crow
193	7/29/07 13:35	2786	927 NW 96 St	Bird Guard installed; also fuse and limiter	Crow
194	7/30/07 6:25	2813	5521 S WALLACE ST	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
195	7/30/07 11:42	2741	515 S SOUTHERN ST	Bird Guard installed; also fuse and limiter	Crow
196	7/30/07 18:18	2723	920 NW 52 St	Bird Guard installed; also fuse and limiter	Crow
197	7/31/07 6:58	2614	Feeder 2614 Cycled	Removed Bird	Crow
198	7/31/07 12:15	2658	155 FLORENTIA ST	Bird Guard installed; also fuse and limiter	Crow
199	7/31/07 20:30	2656	2010 14TH AVE W UPPR & 2028 14 Av W	Bird Guard installed; also fuse and limiter	Crow
200	8/2/07 11:36	2642	3629 S ORCAS ST	Bird Guard installed; also fuse and limiter	Crow
201	8/3/07 7:59	2735	6516 3RD AVE NW	Bird Guard installed; also fuse and limiter	Crow
202	8/3/07 8:58	2782	10818 27TH AVE NE	Bird Guard installed; also fuse and limiter	Pigeons
203	8/3/07 9:24	2673	1421 S 96TH ST UNIT BGC	Bird Guard installed; also fuse and limiter	Crow
204	8/3/07 11:27	2684	8817 16TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
205	8/3/07 12:49	2677	16430 13TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
206	8/5/07 12:09	2764	901 E Denny Wy	Bird Guard installed; also fuse and limiter	Crow
207	8/5/07 15:18	2664	1554 N 36 St	Bird Guard installed; also fuse and limiter	Crow
208	8/6/07 14:04	2752	746 19TH AVE E	Bird Guard installed; also fuse and limiter	Crow
209	8/8/07 7:26	2735	509 N 77TH ST	Bird Guard installed; also fuse and limiter	Crow
210	8/9/07 8:50	2785	12203 9TH AVE NE	Replaced Fuse	Crow
211	8/9/07 18:03	2747	2345 42 av SW	Replaced fuse and installed limiter.	Crow
212	8/10/07 18:25	2645	2412 S Warsaw St	Bird Guard installed; also fuse and limiter	Crow
213	8/12/07 18:15	2710	15455 4th Ave NE	Bird Guard installed; also fuse and limiter	Crow
214	8/13/07 9:52	2678	15525 6TH AVE SW APT 3	Bird Guard installed; also fuse and limiter	Crow
215	8/13/07 12:04	2706	16907 26TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
216	8/15/07 7:21	2680	10214 44 Av SW	Bird Guard installed; also fuse and limiter	Crow
217	8/16/07 13:08	2814	7941 49th Av S	Bird Guard installed; also fuse and limiter	Crow
218	8/17/07 18:09	2782	2523 NE 120TH ST	Bird Guard installed; also fuse and limiter	Crow
219	8/19/07 9:14	2768	8844 Delridge Wy SW	Bird Guard installed; also fuse and limiter	Crow
220	8/19/07 20:00	2743	4224 44th Av SW	Bird Guard installed; also fuse and limiter	Crow
221	8/20/07 9:29	2763	424 19TH AVE E APT HSE	Bird Guard installed; also fuse and limiter	Crow
222	8/20/07 10:33	2646	2321 29TH AVE S	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
223	8/21/07 11:02	2745	2706 SW 105TH ST	Bird Guard installed; also fuse and limiter	Unknown
224	8/23/07 7:36	2813	5605 S LANGSTON RD	Bird Guard installed; also fuse and limiter	Gull
225	8/23/07 8:12	2782	9515 ASHWORTH AVE N	Bird Guard installed; also fuse and limiter	Gull
226	8/25/07 11:44	2812	11039 Woodward Av S	Bird Guard installed; also fuse and limiter	Steller's Jay
227	8/25/07 13:00	2776	Linden Av N & N 185 St	Replaced fuse and installed limiter.	Gull
228	8/26/07 12:22	2666	4423 CORLISS AVE N APT 2	Bird Guard installed; also fuse and limiter	Pigeons
229	8/26/07 13:02	2702	1351 N 180TH ST	Bird Guard installed; also fuse and limiter	Pigeons
230	8/27/07 6:54	2656	1410 W Raye St & 2600 15th Av W	Bird Guard installed; also fuse and limiter	Pigeons
231	8/28/07 17:00	2778	10119 AURORA AVE N	Bird Guard installed; also fuse and limiter	Pigeons
232	8/31/07 19:44	2601	1205 Olympic Wy W	Bird Guard installed; also fuse and limiter	Starling
233	9/1/07 7:31	2684	9425 18 Av SW	Bird Guard installed; also fuse and limiter	Crow
234	9/1/07 19:02	2803	7269 Rainier Av S	Bird Guard installed; also fuse and limiter	Crow
235	9/2/07 15:37	2738	5316 SW Lander St	Bird Guard installed; also fuse and limiter	Crow
236	9/3/07 15:05	2652	516 1 Av W	Replaced fuse and installed limiter.	Crow
237	9/4/07 15:24	2600	3214 W McGraw St	Bird Guard installed; also fuse and limiter	Crow
238	9/7/07 15:24	2689	Interurban Av S / E Marginal Way S	Bird Guard installed; also fuse and limiter	Crow
239	9/10/07 8:19	2702	2332 N 171ST ST	Bird Guard installed; also fuse and limiter	Crow
240	9/11/07 10:07	2638	1032 S JACKSON ST STE 100	Replaced fuse and installed limiter.	Pigeon
241	9/11/07 10:43	2761	2425 S JACKSON ST	Bird Guard installed; also fuse and limiter	Crow
242	9/11/07 10:59	2746	3728 BEACH DR SW	Replaced Fuse	Gull
243	9/12/07 11:51	2685	11138 5TH AVE S	Bird Guard installed; also fuse and limiter	Crow
244	9/14/07 12:22	2667	NE cnr 11 Ave /E Lynn St	Replaced Transformer	Crow
245	9/15/07 10:25	2812	12068 75th Av S	Bird Guard installed; also fuse and limiter	Crow
246	9/16/07 12:50	2629	2730 4th Av S	Bird Guard installed; also fuse and limiter	Crow
247	9/22/07 18:52	2740	4547 46th Av SW	Bird Guard installed; also fuse and limiter	Crow
248	9/24/07 10:51	2721	701 SEAVIEW AVE NW BLDG HS	Bird Guard installed; also fuse and limiter	Crow
249	9/25/07 12:09	2619	5257 39TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
250	9/30/07 12:43	2601	1821 11th Av W	Bird Guard installed; also fuse and limiter	Crow

Record #	Date & time	Feeder	Location	Actions taken	Species
251	9/30/07 13:19	2645	6616 43rd Av S	Bird Guard installed; also fuse and limiter	Crow
252	10/1/07 8:42	2751	2605 E ALOHA ST	Bird Guard installed; also fuse and limiter	Crow
253	10/4/07 11:46		2 Av SW / Highland Prkwy SW	Bird Guard installed; also fuse and limiter	Crow
254	10/4/07 12:36	2776	718 N 204TH ST	Bird Guard installed; also fuse and limiter	Crow
255	10/8/07 14:18	2645	5949 36TH AVE S	Bird Guard installed; also fuse and limiter	Crow
256	10/15/07 11:32	2756	N/s of Cherry St , 1 W of Terry		Crow
257	10/17/07 12:36	2791	9620 13TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
258	10/19/07 13:18	2656	2230 CONDON WAY W,	Bird Guard installed; also fuse and limiter	Crow
259	10/24/07 16:11	2782	9529 4TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
260	10/25/07 0:10	2647	5108 S Farrar St	Bird Guard installed; also fuse and limiter	Crow
261	10/25/07 11:41	2774	11750 1ST AVE NW	Bird Guard installed; also fuse and limiter	Crow
262	10/28/07 16:30	2682	8904 E Marginal Way S	Bird Guard installed; also fuse and limiter	Unknown
263	10/31/07 10:02	2787	8748 2ND AVE NW	Bird Guard installed; also fuse and limiter	Crow
264	11/4/07 7:36	2801	13123 48th Av S	Replaced fuse and installed limiter.	Starling
265	11/5/07 10:41	2732	5601 15TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
266	11/7/07 8:36	2722	1145 NW MARKET ST	Bird Guard installed; also fuse and limiter	Crow
267	11/8/07 15:15	2601	1811 10 Av W	Bird Guard installed; also fuse and limiter	Crow
268	11/20/07 14:58	2757	318 31ST AVE E	Bird Guard installed; also fuse and limiter	Crow
269	11/27/07 9:41	2622	3916 WOODLAWN AVE N	Bird Guard installed; also fuse and limiter	Crow
270	11/30/07 8:32	2783	Feeder 2783 Cycled	Found dead crow, no further action needed	Crow
271	12/3/07 8:51	2638	804 6TH AVE S	Bird Guard installed; also fuse and limiter	Crow
272	12/12/07 13:20	2723	1400 NW 52ND ST	Bird Guard installed; also fuse and limiter	Crow
273	12/29/07 8:11	2611	Feeder 2611 Cycled	Found dead seagull no further action needed	Gull
274	12/30/07 13:43	2642	5522 37 Av S	Replaced fuse	Unknown
	* Mortalities that caused outages				

Record #	Date & time	Feeder	Location	Actions taken	Species
	SUMMARY				
	<u>Total events: 274</u>	Percent of total	Bird mortality by Month	<u>Actions taken:</u>	Percent of total
	Crows:248	91%	Jan: 3	bird guard & re-fusing: 241	88%
	Unknown: 8	3%	Feb: 4	Replaced fuse: 21	8%
	Gulls:8	3%	Mar: 2	Replaced transformer: 6	2%
	Steller's Jay: 1	>1%	Apr: 7	Other: 6	2%
protected bird species(269)		98%	May: 2		
			Jun: 94		
	Pigeons: 7	3%	Jul: 86		
	Starlings: 2	>1%	Aug: 33		
	Un protected birds (9)	3%	Sep: 20		
			Oct: 12		
			Nov: 7		
			Dec: 4		
2007 Costs for bird guards					
Labor & OH	~10minutes each for 2 lineworkers		\$4,750		
Materials	\$20 per birdguard		\$4,820		
Total estimated cost for avian protection			\$9,570		
estimated cost per bird guard installation			\$40		

Seattle City Light Known Bird Mortalities - 2008 *

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
1		1/17/2008 8:47	2747	3021 SW ANDOVER ST	Bird Guard installed; also fuse and limiter	Crow
2		2/11/2008 9:18	2761	357 27TH AVE	Removed bird from wires	Unknown
3	2008-0100	2/14/2008 10:07	2684	SW 102 St / 14 Av SW	Replaced fuse	Gull
4	2008-0119	2/20/2008 8:51	2689	10325 E MARGINAL WAY S	Replaced fuse	Goose
5		2/24/2008 10:12		902 N 105 St	Bird Guard installed; also fuse and limiter	Crow
6		3/6/2008 8:33	2787	9041 7TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
7		3/14/2008 9:49	2638	1230 E FIR ST	Bird Guard installed; also fuse and limiter	Crow
8		3/14/2008 10:02	2745	9022 31ST AVE SW	Bird Guard installed; also fuse and limiter	Pigeon
9		3/15/2008 13:49		11051 1 Av S	Bird Guard installed; also fuse and limiter	Crow
10		3/19/2008 13:43	2605	4619 NE 103RD ST	Bird Guard installed; also fuse and limiter	Unknown
11	2008-0183	3/20/2008 6:43	2621	925 NE Boat St	Replaced fuse	Goose
12	2008-0189	3/22/2008 8:33	2750	1301 Spring St	Replaced fuse	Unknown
13		3/29/2008 8:34	2690	15227 40TH AVE S	Bird Guard installed; also fuse and limiter	Unknown
14	2008-0211	3/31/2008 10:59	2776	17525 Aurora Av N	Replaced fuse	Crow
15		4/9/2008 7:33		7265 S 135 St	Bird Guard installed; also fuse and limiter	Crow
16		4/19/2008 13:41		7529 17 Av NW	Bird Guard installed; also fuse and limiter	Pigeon
17	2008-0302	4/27/2008 11:12	2776	1604 N 157 ST	Bird Guard installed; also fuse and limiter	Crow
18		4/28/2008 9:33	2680	9352 CALIFORNIA AVE SW	Bird Guard installed; also fuse and limiter	Crow
19		4/30/2008 16:54	2779	9524 17TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
20		5/5/2008 7:37	2741	8409 9TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
21	2008-0355	5/17/2008 14:00	2643	TP 27 Alaskan Wy/ 2 S S King S	Replaced fuse	Crow
22	2008-0386	5/24/2008 8:20	2625	1800 Eastlake Ave E	Replaced fuse	Crow
23		5/29/2008 11:43	2681	13211 6TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
24		6/5/2008 16:38	2791	9510 9TH AVE NW LOWR	Bird Guard installed; also fuse and limiter	Crow
25	2008-0429	6/5/2008 20:54		5 Av W & W Raye St	Replaced fuse	Crow
26		6/6/2008 6:07		5028 43 AV S	Bird Guard installed; also fuse and limiter	Crow
27		6/6/2008 12:24	2664	3521 ASHWORTH AVE N	Bird Guard installed; also fuse and limiter	Crow
28		6/7/2008 16:58	2612	4315 NE 60 St	Bird Guard installed; also fuse and limiter	Crow
29	2008-0434	6/8/2008 18:36	2615	9713 35 Av NE	Bird Guard installed; also fuse and limiter	Crow
30		6/8/2008 20:47	2813	8540 S 117TH ST	Bird Guard installed; also fuse and limiter	Crow
31		6/12/2008 19:53		3923 Sunnyside Av N	Bird Guard installed; also fuse and limiter	Crow
32		6/13/2008 5:24	2735	215 NW 48 St	Bird Guard installed; also fuse and limiter	Crow
33		6/13/2008 7:55	2782	2510 NE 117TH ST	Bird Guard installed; also fuse and limiter	Crow
34		6/13/2008 8:55	2781	8119 GREENWOOD AVE N	Bird Guard installed; also fuse and limiter	Crow
35		6/13/2008 9:11	2729	4710 AURORA AVE N	Bird Guard installed; also fuse and limiter	Crow
36		6/13/2008 17:18	2814	8335 RAINIER AVE S	Bird Guard installed; also fuse and limiter	Crow

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
37		6/14/2008 7:17		5320 25 Av S	Bird Guard installed; also fuse and limiter	Crow
38	2008-0467	6/14/2008 12:40	2608	4322 7 Av NE	Replaced fuse	Crow
39		6/14/2008 21:44		1824 40 Av E	Bird Guard installed; also fuse and limiter	Crow
40		6/15/2008 5:41		16522 35 Av NE	Bird Guard installed; also fuse and limiter	Crow
41		6/15/2008 6:17		11043 25 Av SW	Bird Guard installed; also fuse and limiter	Crow
42	2008-0469	6/15/2008 6:26	2753	2000 43 Av E	Replaced fuse & limiter	Crow
43		6/15/2008 20:00		4308 5 Av NW	Bird Guard installed; also fuse and limiter	Crow
44		6/16/2008 7:40	2654	315 WARD ST	Bird Guard installed; also fuse and limiter	Crow
45		6/16/2008 8:57	2761	100 23RD AVE S	Bird Guard installed; also fuse and limiter	Crow
46	2008-0473	6/16/2008 21:42	2620	N/s W Emerson,4 E 6 Av W	Replaced fuse	Crow
47		6/19/2008 6:49	2666	1407 N 40TH ST	Bird Guard installed; also fuse and limiter	Crow
48		6/20/2008 12:36	2711	20223 23RD AVE NW	Bird Guard installed; also fuse and limiter	Crow
49		6/20/2008 15:55	2779	8756 SYLVAN PL NW	Bird Guard installed; also fuse and limiter	Crow
50		6/20/2008 19:44	2680	4340 SW Concorde	Bird Guard installed; also fuse and limiter	Crow
51		6/20/2008 20:08	2658	607 Lee St	Bird Guard installed; also fuse and limiter	Crow
52		6/21/2008 5:20	2812	10663 CORNELL AVE S	Bird Guard installed; also fuse and limiter	Crow
53		6/21/2008 10:08		1624 3 Av W	Bird Guard installed; also fuse and limiter	Crow
54		6/21/2008 16:40		1760 1st Ave S	Bird Guard installed; also fuse and limiter	Crow
55		6/21/2008 20:37	2779	9211 2ND AVE NW	Bird Guard installed; also fuse and limiter	Crow
56		6/21/2008 20:41	2745	9719 32ND AVE SW	Bird Guard installed; also fuse and limiter	Crow
57		6/22/2008 6:09	2650	6705 Flora Ave S	Bird Guard installed; also fuse and limiter	Crow
58		6/22/2008 14:43		1921 N 48 St	Bird Guard installed; also fuse and limiter	Crow
59		6/22/2008 21:05	2633	3508 S Genesee St	Replaced fuse & limiter	Unknown
60		6/23/2008 7:58	2678	13637 3RD AVE S	Bird Guard installed; also fuse and limiter	Crow
61	2008-0505	6/23/2008 8:01	2752	2400 11TH AVE E	Replaced fuse & limiter	Crow
62		6/23/2008 9:46	2614	1044 NE 95TH ST	Bird Guard installed; also fuse and limiter	Crow
63		6/23/2008 10:43	2702	17100 ASHWORTH AVE N	Bird Guard installed; also fuse and limiter	Crow
64		6/23/2008 11:51	2801	11632 54TH AVE S	Bird Guard installed; also fuse and limiter	Crow
65	2008-0506	6/23/2008 19:55	2812	11808 79 PI S	Replaced fuse	Crow
66	2008-0507	6/24/2008 2:39	2653	Harrison St & Dexter Av N	Outage restored by automatic operation; wires inspected only; No damage found	Gull
67		6/25/2008 5:27	2647	4108 49th Av S	Bird Guard installed; also fuse and limiter	Crow
68		6/25/2008 7:13		5023 SW Grayson St	Bird Guard installed; also fuse and limiter	Crow
69		6/25/2008 7:50	2746	4022 53RD AVE SW	Bird Guard installed; also fuse and limiter	Crow
70	2008-0511	6/25/2008 8:59	2680	SW 106 St / California Av SW	Replaced fuse	Crow
71		6/25/2008 10:32	2621	3507 NE 43RD ST	Bird Guard installed; also fuse and limiter	Crow
72	2008-0520	6/26/2008 10:22	2754	13th Av and E Pine St	Replaced fuse	Crow

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
73		6/26/2008 10:33	2611	5116 46TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
74		6/26/2008 12:36	2746	6042 37TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
75		6/26/2008 17:51	2605	7606 6TH AVE NE + 512 NE 77 St	Bird Guard installed; also fuse and limiter	Crow
76		6/26/2008 18:18	2743	5032 36 Av SW	Bird Guard installed; also fuse and limiter	Crow
77		6/26/2008 18:36	2741	1101 SW 102nd St	Bird Guard installed; also fuse and limiter	Crow
78		6/27/2008 7:39	2791	9536 4TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
79		6/27/2008 10:21	2740	4108 SW DAWSON ST	Bird Guard installed; also fuse and limiter	Crow
80	2008-0529	6/27/2008 12:55	2684	9603 12TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
81		6/28/2008 8:56	n/a	12823 RENTON AVE S	Bird Guard installed; also fuse and limiter	Crow
82		6/28/2008 9:33	2615	9208 45TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
83	2008-0533	6/28/2008 18:34		3844 39 Av S	Bird Guard installed; also fuse and limiter	Crow
84	2008-0536	6/28/2008 20:52		1616 N 52 St	Bird Guard installed; also fuse and limiter	Crow
85		6/29/2008 6:19	2783	6501 2ND AVE NW	Bird Guard installed; also fuse and limiter	Crow
86	2008-0541	6/29/2008 20:20		108 S 116 St	Bird Guard installed; also fuse and limiter	Crow
87	2008-0542	6/29/2008 20:25	2666	4030 ASHWORTH AVE N	Bird Guard installed; also fuse and limiter	Crow
88		6/30/2008 18:35	2606	2329 N 63RD ST	Bird Guard installed; also fuse and limiter	Crow
89		7/1/2008 5:50		4715 43 Av S	Bird Guard installed; also fuse and limiter	Crow
90		7/1/2008 8:03	2705	19834 30TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
91		7/1/2008 8:32	2762	1427 S MAIN ST	Bird Guard installed; also fuse and limiter	Crow
92		7/1/2008 10:37	2654	570 MERCER ST	Bird Guard installed; also fuse and limiter	Crow
93		7/1/2008 17:20	2679	11432 14TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
94		7/2/2008 20:28		4216 NE 72 St	Bird Guard installed; also fuse and limiter	Crow
95		7/3/2008 12:12	2625	2801 BROADWAY E	Bird Guard installed; also fuse and limiter	Crow
96		7/3/2008 14:51	2625	804 E HAMLIN ST	Bird Guard installed; also fuse and limiter	Crow
97	2008-0580	7/3/2008 14:51	2761	E/s 31 Av S, 1 N S Norman St	Bird Guard installed; also fuse and limiter	Crow
98	2008-0582	7/3/2008 19:41	2782	9725 3 Av NE	Replaced fuse & limiter	Crow
99		7/4/2008 7:40	2681	12463 2 Av S	Bird Guard installed; also fuse and limiter	Crow
100	2008-0589	7/5/2008 15:28		1419 S 103 St	Bird Guard installed; also fuse and limiter	Crow
101	2008-0593	7/6/2008 7:24		9117 25 Av NE	Bird Guard installed; also fuse and limiter	Crow
102	2008-0594	7/6/2008 13:51	2731	709 N 35 St	Replaced fuse & limiter	Crow
103	2008-0595	7/6/2008 15:17	2813	8251 S 121 St	Bird Guard installed; also fuse and limiter	Crow
104		7/7/2008 5:45		4011 NE 68 St	Bird Guard installed; also fuse and limiter	Crow
105		7/7/2008 11:42	2782	12008 22ND AVE NE	Bird Guard installed; also fuse and limiter	Crow
106	2008-0607	7/7/2008 17:57	2751	220 24TH AVE E	Bird Guard installed; also fuse and limiter	Crow
107	2008-0613	7/9/2008 7:34	2765	W/s of 18 Av, 1 N of E Union S	Replaced fuse & limiter	Crow
108		7/9/2008 9:55	2656	3439 16TH AVE W REAR	Bird Guard installed; also fuse and limiter	Crow
109		7/10/2008 7:36	2613	3906 NE 70TH ST	Bird Guard installed; also fuse and limiter	Crow

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
110		7/10/2008 9:30	2673	13058 6TH AVE S	Bird Guard installed; also fuse and limiter	Crow
111	2008-0623	7/11/2008 8:19	2647	5201 S Farrar St	Replaced fuse & limiter	Crow
112	2008-0622	7/11/2008 8:55	2652	500 5 Av W	Replaced fuse & limiter	Crow
113		7/11/2008 9:05	2732	6735 32ND AVE NW	Bird Guard installed; also fuse and limiter	Crow
114		7/11/2008 9:12	2630	415 S BRANDON ST	Bird Guard installed; also fuse and limiter	Crow
115		7/11/2008 10:24	2620	5659 42ND AVE W	Bird Guard installed; also fuse and limiter	Crow
116		7/11/2008 12:41	2645	6777 MARS AVE S	Bird Guard installed; also fuse and limiter	Crow
117	2008-0625	7/11/2008 13:44	2774	333 N 133RD ST	Bird Guard installed; also fuse and limiter	Unknown
118	2008-0631	7/12/2008 10:55	2777	11333 Roosevelt Wy NE	Replaced fuse & limiter	Crow
119	2008-0630	7/12/2008 10:57	2777	8 Av NE / NE Northgate Wy	Replaced fuse & limiter	Crow
120	2008-0632	7/13/2008 9:49	2776	18524 Linden Ave N	Replaced fuse & limiter	Crow
121		7/13/2008 16:20		5200 Fauntleroy Wy SW	Bird Guard installed; also fuse and limiter	Crow
122		7/13/2008 20:50		5843 Woodlawn Av N	Bird Guard installed; also fuse and limiter	Crow
123		7/14/2008 7:57	2790	8500 LINDEN AVE N APT 103	Bird Guard installed; also fuse and limiter	Crow
124		7/14/2008 8:11	2813	6622 S 124TH ST	Bird Guard installed; also fuse and limiter	Crow
125		7/14/2008 11:35	2645	6905 42ND AVE S	Bird Guard installed; also fuse and limiter	Crow
126	2008-0639	7/15/2008 5:56	2704	19004 53 Av NE	Bird Guard installed; also fuse and limiter	Crow
127	2008-0640	7/15/2008 6:50	2765	18th Av & E Union St	Replaced fuse & limiter	Crow
128	2008-0639	7/15/2008 9:45	2704	19004 53 Av NE	Replaced fuse & limiter	Crow
129		7/15/2008 10:13	2647	3246 S Hudson St	Bird Guard installed; also fuse and limiter	Crow
130		7/16/2008 2:08	2701	Feeder 2701	Removed dead owl	Owl
131		7/16/2008 10:00	2790	739 N 95TH ST APT 101	Bird Guard installed; also fuse and limiter	Crow
132		7/16/2008 15:44	2645	6404 31ST AVE S	Bird Guard installed; also fuse and limiter	Crow
133		7/17/2008 6:00		9205 38 Av S	Bird Guard installed; also fuse and limiter	Crow
134	2008-0650	7/17/2008 9:57	2614	810 NE 102ND ST	Bird Guard installed; also fuse and limiter	Crow
135		7/18/2008 13:55	2615	3520 NE 93RD ST	Bird Guard installed; also fuse and limiter	Crow
136	2008-0656	7/18/2008 17:14	2735	Feeder 2735 cycled	Repaired grounding	Crow
137		7/18/2008 20:27		11855 55 Av S	Bird Guard installed; also fuse and limiter	Crow
138		7/19/2008 11:14		225 30 Av E	Bird Guard installed; also fuse and limiter	Crow
139		7/19/2008 18:16	2666	4749 THACKERAY PL NE	Bird Guard installed; also fuse and limiter	Crow
140	2008-0671	7/20/2008 12:34		11911 E Marginal Wy S	Replaced fuse & limiter	Crow
141		7/21/2008 5:56		2808 11 Av W	Bird Guard installed; also fuse and limiter	Crow
142		7/23/2008 12:03	2647	4718 S BENNETT ST	Bird Guard installed; also fuse and limiter	Crow
143		7/24/2008 7:01	2779	3114 & 3108 NW 91st St	Bird Guard installed; also fuse and limiter	Crow
144		7/26/2008 18:10		2610 44th Ave SW	Bird Guard installed; also fuse and limiter	Crow
145		7/27/2008 7:24		4801 Beacon Ave S	Bird Guard installed; also fuse and limiter	Crow
146		7/27/2008 7:46		12041 Hiram PI NE	Bird Guard installed; also fuse and limiter	Crow

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
147		7/27/2008 8:54		7937 10th ave sw	Bird Guard installed; also fuse and limiter	Crow
148		7/27/2008 10:09		2317 NW 89 PI	Bird Guard installed; also fuse and limiter	Crow
149		7/27/2008 15:18		932 12 Av	Bird Guard installed; also fuse and limiter	Crow
150		7/28/2008 18:32	2738	5730 SW Winthrop St	Bird Guard installed; also fuse and limiter	Crow
151	2008-0702	7/29/2008 6:08	2600	2639 PERKINS LN W	Replaced fuse	Crow
152		7/29/2008 8:25	2782	10731 24TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
153		8/1/2008 15:47	2721	5225 BALLARD AVE NW	Bird Guard installed; also fuse and limiter	Crow
154		8/2/2008 9:06	2746	2740 61ST AVE SW	Bird Guard installed; also fuse and limiter	Crow
155	2008-0711	8/3/2008 19:42	2652	17 W MERCER ST APT 309	Replaced fuse & limiter	Crow
156		8/6/2008 16:08	2779	7738 25TH AVE NW	Bird Guard installed; also fuse and limiter	Crow
157		8/7/2008 7:33	2813	13469 81ST AVE S	Bird Guard installed; also fuse and limiter	Crow
158	2008-0732	8/8/2008 13:06		SW 102 St & 17 Ave SW	Replaced fuse & limiter	Crow
159	2008-0734	8/9/2008 8:16		6536 9 Av NW	Bird Guard installed; also fuse and limiter	Crow
160	2008-0735	8/9/2008 9:30		3105 S McClellan St	Bird Guard installed; also fuse and limiter	Crow
161	2008-0736	8/9/2008 11:27		12059 Bartlett Av NE	Bird Guard installed; also fuse and limiter	Crow
162		8/10/2008 9:09	2647	2720 S Hanford St	Bird Guard installed; also fuse and limiter	Crow
163	2008-0741	8/10/2008 11:05	2722	7724 18 Av NW	Bird Guard installed; also fuse and limiter	Crow
164	2008-0742	8/10/2008 15:03	2764	206 Broadway E	Bird Guard installed; also fuse and limiter	Crow
165	2008-0743	8/10/2008 15:10	2735	120 NW 74 St	Bird Guard installed; also fuse and limiter	Crow
166	2008-0749	8/11/2008 6:14	2605	10309 & 10339 40 Av NE	Bird Guard installed; also fuse and limiter	Crow
167	2008-0753	8/11/2008 6:58	2622	3907 WALLINGFORD AVE N APT 2	Bird Guard installed; also fuse and limiter	Crow
168	2008-0754	8/11/2008 12:16	2779	9527 PHINNEY AVE N	Bird Guard installed; also fuse and limiter	Crow
169	2008-0755	8/11/2008 17:49	2684	9423 20TH AVE SW	Replaced transformer; installed bird guard; also fuse & limiter	Crow
170		8/13/2008 10:10	2612	4540 20TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
171	2008-0772	8/15/2008 8:46	2645	TP 164 @ S Willow St, MLK Jr S	Replaced fuse	Crow
172		8/15/2008 12:09	2738	4121 45TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
173		8/16/2008 16:50		6302 5 Av NE	Bird Guard installed; also fuse and limiter	Crow
174		8/17/2008 9:35		10222 10 Av SW	Bird Guard installed; also fuse and limiter	Crow
175	2008-0802	8/20/2008 9:44	2677	13020 24TH AVE S	Bird Guard installed; also fuse and limiter	Crow
176		8/25/2008 12:23	2747	3109 SW AVALON WAY APT HSE	Bird Guard installed; also fuse and limiter	Crow
177		8/25/2008 19:49	2658	1922 NOB HILL AVE N	Bird Guard installed; also fuse and limiter	Crow
178		8/26/2008 7:04		1441 NW 52 St	Bird Guard installed; also fuse and limiter	Crow
179		8/26/2008 14:35	2745	7523 24TH AVE SW APT 1	Bird Guard installed; also fuse and limiter	Crow
180	2008-0849	8/29/2008 8:19	2765	1524 Melrose Ave	Fdr 2765 cycled. No further action taken	Crow
181		9/2/2008 15:22	2666	4302 STONE WAY N	Bird Guard installed; also fuse and limiter	Crow
182		9/4/2008 11:03		11829 Renton Av S	Bird Guard installed; also fuse and limiter	Crow

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
183		9/4/2008 15:52	2625	217 E LOUISA ST	Bird Guard installed; also fuse and limiter	Crow
184		9/9/2008 13:36	2633	4820 45TH AVE S	Bird Guard installed; also fuse and limiter	Crow
185		9/12/2008 9:45	2690	13737 45TH AVE S	Bird Guard installed; also fuse and limiter	Crow
186		9/12/2008 14:50	2676	12208 44TH AVE S	Bird Guard installed; also fuse and limiter	Crow
187		9/15/2008 8:50	2768	8153 12TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
188		9/16/2008 10:20	2613	4317 NE 57TH ST	Bird Guard installed; also fuse and limiter	Crow
189		9/20/2008 14:46		4715 SW Alaska St	Bird Guard installed; also fuse and limiter	Crow
190		9/21/2008 9:09		3107 NW 93 ST	Bird Guard installed; also fuse and limiter	Crow
191		9/23/2008 10:03	2685	259 SW 139TH ST	Bird Guard installed; also fuse and limiter	Crow
192		10/2/2008 13:01	2740	4512 46TH AVE SW	Bird Guard installed; also fuse and limiter	Crow
193	2008-0929	10/3/2008 15:20	2641	2730 4TH AVE S SVC HSE	Bird Guard installed; also fuse and limiter	Crow
194		10/3/2008 15:44	2605	7757 28TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
195		10/4/2008 10:28		14052 24th Ave NE	Bird Guard installed; also fuse and limiter	Crow
196		10/6/2008 18:49		3523 SW Charlestown St	Bird Guard installed; also fuse and limiter	Crow
197		10/12/2008 13:24		1039 S 128 St	Bird Guard installed; also fuse and limiter	Crow
198		10/19/2008 14:48	2685	12320 14 Av SW	Bird Guard installed; also fuse and limiter	Unknown
199		10/21/2008 15:44	2645	6218 48TH AVE S	Bird Guard installed; also fuse and limiter	Unknown
200	2008-1050	11/3/2008 9:02	2666	1845 N 51ST ST	Removed dead goose	Goose
201		11/7/2008 7:26	2615	9526 44TH AVE NE	Bird Guard installed; also fuse and limiter	Crow
202		11/7/2008 10:23	2791	10316 MARY AVE NW	Bird Guard installed; also fuse and limiter	Crow
203		11/28/2008 12:42	2748	619 SW OTHELLO ST	Bird Guard installed; also fuse and limiter	Crow
204	2008-1168	12/12/2008 11:09	2638	1032 S Jackson St	Replaced fuse & limiter	Pigeon
* Mortalities that caused outages						

Record #	Event	Date & Time	Feeder	Location	Actions Taken	Species
SUMMARY						
	Total events	204	% of total		Actions Taken:	% of total
	Crows	187	92%		Bird guard & re-fusing: 165	80%
	Geese	3	1%		Replaced fuse and limiter: 17	8%
	Gulls	2	1%		Replaced fuse: 15	7%
	Owl	1	0%		Other: 6	3%
	Protected Species	193	95%		Replaced transformer: 1	0%
					204	
	Pigeon	3	1%		2008 Costs for Bird Guards	
	Starling	0	0%		Labor: 2 line workers (\$62.08/hr), 10 min each	\$3,414
	Sparrow	0	0%		Materials: \$20 per birdguard	\$3,300
	Unprotected Species	3	1%		Total estimated cost for avian protection	\$6,714
	Unknown Species	8	4%		Aver estimated cost/bird guard installation	\$41
Bird Mortality by Month						
January	1					
February	4					
March	9					
April	5					
May	4					
June	65					
July	64					
August	28					
September	11					
October	8					
November	4					
December	1					
	204					

Seattle City Light - Known Avian Mortalities 2009. All records are of individual avian mortalities, unless indicated next to species.*

Event Number	Date	Location	Feeder	Struct/Equip Type	Remedial Action Taken	Species
1	1/13/2009	E/s Perkins Ln W, 5 N of W Raye St	2600	Transformer	Bird Guard Installed	Crow
2	1/18/2009	S/s of Alki Av SW, 1 W of 64 Pl SW	2764	Transformer	Bird Guard Installed	Gull
3	1/18/2009	W/s of 33 Ave NE, 1 N of NE 55 St		Transformer	Bird Guard Installed	Crow
4	1/21/2009	W/s of 8 Av NE, 4 S of NE 130 St	2706	Unknown		Robin
5	1/25/2009	W/s of 20 Av NE, 2 S of NE 135 St		Transformer	Bird Guard Installed	Crow
6	1/27/2009	E/s 1 Av S, 1 N of Railroad Wy S.	2644	Unknown		Gull
7	2/3/2009	N/s of Nickerson St, 3 S of Cremona St	2658	Terminal Pole		Crow
8	2/21/2009	S/s of NE 127 St, 1 E of 26 Av NE,		Transformer		Crow
9	2/21/2009	S/s of S 125 St, 2 E of 46 Av S,	2676	Transformer	Bird Guard Installed	Crow
10	2/22/2009	N/s of NE 57 St, 2 W of 45 Av NE.		Transformer	Bird Guard Installed	Crow
11	3/3/2009	E/s of 18 Av SW, 1 N of SW Roxbury St. w	2684	Transformer	Bird Guard Installed	Crow
12	3/5/2009	N/s of S Dakota St, 1 E of 37 Av S	2633	Transformer	Bird Guard Installed	Crow
13	3/9/2009	801 E PIKE ST	2765	Unknown		Unknown
14	3/25/2009	W/s 8 Av SW, 2 S of SW 150 St	2674	Terminal Pole		Crow
15	3/25/2009	W/s of 33 Av S, 1 N of S Horton St	2647	Transformer	Bird Guard Installed	Crow
16	3/28/2009	S/s of NE 80 St, 2 E of 43 Av NE.		Transformer	Bird Guard Installed	Crow
17	3/30/2009	E /s 35 Av S, 2 S of S Mt Baker Blvd.	2647	Transformer	Bird Guard Installed	Crow
18	4/3/2009	N/s S Angeline Alley, 2 E of 39 Av S	2647	Transformer	Bird Guard Installed	Pigeon
19	4/9/2009	N/s of NW 132 St, 1 E of 3 Av NW.	2774	Transformer	Bird Guard Installed	Crow
20	4/20/2009	W/s of Belmont Av E, 2 S of E Mercer St	2760	Terminal Pole		Crow
21	4/20/2009	E/s of 45 Av SW, 3 S of SW 98 St		Transformer	Bird Guard Installed	Crow
22	4/20/2009	E/s 1 Av NE, 1N of NE 95 St.		Transformer	Bird Guard Installed	Crow
23	4/25/2009	W/s of 24 Av NE, 5 N of NE 61 St		Transformer	Bird Guard Installed	Crow
24	4/30/2009	45 Av SW Alley, 3 S of SW Spokane St.	2738	Transformer	Bird Guard Installed	Crow
25	5/6/2009	S/s of NE 70 St, 2 E of 12 Av NE	2611	Transformer		Crow
26	5/9/2009	E/s of 18 Av S, 1 S of S Jackson St.		Unknown		Crow
27	5/14/2009	SW cnr of NW Market St and 14 Av NW.	2722	Unknown		Gull
28	5/17/2009	S/s NW 61st, 2 E of 9 Av N		Unknown		Crow
29	5/17/2009	N/s SW Holden St, 1 W of 35 Av S		Transformer	Bird Guard Installed	Crow
30	5/21/2009	E/s of 19 Av SW, 1 S of SW 104 St.	2684	Transformer	Bird Guard Installed	Crow
31	5/26/2009	10720 5 Av NE	2777	Terminal Pole		Crow
32	5/29/2009	E/s of 34 Av E, 3 W of 35 Av E.	2757	Transformer	Bird Guard Installed	Crow
33	6/1/2009	W/s 27 Av SW, 3 N of SW 116 St	2679	Transformer	Bird Guard Installed	Crow
34	6/8/2009	N/s SW 146 St, 1 E of 24 Av SW.	2681	Transformer	Bird Guard Installed	Crow
35	6/9/2009	Feeder 2613 Cycled	2613	Unknown		Crow
36	6/10/2009	Ohio Ave S & S Brandon St	2636	Terminal Pole		Crow
37	6/10/2009	N/s of SW 112 St, 1 W of 10 Av SW.		Transformer	Bird Guard Installed	Crow
38	6/10/2009	W/s 60 Av S, 1 S of S 118 Pl		Transformer	Bird Guard Installed	Crow
39	6/11/2009	6232 53 Av NE	2611	Unknown		Crow
40	6/11/2009	S/s of N 96 St, 1 E of Linden Av N.	2778	Transformer	Bird Guard Installed	Crow

* Mortalities that caused outages

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Event Number	Date	Location	Feeder	Struct/Equip Type	Remedial Action Taken	Species
41	6/11/2009	W/s Maplewild Av Sw, 2 S of SW 164 Pl		Transformer	Bird Guard Installed	Crow
42	6/12/2009	E/s of 39 AV SW, 1 S of SW Morgan St.	2736	Terminal Pole		Crow
43	6/12/2009	E/s of 51 Av NE, 2 N of NE 93 St	2610	Transformer	Bird Guard Installed	Crow
44	6/12/2009	W/s of 28 Av SW Alley, 2 N of SW Webster St		Transformer	Bird Guard Installed	Crow
45	6/13/2009	S/s of S Walker St, 1 E of 25 Av S.	2646	Terminal Pole		Crow
46	6/13/2009	W/s of 24 Av SW, 3 N of SW 98 St		Transformer	Bird Guard Installed	Crow
47	6/13/2009	S Edmunds St Alley, 1 W of 42 Av S W		Transformer	Bird Guard Installed	Crow
48	6/14/2009	N/s of NE 114 St, 1 E of Roosevelt Wy NE	2777	Transformer	Bird Guard Installed	Crow
49	6/14/2009	W/s of 22 Av NW, 1 S of NW 59 St		Transformer	Bird Guard Installed	Crow
50	6/15/2009	W/s of E Marginal Wy S, 1 S of S Fidalgo St.	2628	Terminal Pole		Crow
51	6/15/2009	1028 NE 114 St	2777	Transformer	Bird Guard Installed	Crow
52	6/15/2009	S/s of S Fountain St, 2 W of 63 Av S.	2813	Transformer	Bird Guard Installed	Crow
53	6/15/2009	S/s SW Admiral Wy, 2 E of SW Lander St.		Transformer	Bird Guard Installed	Crow
54	6/16/2009	E/s of Westlake Av N, 1 N of John St	2603	Terminal Pole		Crow
55	6/16/2009	W/s 23 Av SW, 2 N of SW 114 St	2679	Transformer	Bird Guard Installed	Crow
56	6/17/2009	Feeder 2640	2640	Unknown		Crow
57	6/17/2009	Feeder 2640	2640	Unknown		Crow
58	6/17/2009	W/s 12 Av SW, 2 S of SW 119 St.	2679	Terminal Pole		Crow
59	6/18/2009	E/s 27 Av SW, 1 N of SW 114 St.	2679	Transformer	Bird Guard Installed	Crow
60	6/19/2009	Feeder 2639 Cycled	2639	Unknown		Gull
61	6/19/2009	N/s of SW Florida St, 1 W of 16 Av SW	2631	Unknown		Gull
62	6/19/2009	W/s of 16 Ave SW, 2 S of SW 149 St	2685	Transformer	Bird Guard Installed	Crow
63	6/19/2009	S/s of N 83 St, 2 E of Fremont Ave N	2735	Transformer	Bird Guard Installed	Crow
64	6/19/2009	E/s of Harvard Ave E, 1 S of E Allison St	2625	Transformer	Bird Guard Installed	Crow
65	6/19/2009	S/s N 77 St, 2 E of Dayton Av N		Transformer	Bird Guard Installed	Crow
66	6/19/2009	Harvard Av E alley, 1 S of E Hamlin St		Transformer	Bird Guard Installed	Crow
67	6/19/2009	E/s of 12 Ave NW, 2 N of NW 95 St	2791	Transformer	Bird Guard Installed	Crow
68	6/19/2009	E/s of 13 Ave E, 1 S of E Thomas St	2758	Transformer	Bird Guard Installed	Crow
69	6/19/2009	N/s of N 91 St, 3 E of Fremont Ave N	2790	Transformer	Bird Guard Installed	Crow
70	6/19/2009	N/s of S 118 St, 4 W of S 82 St	2812	Transformer	Bird Guard Installed	Crow
71	6/19/2009	S/s of S Massachusetts St., 1 W of 14 Ave S		Transformer	Bird Guard Installed	Crow
72	6/19/2009	E/s of 41 Ave E Alley, 1 N of E Lynn St	2753	Transformer	Bird Guard Installed	Crow
73	6/20/2009	N/s of SW Holden St, 1 W of 36 Av S		Transformer	Bird Guard Installed	Crow
74	6/20/2009	N/s of NW 97 St, 2 E of 21 Av NW w		Transformer	Bird Guard Installed	Crow
75	6/20/2009	N/s of Hayes St, 2 E of 2 Av N w	2654	Transformer	Bird Guard Installed	Crow
76	6/20/2009	28 Av SW alley, 1 N of SW Webster St	2768	Transformer	Bird Guard Installed	Crow
77	6/20/2009	E/s of 50 Av SW, 3 N of SW Hanford St w	2738	Transformer	Bird Guard Installed	Crow
78	6/21/2009	W/s of 12 av S, 3 N of S 134 St;	2673	Transformer	Bird Guard Installed	Crow
79	6/22/2009	E/s of 10 Av SW, 2 N of S 106 St:	2741	Transformer	Bird Guard Installed	Crow
80	6/22/2009	E/s 28 Av S, 1 S of S Ferdinand St.	2642	Transformer	Bird Guard Installed	Crow

* Mortalities that caused outages

Seattle City Light - Known Avian Mortalities 2009. All records are of individual avian mortalities, unless indicated next to species.*

Event Number	Date	Location	Feeder	Struct/Equip Type	Remedial Action Taken	Species
81	6/22/2009	S/s SW 98 St, 3 W of 35 Av SW.		Transformer	Bird Guard Installed	Crow
82	6/22/2009	W/s Burke Av N, 1 N of N Northlake Wy. W		Transformer	Bird Guard Installed	Crow
83	6/23/2009	W/s of 40 Pl NE, 3 N of N 186 St. CROW.	2703	Transformer	Bird Guard Installed	Crow
84	6/23/2009	E/s of 9 Av NW, 2 N of NW 67 St.	2724	Transformer	Bird Guard Installed	Crow
85	6/24/2009	W/s of 3 Av NW, 2 N of NW 92 St	2787	Transformer	Bird Guard Installed	Crow
86	6/25/2009	S/s of S 115 St, 1 E of 85 Av S.	2812	Transformer	Bird Guard Installed	Crow
87	6/25/2009	W/s 24 Pl SW, 2 S of SW 109 St	2679	Transformer	Bird Guard Installed	Crow
88	6/26/2009	2725 MONTLAKE BLVD E		Terminal Pole		Crow
89	6/26/2009	E/s of 12 Av SW, 3 S of SW 144 St.	2685	Transformer	Bird Guard Installed	Crow
90	6/26/2009	N/s of SW 167 St, 7 E of 31 Av SW	2673	Transformer	Bird Guard Installed	Crow
91	6/26/2009	E/s of Waverly Pl N, 1 S of McGraw St		Transformer	Bird Guard Installed	Crow
92	6/26/2009	E/s S 120 Pl, 2 S of 70 Pl S	2813	Transformer	Bird Guard Installed	Crow
93	6/27/2009	N/s S Cloverdale St, 1 E of 38 Av S		Transformer	Bird Guard Installed	Crow
94	6/27/2009	E/s of 11 Av SW, 4 S of SW Elmgrove St		Transformer	Bird Guard Installed	Unknown
95	6/27/2009	N/s of S Orcas St, 1 W of MLK Jr Wy S		Transformer	Bird Guard Installed	Crow
96	6/27/2009	W/s 26 Av, 2 N of E Jefferson St		Transformer	Bird Guard Installed	Crow
97	6/28/2009	S/s S Othello St, 1 E of 54 Av S		Transformer	Bird Guard Installed	Crow
98	6/28/2009	N/s NW 62 St, 2 E of 3 Av NW		Transformer	Bird Guard Installed	Crow
99	6/28/2009	S/s SW Southern St, 3 E of 39 Av SW		Transformer	Bird Guard Installed	Crow
100	6/30/2009	W/s of Chilberg Av SW, 2 S of SW Douglas Pl.		Transformer	Bird Guard Installed	Crow
101	7/2/2009	W/s of Winslow Pl N, 4 N of N 36 S		Terminal Pole		Crow
102	7/2/2009	E/s of 18 Av Alley, 1 N of E Madison St. w	2763	Transformer	Bird Guard Installed	Crow
103	7/2/2009	W/s of Ashworth Av N, 2 N of N 100 St.		Transformer	Bird Guard Installed	Crow
104	7/3/2009	E/s of 62 Av S, 2 N of S Ryan St		Transformer	Bird Guard Installed	Crow
105	7/3/2009	S/s of NE 180 St, 2 E of 1 Av NE		Transformer	Bird Guard Installed	Crow
106	7/4/2009	E/s of 45 Av SW alley, 2 N of SW College Wy		Transformer	Bird Guard Installed	Crow
107	7/4/2009	E/s of Eastview Dr W, 1 S of W Halladay St	2601	Transformer	Bird Guard Installed	Crow
108	7/4/2009	W/s of Woodside Pl SW, 1 S of SW Myrtle St		Transformer	Bird Guard Installed	Crow
109	7/5/2009	N/s of E Cherry St, 2 E of Broadway	2754	Unknown		Crow
110	7/5/2009	W/s of 3 Av S, 1 N of S Hudson St.	2649	Terminal Pole		Crow
111	7/6/2009	1041 Summit Av E	2667	Unknown		Crow
112	7/6/2009	9246 30 Av SW	2745	Unknown		Crow
113	7/6/2009	N/s of N 137 St, 2 W of Aurora Av N	2788	Terminal Pole		Crow
114	7/7/2009	S/s of S Jackson St, 2 E of 25 Av S.		Transformer	Bird Guard Installed	Crow
115	7/8/2009	E/s of 10 Av E, 1 N of E Thomas St,	2758	Transformer	Bird Guard Installed	Crow
116	7/8/2009	S/s of S Bangor St, 1 E of 55 Av S.	2813	Transformer	Bird Guard Installed	Crow
117	7/10/2009	S/s of Keystone Pl N, 2 W of N 55 St		Transformer	Bird Guard Installed	Crow
118	7/10/2009	30 Av SW Alley, 2 N of SW Trenton St	2768	Transformer	Bird Guard Installed	Crow
119	7/11/2009	3008 Harvard Av E		Transformer	Bird Guard Installed	Unknown
120	7/11/2009	W/s of 38 Ave NE, 1 N of NE 98 St	2605	Transformer	Bird Guard Installed	Crow

* Mortalities that caused outages

Seattle City Light - Known Avian Mortalities 2009. All records are of individual avian mortalities, unless indicated next to species.*

Event Number	Date	Location	Feeder	Struct/Equip Type	Remedial Action Taken	Species
121	7/11/2009	E/s of 12 Ave SW, 4 S of SW 164 St		Transformer	Bird Guard Installed	Crow
122	7/11/2009	S/s of NE 103 St, 2 E of 5 Ave NE		Transformer	Bird Guard Installed	Crow
123	7/12/2009	W/s Shilshole Av NW, 1 N of 20 Av NW.		Transformer	Bird Guard Installed	Crow
124	7/12/2009	adjacent to 12103 30 Av SW.		Transformer	Bird Guard Installed	Crow
125	7/14/2009	Feeder 2648 Cycled	2648	Unknown		Crow
126	7/14/2009	E/s 8 Av NE lot lead, 2 N of NE 165 St		Transformer	Bird Guard Installed	Crow
127	7/14/2009	E/s of 30 Av SW Alley, 1 N of SW Cloverdale St	2768	Transformer	Bird Guard Installed	Crow
128	7/14/2009	W/s of 26 Av W, 2 N of W Jameson S	2620	Transformer	Bird Guard Installed	Unknown
129	7/16/2009	E/s of 46 Av S, 2 N of S Henderson St,	2803	Transformer	Bird Guard Installed	Crow
130	7/16/2009	W/s 35 Av SW, 2N of SW 171 St	2674	Transformer	Bird Guard Installed	Unknown
131	7/16/2009	E/s of 20 Av E Alley, 1 N of E Highland D	2752	Transformer	Bird Guard Installed	Crow
132	7/16/2009	E/s of 26 Av W, 2 S of W Newton St,	2656	Transformer	Bird Guard Installed	Crow
133	7/17/2009	W/s of 1 Av N, 1 N of Roy St	2652	Unknown		Crow
134	7/19/2009	S/s of NW 51 St, 2 E of 11 Av NW		Transformer	Bird Guard Installed	Crow
135	7/19/2009	E/s of Evanston Av N, 2 N of N 43 St	2734	Transformer	Bird Guard Installed	Crow
136	7/22/2009	W/s of 41 Av SW, 3 S of SW Holgate St.	2747	Transformer	Bird Guard Installed	Crow
137	7/23/2009	10725 16 Av SW	2684	Unknown		Crow
138	7/23/2009	W/s of 25 Av NW, 2 N of NW 75 St. w	2779	Transformer	Bird Guard Installed	Crow
139	7/23/2009	N/s of E Calhoun St, 1 E of 22 Av E.		Transformer	Bird Guard Installed	Crow
140	7/24/2009	S/s of NE 75 St, 2 E of 21 Ave NE		Transformer	Bird Guard Installed	Crow
141	7/25/2009	S/s of SW 146 St, 1 E of 4 Av S		Transformer	Bird Guard Installed	Crow
142	7/25/2009	S/s NE 205 St, 2 W of 21 Av NE		Transformer	Bird Guard Installed	Crow
143	7/25/2009	W/s 46 Av S, 1 N of Spear Pl S		Transformer	Bird Guard Installed	Crow
144	7/25/2009	W/s of 11 Av NW, 2 N of NW 77 St	2724	Transformer	Bird Guard Installed	Crow
145	7/26/2009	E/s E Marginal Wy S, 1 N of Ellis Av S.		Unknown		Starling (15)
146	7/28/2009	6015 Phinney Ave N	2729	Unknown		Crow
147	7/28/2009	15 W Garfield St	2601	Unknown		Crow
148	7/28/2009	S/s of W Prospect St, 2 W of Queen Anne Av N.		Unknown		Unknown
149	7/28/2009	E/s of NE Ravenna Bv, 2 N of NE 68 St	2606	Terminal Pole		Crow
150	7/28/2009	NE Cnr of Taylor Av N & N Howe St. w		Transformer	Bird Guard Installed	Crow
151	7/28/2009	S/s of NW 50 St, 2 W of 3 Av N.		Transformer	Bird Guard Installed	Crow
152	7/28/2009	N/s of SW Ida St, 1 E of 41 Av SW. w	2736	Transformer	Bird Guard Installed	Crow
153	7/29/2009	S/s of NW 61 St, 2 W of 11 Av N	2724	Transformer	Bird Guard Installed	Crow
154	7/31/2009	W/s of 2 Av N, 1 S of Newton St	2657	Transformer	Bird Guard Installed	Crow
155	8/1/2009	W/s of Wallingford Av N, 2 S of N 34 St.	2664	Terminal Pole		Crow
156	8/1/2009	E/s 43 Av S, 2 S of S Adams St		Transformer	Bird Guard Installed	Crow
157	8/3/2009	E/s of 14 Av NW, 1 N of NW 54 St. w		Transformer	Bird Guard Installed	Crow
158	8/5/2009	N/s of NE 89 St, 2 E of 5 Av NE.	2614	Transformer	Bird Guard Installed	Crow
159	8/7/2009	49 Ave SW lot lead, 2 S of SW Charlestown St	2746	Transformer	Bird Guard Installed	Crow
160	8/11/2009	N/s SW Director St, 1 E of 45 Av SW	2680	Transformer	Bird Guard Installed	Crow

* Mortalities that caused outages

Seattle City Light - Known Avian Mortalities 2009. All records are of individual avian mortalities, unless indicated next to species.*

Event Number	Date	Location	Feeder	Struct/Equip Type	Remedial Action Taken	Species
161	8/11/2009	E/s 3 Av NW, 1 N of N 67 St	2735	Transformer	Bird Guard Installed	Crow
162	8/11/2009	W/s Federal Av E, 2 N of E Republican St	2760	Transformer	Bird Guard Installed	Crow
163	8/12/2009	W/s of 25 Av S, 2 N of S Plum St		Transformer	Bird Guard Installed	Crow
164	8/14/2009	W/s Harvard Av E, 1 N of E Olive Wy	2764	Transformer	Bird Guard Installed	Crow
165	8/16/2009	W/s Bigelow Av N, 2 N of Boston St.		Transformer		Crow
166	8/21/2009	N/s of N 82 St, 2 W of Densmore Av N.		Transformer	Bird Guard Installed	Unknown
167	8/24/2009	E/s 25 Av, 2 N of E Union St.	2761	Transformer	Bird Guard Installed	Crow
168	9/5/2009	11837 Renton Av S		Transformer	Bird Guard Installed	Crow
169	9/6/2009	N/s NW 66 St, 1 E of 34 Av NW		Transformer	Bird Guard Installed	Crow
170	9/13/2009	NE corner of 16 Av NE and NE 190 S	2705	Unknown		Unknown
171	9/16/2009	14903 14TH AVE SW		Unknown		Crow
172	9/16/2009	W/s of Sturgus Av S, 1 S of S Atlantic St	2648	Transformer	Bird Guard Installed	Crow
173	9/16/2009	N/s SW 150 St, 3 W of 12 Av SW.		Transformer	Bird Guard Installed	Crow
174	9/16/2009	S/s of SW 149 St, 2 W of 14 Av SW.		Transformer	Bird Guard Installed	Crow
175	9/19/2009	University Substation - Cap Bk 137-1		Unknown		Crow
176	9/29/2009	E/s of 19 Av NE, 2 N of NE 115 St.	2780	Transformer	Bird Guard Installed	Crow
177	10/1/2009	NE cnr SW 102 St & 39 Av SW.	2680	Unknown		Crow
178	10/1/2009	Feeder 2680 Cycled	2680	Terminal Pole		Crow
179	10/2/2009	S/s of S 120 St, 2 E of 75 Av S	2812	Transformer	Bird Guard Installed	Crow
180	10/9/2009	E/s 48 Av S, 2 S of S Adams St	2633	Transformer	Bird Guard Installed	Crow
181	10/12/2009	S/s of 117 Pl, 2 W of 87 Av S.		Transformer	Bird Guard Installed	Crow
182	10/15/2009	N/s of S Fidalgo St, 1 E of 2 Av S.	2649	Unknown		Crow
183	10/15/2009	16 Av SW Alley, 1 S of SW Trenton St.		Transformer	Bird Guard Installed	Crow
184	10/16/2009	12 Av NE Alley, 1 S of NE 58 St	2612	Transformer	Bird Guard Installed	Crow
185	10/21/2009	16020 10TH AVE SW		Transformer	Bird Guard Installed	Pigeon
186	10/21/2009	E/s of 47 Av S, 3 N of S Graham St	2645	Transformer	Bird Guard Installed	Crow
187	10/24/2009	Feeder 2721 Cycled	2721	Unknown		Gull
188	10/24/2009	SW Corner of NW 54 St and 24 Av NW	2721	Unknown		Gull
189	10/27/2009	E/s of 10 Av S, 1 N of S Jackson St	2638	Terminal Pole		Crow
190	10/28/2009	E/s of 5 Av SW, 1 S of SW 104 St.	2679	Transformer	Bird Guard Installed	Crow
191	11/10/2009	Roosevelt Wy NE alley, 1 S of NE 55 St	2612	Transformer	Bird Guard Installed	Crow
192	11/11/2009	W/s of 2 Av NW, 3 N of NW 156th St.		Transformer	Bird Guard Installed	Crow
193	11/14/2009	3910 S Burns St		Unknown		Pigeon
194	11/14/2009	W/S Wallingford Av N, 2 S of N 145 St	2712	Unknown		Pigeon
195	12/7/2009	N/s of S Jackson St, 1 E of 10 Av S	2638	Terminal Pole		Crow
196	12/11/2009	10015 15 Av SW	2684	Unknown		Crow
197	12/12/2009	N/s of NW 56 St, 1 W of 4 Av NW		Unknown		Crow
198	12/15/2009	E/s 7 Av S, 3 S of S 128 St	2672	Transformer	Bird Guard Installed	Crow
199	12/17/2009	N/s of W Howe St, 1 W of 8 Av W	2656	Transformer	Bird Guard Installed	Crow
200	12/20/2009	N/s N 101 Alley, 2 E of Fremont Av N	2777	Transformer	Bird Guard Installed	Crow

* Mortalities that caused outages

Seattle City Light
Known Avian Mortalities 2009

SUMMARY

	Total events	200	% of total known mortalities		Actions Taken:	Number	% of total
Crow		179	84%		Bird guard Installed	145	72.5%
Robin		1	0%		Reset Equipment	55	27.5%
Gull		7	3%			200	100.0%
Protected Species		187	87%				
2009 Costs for bird caused outages							
Pigeon		4	2%	Labor: 2 line workers (\$62.08/hr), 10 min. each		\$4,139	
Starling		15	7%		Materials: \$20 per bird guard	\$2,900	
Unprotected Species		19	9%		Total estimated cost to utility	\$7,039	
Unknown Species		8	4%				
Total Known Mortalities ¹		214	100%				

2009 Costs for bird caused outages

Labor: 2 line workers (\$62.08/hr), 10 min. each	\$4,139
Materials: \$20 per bird guard	\$2,900
Total estimated cost to utility	\$7,039

¹ includes one event where 15 starlings were killed

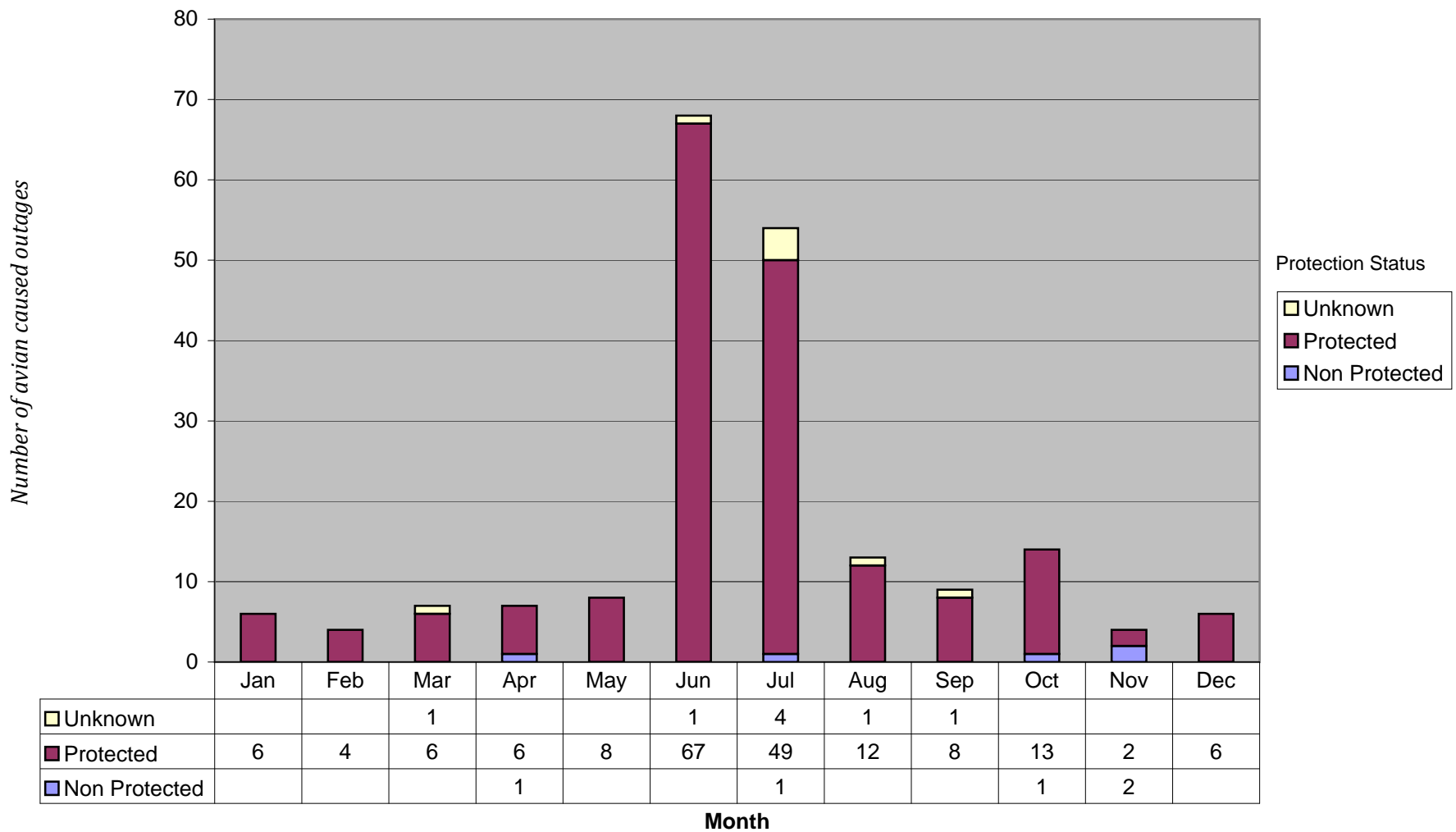
Bird Mortality Events by Month

Month	No. Events	Percent
January	6	3%
February	4	2%
March	7	4%
April	7	4%
May	8	4%
June	68	34%
July	54	27%
August	13	7%
September	9	5%
October	14	7%
November	4	2%
December	6	3%
	200	100%

TYPE OF EQUIPMENT

Struct/Equip Type	Total	% of total
Terminal Pole	19	9.5%
Transformer	148	74.0%
Unknown	33	16.5%
Grand Total	200	100.0%

*Seattle City Light
2009 Avian mortality events summary*



Note: Total number of events in 2009 = 200. Total avian mortalities = 214 (which includes one event in July involving 15 starlings).

2009 Known Avian Mortalities in Seattle City Light Service Area*



*Note: 193 events were mapped, the remaining 7 events remain unmapped due to unspecified address/location.

Seattle City Light Known Avian Mortalities 2010*. All records are of individual avian mortalities, unless indicated next to species.

Record Num.	Date	Location	Feeder	Structure Type	Remedial Action Taken	Species	Total
1	1/4/2010	S/s of S Lucile St, 1 E of 2 Av S.	0	Transformer	Bird Guard Installed	Crow	1
2	1/5/2010	E/s of 14 Av NW, 4 S of NW 90 St	2791	Transformer	Bird Guard Installed	Crow	1
3	1/7/2010	N/s of S Kenyon St, 3 E of Beacon Av S	2814	Transformer	Bird Guard Installed	Crow	1
4	1/10/2010	W/s of Utah Av S, 3 S of S Massachusetts St;	2635	Transformer	Bird Guard Installed	Crow	1
5	2/5/2010	E/s Harvard Ave E Alley, 3 S of E Shelby St	2625	Transformer	Bird Guard Installed	Crow	1
6	2/10/2010	S/s of Harrison St, 1 E of Minor Av N.	2603	Transformer	Bird Guard Installed	Crow	1
7	2/11/2010	W/s of 13 Av NW alley, 2 S of NW 56 St	2724	Transformer	Bird Guard Installed	Crow	1
8	2/14/2010	E/s of 31 Av S, 1 S of S Bradford St	0	Transformer	Bird Guard Installed	Crow	1
9	2/17/2010	E/s of 43 Av S, 2 S of S Ferdinand St	2633	Transformer	Bird Guard Installed	Crow	1
10	2/23/2010	SW cnr of NE 117 St / 8 Av NE	2777	Feeder		Crow	1
11	3/23/2010	S/s of NW 58 St, 1 E of 9 Av NW.	0	Transformer	Bird Guard Installed	Crow	1
12	3/29/2010	E/s of Midvale Av N, 1 S of N 45 St.	2666	Terminal Pole	Equipment Reset	Crow	1
13	4/11/2010	S/s of SW 167 St, 2 E of 19 Av SW	2673	Transformer	Bird Guard Installed	Crow	1
14	5/13/2010	S/s N 83 St, 2 W of Greenwood Av N	2781	Transformer	Bird Guard Installed	Crow	1
15	5/16/2010	E/s of Yale Av N, 2 S of John St	2765	Terminal Pole		Crow	1
16	5/18/2010	E/s of Perkins Ln W, S of W McGraw St.	2600	Transformer	Bird Guard Installed	Crow	1
17	5/20/2010	NW cnr of S Myrtle St and 44 Av S	2814	Terminal Pole		Starling	1
18	5/21/2010	W/s 60 Av S, 2 S of S 116 St;	2813	Transformer	Bird Guard Installed	Crow	1
19	5/30/2010	N/s of N 46 St, 1 E of Corliss Av N	0	Transformer	Bird Guard Installed	Crow	1
20	6/1/2010	E/s of 28 Av SW, 2 S of SW Trenton St.	2745	Transformer	Bird Guard Installed	Crow	1
21	6/5/2010	W/s of 14 Av W, 1 N of Gilman Dr W	0	Transformer	Bird Guard Installed	Crow	1
22	6/6/2010	W/s of Interlake Av N, 2 S of N 38 St	0	Transformer	Bird Guard Installed	Crow	1
23	6/7/2010	N/s of S 131 Pl, 1 E of Macadam Rd S	0	Transformer	Bird Guard Installed	Crow	1
24	6/8/2010	E/s of Linden Av N, 2 N of N 143 St	2775	Terminal Pole	Equipment Reset	Crow	1
25	6/8/2010	W/s of 37 Av SW Alley, 4 N of SW Willow St	2768	Transformer	Bird Guard Installed	Crow	1
26	6/9/2010	S/s of SW 134 St, 4 E of Ambaum Blvd	0	Transformer	Bird Guard Installed	Crow	1
27	6/9/2010	W/s of Holden Pl SW, 2 S of SW Holden St	2745	Transformer	Bird Guard Installed	Crow	1
28	6/9/2010	S/s of NW 52 St, 2 E of 11 Av NW	2723	Transformer	Bird Guard Installed	Crow	1
29	6/9/2010	N/s of SW 116 St, 1 W of 21 Av SW	2679	Transformer	Bird Guard Installed	Crow	1
30	6/10/2010	S/s of N 81 St, 2 E of 1 Av NW	2781	Transformer	Bird Guard Installed	Crow	1
31	6/10/2010	N/s of NW 77 St, 2 E of 29 Av NW	0	Transformer	Bird Guard Installed	Crow	1
32	6/11/2010	N/s of Cherry St, 1 W of Terry St.	2756	Other/Unknown		Crow	1
33	6/12/2010	W/s Ohio Ave S, 2 S of E. Marginal Wy S	0	Terminal Pole	Equipment Reset	Unknown	1
34	6/12/2010	W/s 29 Av, 1 N of E Pike St	2757	Transformer	Bird Guard Installed	Crow	1
35	6/13/2010	NW Cnr Columbia St & Minor Ave	0	Other/Unknown	Equipment Reset	Crow	1
36	6/13/2010	W/s 12 Ave S, 2 S of S 177 St	2673	Transformer	Bird Guard Installed	Crow	1
37	6/13/2010	S/s S Bateman St, 2 W of 44 Av S	0	Transformer	Bird Guard Installed	Crow	1
38	6/13/2010	W/s of Freemont Av N, 2 S of N 100 St	2783	Transformer	Bird Guard Installed	Crow	1
39	6/14/2010	E/s 15 Av NW, 5 S of NW 100 St	0	Transformer	Bird Guard Installed	Crow	1
40	6/14/2010	W/s of 11 Av NW, 2 S of NW 75 St	0	Transformer	Bird Guard Installed	Crow	1
41	6/14/2010	S/s of NW 68 St, 1 W of 36 Av NW	2732	Terminal Pole	Equipment Reset	Crow	1
42	6/14/2010	W/s of 55 AV S, 2 N of S Juniper St	0	Transformer	Bird Guard Installed	Crow	1
43	6/15/2010	S/s of S Dawson St, 2 E of 17 Av S.	2645	Transformer	Bird Guard Installed	Crow	1
44	6/16/2010	E/s of Pontius Av N Alley, 2 N of Harrison St	2603	Transformer	Bird Guard Installed	Crow	1

Seattle City Light Known Avian Mortalities 2010*. All records are of individual avian mortalities, unless indicated next to species.

Record Num.	Date	Location	Feeder	Structure Type	Remedial Action Taken	Species	Total
45	6/16/2010	E/s of 24 Av S, 2 S of S 140 St	2677	Transformer	Equipment Repaired	Crow	1
46	6/16/2010	W/s of 16 Av SW, 2 N of SW 170 St	2677	Transformer	Bird Guard Installed	Crow	1
47	6/16/2010	E/s of 26 Av E, 2 N of E Garfield St	2751	Transformer	Bird Guard Installed	Crow	1
48	6/17/2010	N/s of SW Lander St, 1 E of 38 Av SW	0	Transformer	Bird Guard Installed	Crow	1
49	6/17/2010	E/s of 12 Av NW, 2 S of NW 96 St	2791	Transformer	Bird Guard Installed	Crow	1
50	6/18/2010	S/s of E Mercer St, 1 W of Summit Av E.	2760	Terminal Pole		Crow	1
51	6/18/2010	W/s of 14 Av S, 4 S of 104 St	2673	Transformer	Bird Guard Installed	Crow	1
52	6/18/2010	W/s of 19 Av SW, 3 N of SW Genesee St	2739	Transformer	Bird Guard Installed	Crow	1
53	6/18/2010	S/s of W Raye St, 2 W of 31 Av W.	2601	Terminal Pole		Crow	1
54	6/18/2010	W/s of Interlake Av N, 3 S of NW 103 St;	0	Transformer	Bird Guard Installed	Crow	1
55	6/19/2010	W/s of 42 Av SW Alley, 2 N of SW Walker St	2747	Transformer	Bird Guard Installed	Crow	1
56	6/19/2010	E/s of 18 Av E Alley, 2 S of E Mercer St	2751	Transformer	Bird Guard Installed	Crow	1
57	6/20/2010	E/s of Riviera PL NE, 3 S OF 123 St NE	2710	Transformer	Bird Guard Installed	Crow	1
58	6/20/2010	N/s of NE 81 St, 3 W of 8 Av NE	0	Transformer	Bird Guard Installed	Crow	1
59	6/20/2010	W/s of 17 Av SW, 2 S of SW 110 St	2684	Transformer	Bird Guard Installed	Crow	1
60	6/20/2010	W/s of 2 PI SW, 1 N of SW 124 St	2685	Transformer	Bird Guard Installed	Crow	1
61	6/20/2010	E/s of E Marginal Wy S, 1 S of S 120 Pl.	2690	Terminal Pole	Equipment Reset	Crow	1
62	6/21/2010	W/s of Eastlake Av E Alley, 2 S of E Louisa St	2625	Transformer	Bird Guard Installed	Crow	1
63	6/21/2010	N/s of S Oregon St, 1 W of Rainier Av S	2633	Terminal Pole	Equipment Reset	Crow	1
64	6/22/2010	W/s of 12 Av SW, 3 N of SW Thistle St.	0	Transformer	Bird Guard Installed	Crow	1
65	6/22/2010	W/s of 43 Av S, 3 N of S 124 St.	2676	Transformer	Bird Guard Installed	Crow	1
66	6/22/2010	W/s of Phinney Av N, 2 S of N 41 St	2731	Transformer	Bird Guard Installed	Crow	1
67	6/23/2010	E/s 2nd Av NE, 1 S of NE 47 St	0	Transformer	Bird Guard Installed	Crow	1
68	6/23/2010	N/s SW 105 St, 2 W of 30 Av SW	2680	Transformer	Equipment Reset	Crow	1
69	6/23/2010	E/s of 21 Av W, 1 S of Thorndyke Av W	2600	Terminal Pole	Equipment Reset	Crow	1
70	6/23/2010	W/s of Interlake Av N, 1 S of N 36 St	2664	Transformer	Bird Guard Installed	Crow	1
71	6/23/2010	N/s of W Bertona St, 1 E of Perkins Ln W	2600	Terminal Pole		Crow	1
72	6/24/2010	W/s of 37 Av SW, 4 N of SW Hanford St	0	Transformer	Bird Guard Installed	Crow	1
73	6/24/2010	E/s of 8 Av NW, 2 S of NW 77 St	0	Transformer	Bird Guard Installed	Crow	1
74	6/24/2010	S/s of SW Hill St, 2 W of 48 Av SW	0	Transformer	Bird Guard Installed	Crow	1
75	6/24/2010	N/s of N 61 St, 1 W of Fremont Av N	2729	Transformer	Bird Guard Installed	Crow	1
76	6/24/2010	NW Cnr of NE 83 St & 8 Av NE	2614	Other/Unknown		Crow	1
77	6/25/2010	S/s S Atlantic St, 2 W of 13 Av S	2648	Transformer	Bird Guard Installed	Crow	1
78	6/25/2010	W/s 4 Av NE, 1 N of NE 85 St	2614	Transformer	Bird Guard Installed	Crow	1
79	6/25/2010	SE Cnr NE 120 St & 22 Av NE.	2782	Other/Unknown	Equipment Reset	Crow	1
80	6/26/2010	SE Cnr of 25 Av NE & NE 120 St.	2782	Transformer		Crow	1
81	6/26/2010	E/s of 22 Av NE, 3 S of NE 54 St	2665	Transformer	Bird Guard Installed	Crow	1
82	6/27/2010	SE Cnr of NW 50 St & 14 Av NW.	0	Transformer	Bird Guard Installed	Crow	1
83	6/27/2010	15 Av SW Alley, 3 N of SW Holden St	2748	Transformer	Bird Guard Installed	Crow	1
84	6/27/2010	S/s of N 122 St, 2 W of 1 Av N.	2780	Transformer	Bird Guard Installed	Crow	1
85	6/27/2010	S/s of NE 45 St, 2 E of 42 Av NE	2613	Terminal Pole	Equipment Reset	Crow	1
86	6/27/2010	W/s of Woodlawn Av N, 2 N of N 65 St	0	Transformer	Bird Guard Installed	Crow	1
87	6/28/2010	S/s of NE 95 st, 2 E of 32 Av NE	2615	Transformer	Bird Guard Installed	Crow	1
88	6/28/2010	E/s of 50 Av SW Alley, 2 N of SW Dakota St.	2746	Transformer	Bird Guard Installed	Crow	1

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Record Num.	Date	Location	Feeder	Structure Type	Remedial Action Taken	Species	Total
89	6/28/2010	W/s of 38 Av SW, 2 S of SW Lander St	2743	Transformer	Bird Guard Installed	Crow	1
90	6/28/2010	42 Av SW alley, 2 N of SW Oregon St	2743	Transformer	Equipment Reset	Crow	1
91	6/29/2010	(blank)	2723	Other/Unknown		Crow	1
92	6/29/2010	S/s of S 129 St, 3 E of 12 Av S.	2678	Transformer	Bird Guard Installed	Crow	1
93	6/29/2010	E/s of 13 Av NW, 2 S of NW 90 St	2791	Transformer	Bird Guard Installed	Crow	1
94	6/30/2010	N/s of SW Rose St, 2 E of California Av SW	2736	Transformer	Bird Guard Installed	Crow	1
95	6/30/2010	N/s of Blaine St, 2 W of 2 Av N.	2654	Transformer	Bird Guard Installed	Crow	1
96	6/30/2010	W/s of 6 Av NW, 2 N of NW 92 St	0	Transformer	Bird Guard Installed	Crow	1
97	7/1/2010	S/s of NW 92 St, 1 E of 4 Av NW	2787	Transformer	Bird Guard Installed	Crow	1
98	7/1/2010	N/s of 64 St Alley, 1 W of Latona Av NE	2606	Transformer	Equipment Reset	Crow	1
99	7/2/2010	47 Av SW Alley, 1 S of SW Stevens St	0	Transformer	Bird Guard Installed	Crow	1
100	7/2/2010	N/s of NW 59 St, 3 W of 17 Av NW	2723	Transformer	Bird Guard Installed	Crow	1
101	7/2/2010	W/s of 25 Av E, 2 N of E Denny Wy	2753	Transformer	Bird Guard Installed	Crow	1
102	7/2/2010	(blank)	2645	Other/Unknown		Crow	1
103	7/2/2010	W/s of Thackeray PL NE, 2 S of NE 45 St	2666	Transformer	Bird Guard Installed	Crow	1
104	7/2/2010	31 Av SW alley, 2 S of SW Elmgrove St	2768	Transformer	Bird Guard Installed	Crow	1
105	7/2/2010	S/s of N 48 St, 1 W of Dayton Av N	2729	Transformer	Bird Guard Installed	Crow	1
106	7/3/2010	E/s of 49 Av SW, 3 S of SW Stevens St	0	Transformer	Bird Guard Installed	Crow	1
107	7/3/2010	E/s of Elliott Av W, 2 S of W Lee St;	2659	Terminal Pole	Equipment Reset	Crow	1
108	7/3/2010	12 Av NW lot lead, 3 S of NW 105 St	0	Transformer	Bird Guard Installed	Crow	1
109	7/3/2010	W/s of Stone Av N, 2 N of N 103 St	0	Transformer	Bird Guard Installed	Crow	1
110	7/3/2010	W/s of 48 Av S, 2 S of S 158 St	2690	Transformer	Bird Guard Installed	Crow	1
111	7/3/2010	W/s of 9 Av NW, 1 N of NW 57 St	0	Transformer	Bird Guard Installed	Crow	1
112	7/3/2010	W/s 42 Av NE, 2 N of NE 70 St	0	Transformer	Bird Guard Installed	Crow	1
113	7/4/2010	S/s of SW 169 St, 4 E of 26 Av SW	0	Transformer	Bird Guard Installed	Crow	1
114	7/4/2010	S/s of NW 49 St, 4 E of 3 Av NW	0	Transformer	Bird Guard Installed	Crow	1
115	7/5/2010	S/s of N 43 St, 1 W of Fremont Av N	0	Transformer	Bird Guard Installed	Crow	1
116	7/5/2010	E/s 12 Av W, 3 S of W Dravus St	0	Transformer	Bird Guard Installed	Crow	1
117	7/5/2010	2625 S 122 St	0	Transformer	Bird Guard Installed	Crow	1
118	7/5/2010	S/s of S Concord St, 2 W of 8 Av S.	2675	Terminal Pole		Crow	1
119	7/6/2010	E/s of Sander Dr S, 3 N of S Atlantic St.	2648	Transformer	Bird Guard Installed	Crow	1
120	7/6/2010	N/s of N 43 St, 2 W of W Whitman Av N	2734	Transformer	Bird Guard Installed	Crow	1
121	7/6/2010	E/s of 24 Av S, 1 S of S 144 St.	2691	Transformer	Bird Guard Installed	Crow	1
122	7/6/2010	S/s of NW Market St, 1 W of 9 Av NW	2722	Transformer	Bird Guard Installed	Crow	1
123	7/6/2010	N/s of SW 170 St, 1 W of 22 Av SW.	0	Transformer	Bird Guard Installed	Crow	1
124	7/7/2010	W/s 25 Av SW Alley, 2 S of SW Brandon St	2738	Transformer	Bird Guard Installed	Crow	1
125	7/7/2010	S/s of SW Stevens St, 2 W of 52 Av SW.	0	Transformer	Bird Guard Installed	Crow	1
126	7/8/2010	N/s of S Carstens PL, 1 W of Airport Wy S	2650	Transformer	Bird Guard Installed	Crow	1
127	7/8/2010	E/s of E Marginal Wy S, 4 N of S 92 Pl.	2682	Transformer	Bird Guard Installed	Crow	1
128	7/8/2010	N/s of SW 170 St, 1 W of 28 Av SW.	2673	Transformer	Bird Guard Installed	Crow	1
129	7/8/2010	W/s of 17 Av SW, 3 S of SW Dawson St	2742	Transformer	Bird Guard Installed	Crow	1
130	7/8/2010	N/s of SW 118 St, 1 E of 20 Av SW.	2679	Transformer	Bird Guard Installed	Crow	1
131	7/9/2010	E/s of 27 Av, 3 N of E Alder St	2761	Transformer	Bird Guard Installed	Crow	1
132	7/9/2010	N/s of SW 144 St, 1 E of 8 Av SW	0	Terminal Pole	Equipment Reset	Crow	1

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133	7/9/2010	S/s of NE 92 St, 1 W of 15 Av NE	2782	Transformer	Bird Guard Installed	Crow	1
134	7/10/2010	E/s of 44 Av SW Alley, 3 S of Admiral Wy SW	0	Transformer	Bird Guard Installed	Crow	1
135	7/10/2010	E/s of 1 Av NW, 2 N of NW 35 St	0	Transformer	Bird Guard Installed	Crow	1
136	7/10/2010	W/s of 38 Av SW Alley, 2 S of SW Morgan St	0	Transformer	Bird Guard Installed	Crow	1
137	7/10/2010	W/s of Boyer Av E, 2 N of E Shelby St	0	Transformer	Bird Guard Installed	Crow	1
138	7/10/2010	W/s of 57 Av SW, 3 S of SW Andover St	0	Transformer	Bird Guard Installed	Crow	1
139	7/10/2010	W/s of Franklin Av E, 1 S of E Martin St	0	Transformer	Bird Guard Installed	Crow	1
140	7/10/2010	N/s of NE 93 St, 2 E of 49 Av NE	2615	Transformer	Bird Guard Installed	Crow	1
141	7/11/2010	W/s of 20 Av E, 2 N of E Calhoun St	2625	Transformer	Bird Guard Installed	Crow	1
142	7/12/2010	E/s of Ravenna Av NE, 5 S of NE 51 St.	2657	Transformer	Bird Guard Installed	Crow	1
143	7/12/2010	W/s of Ballard Av NW, 2 N of NW Dock Pl	2721	Transformer	Bird Guard Installed	Crow	1
144	7/12/2010	W/s of 17 Av SW, 3 N of SW 112 St	2684	Transformer	Bird Guard Installed	Crow	1
145	7/12/2010	N/s of E Denny Wy, 2 W of 2 Av E	2753	Transformer	Bird Guard Installed	Crow	1
146	7/12/2010	S/s of N 67 St, 1 E of Fremont Av N	2783	Transformer	Bird Guard Installed	Crow	1
147	7/13/2010	behind 4556 Purdue Av NE	2613	Transformer	Bird Guard Installed	Crow	1
148	7/14/2010	S/s of NW 65 St, 2 E of 24 Av NW	2723	Transformer	Bird Guard Installed	Crow	1
149	7/14/2010	E/s of 8 Av W, 1 N of W Blaine St	2652	Terminal Pole	Equipment Reset	Crow	1
150	7/14/2010	N/s of S Kenyon St, 1 E of 44 Pl S	2814	Transformer	Bird Guard Installed	Crow	1
151	7/14/2010	E/s of 31 Av S, 1 N of S Mt Baker Blvd	0	Transformer	Bird Guard Installed	Crow	1
152	7/14/2010	W/s of 17 Av S, 3 N of S Juneau St	2645	Transformer	Bird Guard Installed	Crow	1
153	7/15/2010	S/s of N 83 St, 3 E of Aurora Av N.	0	Transformer	Bird Guard Installed	Crow	1
154	7/16/2010	N/s of SW 102 St, 2 W of 44 Av SW	2680	Transformer	Bird Guard Installed	Crow	1
155	7/17/2010	Renton Av S lot lead, 1 S of S 126 St	0	Transformer	Equipment Reset	Crow	1
156	7/18/2010	N/s S Angeline St, 2 W of 40 Av S	0	Transformer	Bird Guard Installed	Crow	1
157	7/18/2010	E/s 55 Av SW, 2 S of SW Dakota St	2746	Transformer	Bird Guard Installed	Crow	1
158	7/18/2010	E/s of 34 Av, 2 S of Marion St	2755	Transformer	Bird Guard Installed	Crow	1
159	7/19/2010	svc pole for P-65	2691	Other/Unknown	Equipment Reset	Crow	1
160	7/19/2010	E/s of 26 Av E, 2 S of E Lynn St	2625	Transformer	Bird Guard Installed	Crow	1
161	7/19/2010	S/s of E Aloha St, 1 E of Harvard St.	2760	Transformer	Bird Guard Installed	Crow	1
162	7/20/2010	E/s of 26 Av S, 2 N of S Mass St.	2762	Transformer	Bird Guard Installed	Crow	1
163	7/20/2010	E/s of 3 Av W Alley, 3 N of W Dravus	2654	Transformer	Bird Guard Installed	Crow	1
164	7/21/2010	E Ward St Alley, 2 E of 26 Av E	2751	Transformer	Bird Guard Installed	Crow	1
165	7/22/2010	E/s of 29 Av NW, 1 S of NW 90 St	2779	Transformer	Bird Guard Installed	Crow	1
166	7/23/2010	N/s of W Emerson St, 2 W of 24 Av W	2658	Terminal Pole		Crow	1
167	7/24/2010	S/s of S Findlay St, 1 E of 47 Av S	2645	Transformer	Bird Guard Installed	Crow	1
168	7/24/2010	S/s of SW Massachusetts St, 1 E of Arch Av S	2747	Transformer	Bird Guard Installed	Crow	1
169	7/24/2010	N/s of E Union St, 2 E of Boylston Av	2765	Transformer	Bird Guard Installed	Unknown	1
170	7/25/2010	N/s of S 146 St, 2 W of 35 Av S	0	Transformer	Bird Guard Installed	Crow	1
171	7/26/2010	24 Av E LL, 2 S of E Roanoke St	2625	Transformer	Bird Guard Installed	Crow	1
172	7/26/2010	W/s of 2 Av NW, 4 S of NW 97 St	0	Transformer	Bird Guard Installed	Crow	1
173	7/26/2010	(blank)	2787	Other/Unknown		Crow	1
174	7/27/2010	E/s Evanston Av N Alley, 3 N of N 90 St	2779	Transformer	Bird Guard Installed	Crow	1
175	7/27/2010	E/s of 14 Av NW, 5 S of NW 100 St	2791	Transformer	Bird Guard Installed	Crow	1
176	7/27/2010	behind 9061 Seward Park Av S, 2 E of 52 Av S	2803	Terminal Pole		Crow	1

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Record Num.	Date	Location	Feeder	Structure Type	Remedial Action Taken	Species	Total
177	7/28/2010	W/s of 11 Av W, 1 S of W Garfield St	0	Transformer	Bird Guard Installed	Crow	1
178	7/29/2010	E/s 48 Av S, 1 N of S Snoqualmie St	0	Transformer	Bird Guard Installed	Crow	1
179	7/29/2010	S/s S 120 St, 2 W of 87 Av S	0	Transformer	Bird Guard Installed	Crow	1
180	7/29/2010	W/s 4 Av, 2 S of McGraw St	0	Transformer	Bird Guard Installed	Crow	1
181	7/29/2010	N/s of W Emerson St, 2 E of 25 Av W.	2658	Terminal Pole		Crow	1
182	7/31/2010	S/s of N 154 St, 2 E of Aurora Av N	0	Transformer	Bird Guard Installed	Crow	1
183	7/31/2010	1 S of Burlington Northern RR, btwn the Gove	2721	Terminal Pole		Crow	1
184	8/2/2010	E/s of 5 Av NW, 1 S of NW Bright St	2735	Transformer	Bird Guard Installed	Crow	1
185	8/2/2010	W/s 29 Av E, 2 N of E Thomas St	2753	Transformer	Bird Guard Installed	Crow	1
186	8/3/2010	W/s 61 Av SW, 2 N of SW Stevens St	2738	Transformer	Bird Guard Installed	Crow	1
187	8/4/2010	S/f o S Fontenelle St, 3 W of 48 Av S	2814	Transformer	Bird Guard Installed	Crow	1
188	8/4/2010	W/s of 46 Av SW Alley, 1 N of SW Dakota St.	2740	Transformer	Bird Guard Installed	Crow	1
189	8/4/2010	W/s of 25 Av E, 2 S of E Roanoke St	2625	Transformer	Bird Guard Installed	Crow	1
190	8/4/2010	W/s Stone Wy N, 4 N of N 131 St	2788	Other/Unknown		Crow	1
191	8/5/2010	E/s of 42 Av SW Alley, 2 N of SW Oregon St.	2743	Transformer	Bird Guard Installed	Crow	1
192	8/5/2010	Fairmount Av SW alley, 2 N of SW Hanford St	2743	Transformer	Bird Guard Installed	Crow	1
193	8/6/2010	E/s of 52 Av S, 1 N of S Hudson St.	2647	Transformer	Bird Guard Installed	Crow	1
194	8/6/2010	N/s of S Weller St, 2 E of 10 Av S	2638	Transformer	Bird Guard Installed	Crow	1
195	8/7/2010	S/s of NW 70 St, 2 W of 17 Av NW	2722	Transformer	Bird Guard Installed	Crow	1
196	8/8/2010	42 Av SW alley, 2 S of SW College St	2747	Transformer	Bird Guard Installed	Crow	1
197	8/8/2010	E/s of Bartlett Av NE, 4 S of NE 120 St	2605	Transformer	Bird Guard Installed	Crow	1
198	8/8/2010	S/s of E Pine St, 1 E of 33 Av	2757	Transformer	Bird Guard Installed	Crow	1
199	8/8/2010	S/s of NE 514 St, 2 E of 5 Av NE.	2708	Transformer	Bird Guard Installed	Crow	1
200	8/8/2010	W/s of 1 Av NW, 2 N of NW 112 St	2774	Transformer	Bird Guard Installed	Crow	1
201	8/9/2010	S/s of Fidalgo St, 2 E of Padilla Pl S	2630	Transformer	Bird Guard Installed	Crow	1
202	8/10/2010	E/s of Shaffer Av S, 1 N of S Graham St	2645	Transformer	Bird Guard Installed	Crow	1
203	8/10/2010	W/s of 21 Av SW, 1 N of SW 166 St.	0	Transformer	Bird Guard Installed	Crow	1
204	8/11/2010	W/s 32 Av W, 1 N of W Lynn St.	2600	Transformer	Bird Guard Installed	Crow	1
205	8/12/2010	W/s 43 Av E, 1 S of E Lynn St	2753	Terminal Pole		Crow	1
206	8/15/2010	W/s Midvale Av N, 3 N of N 180 St	2708	Terminal Pole	Equipment Reset	Crow	1
207	8/16/2010	Rainier Av S lot lead, 6 E of 52 Av S	0	Transformer	Bird Guard Installed	Crow	1
208	8/16/2010	E/s of 19 Av SW, 2 S of S 104 St.	0	Transformer	Bird Guard Installed	Crow	1
209	8/16/2010	W/s of 32 Av NE, 1 S of NE 140 St.	2709	Terminal Pole		Crow	1
210	8/17/2010	W/s of Flora Av S, 1 S of S Willow St	0	Transformer	Bird Guard Installed	Crow	1
211	8/18/2010	N/s of S 150 St, 3 W of Kent Ln.	0	Transformer	Bird Guard Installed	Crow	1
212	8/18/2010	1517 SW 104 St	2684	Other/Unknown	Equipment Reset	Gull	1
213	8/21/2010	E/s 14 Av NW, 4 N of NW 85 St	0	Transformer	Bird Guard Installed	Crow	1
214	8/22/2010	S/s S Judkins St, 1 E of MLK Jr Wy S	0	Transformer	Bird Guard Installed	Crow	1
215	8/22/2010	W/s 61 Av SW, 2 N of SW Hinds St	0	Transformer	Bird Guard Installed	Crow	1
216	8/22/2010	S/s E Harrison St, 1 W of Bellevue Av E	0	Other/Unknown		Pigeon	1
217	8/23/2010	W/s 33 Av NW, 3 N of NW 75 St	0	Transformer	Bird Guard Installed	Crow	1
218	8/23/2010	W/s of 4 Av NE, 2 N of NE Pacific St.	0	Transformer	Bird Guard Installed	Crow	1
219	8/25/2010	E/s 25 Av W, 3 S of W Commodore Wy.	0	Terminal Pole	Equipment Reset	Crow	1
220	8/26/2010	E/s 37 Av NE, 3 N of NE 125 St.	0	Transformer	Bird Guard Installed	Crow	1

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Record Num.	Date	Location	Feeder	Structure Type	Remedial Action Taken	Species	Total
221	8/26/2010	N/s of N 161 Pl, 1 E of Meridian Av N	2709	Terminal Pole	Equipment Reset	Crow	1
222	8/27/2010	W/s 56 Pl S, 8 N of 57 Av S	0	Transformer	Bird Guard Installed	Crow	1
223	8/27/2010	(blank)	0	Feeder		Gull	1
224	8/29/2010	SE/s of SW Admiral Wy, 3 SW of SW Lander St	0	Transformer	Bird Guard Installed	Crow	1
225	9/2/2010	NW Cnr of 12 Av S & S Jackson St	0	Transformer	Equipment Reset	Crow	1
226	9/3/2010	behind 2408 W Commodore Wy	0	Transformer	Bird Guard Installed	Crow	1
227	9/7/2010	W/s Durland Av NE, 2 N of NE 110 St	0	Transformer	Bird Guard Installed	Crow	1
228	9/7/2010	N/s N 46 St, 1 W of Fremont AV N	0	Transformer	Bird Guard Installed	Crow	1
229	9/8/2010	N/s of NE 190 St, 1 E of 18 Av NE. 3 dead Pi	0	Other/Unknown	Install Dead Span	Pigeon 3	3
230	9/8/2010	N/s S Henderson St, 4 E of 5 Av S. CROW	0	Transformer	Bird Guard Installed	Crow	1
231	9/12/2010	16 Av NE & NE 190 St.	2705	Other/Unknown		Crow	1
232	9/12/2010	California Av Alley, 1 SW of Dawson St.	0	Transformer	Bird Guard Installed	Crow	1
233	9/15/2010	E/s 57 Av S, 4 N of S Wallace St;	2813	Transformer	Bird Guard Installed	Crow	1
234	9/16/2010	N/s NE 148 St, 2 W of 15 Av NE	2710	Transformer	Bird Guard Installed	Crow	1
235	9/16/2010	W/sof Utah Av S, 4 N of S Holgate St.	0	Transformer	Bird Guard Installed	Crow	1
236	9/17/2010	E/s 2 Av NW, 2 S of NW 52 St.	2729	Transformer	Bird Guard Installed	Crow	1
237	9/18/2010	E/s 51 Pl SW, 2 N of Sw Alaska St	2746	Transformer	Bird Guard Installed	Crow	1
238	9/18/2010	W/s 38 Av S, 2 S of NE 123 St	2710	Transformer	Bird Guard Installed	Crow	1
239	9/22/2010	W/s of 24 Av NE, 4 N of NE Blakley St	2665	Transformer	Bird Guard Installed	Crow	1
240	9/22/2010	N/s of S 124 St, 1 W of 77 Av S.	2812	Transformer	Bird Guard Installed	Crow	1
241	9/23/2010	N/s of S 146 St, 2 E of Tukwilla Intl Blvd.	2691	Transformer	Bird Guard Installed	Crow	1
242	9/24/2010	W/s 13 Av W, 3 N of W Newton St	2601	Transformer	Bird Guard Installed	Crow	1
243	9/24/2010	E/s of 16 Av S, 2 S of S Main St	2762	Other/Unknown	Equipment Reset	Gull	1
244	9/25/2010	E/s 2 Av S, 3 S of S Kenyon St	0	Transformer	Bird Guard Installed	Crow	1
245	10/1/2010	E/s of 39 Av SW, 1 N of SW 102 St	2680	Other/Unknown	Equipment Reset	Crow	1
246	10/11/2010	S/s of NW 47 St alley, 3 E of 8 Av NW.	2722	Transformer	Bird Guard Installed	Crow	1
247	10/24/2010	E/s 15 Av NW, 2 S of NW 100 St; Crow	2779	Transformer	Bird Guard Installed	Crow	1
248	10/30/2010	W/s of 31 Pl NE, 3 S of NE 120 St Crow	0	Other/Unknown	Bird Guard Installed	Crow	1
249	11/10/2010	TP 361 E/s Linden N, 5 N N130	2775	Terminal Pole		Crow	1
250	11/13/2010	N/s of 54 Av S, 2 W of Rainier Av S. Crow	2803	Transformer	Bird Guard Installed	Crow	1
251	12/1/2010	E/s of 16 Av NE alley, 1 N of NE 50 St due t	2612	Other/Unknown		Gull	1
252	12/2/2010	N/s of SW 112 St, 3 E of 4 Av SW. Cuased by	2685	Terminal Pole	Equipment Reset	Gull	1
253	12/14/2010	(blank)	2786	Transformer	Bird Guard Installed	Crow	1
254	12/15/2010	the Primary Metering feeding into Jorgensen	2632	Other/Unknown		Starling (6)	6
255	12/15/2010	3414 W Lawton St	0	Other/Unknown	Insulated wires/ spikes installed	Coopers Hawk	1
256	12/19/2010	S/s of Pearl St, 2 W of 48 Av S. Cause - cro	2647	Transformer	Bird Guard Installed	Crow	1
Grand Total							263

* Mortalities that caused outages

Seattle City Light Known Avian Mortalities - 2010

Summary of Avian Mortalities by Species

SPECIES	Total Mortalities ¹	% of Total Mortalities
Pigeon	4	1.5%
Starling	7	2.7%
Unprotected Species	11	4.2%
Coopers Hawk	1	0.4%
Crow	244	92.8%
Gull	5	1.9%
Protected Species	250	95.1%
Unknown	2	0.8%
Grand Total	263	100.0%

¹ Total Events = 256; Includes one event with 3 pigeons and one event with 6 starlings

Summary of Remedial Actions

Remedial Action Taken	Number	% of Total Mortalities
Installed Bird Guard	201	78.5%
Equipment Repaired	1	0.4%
Equipment Reset	52	20.3%
Installed Dead Span	1	0.4%
Insulated Wires and Installed Spikes	1	0.4%
Grand Total	256	100.0%

2010 Costs for bird caused outages

Labor: 2 line workers (\$63.32/hr), 10 min. each	\$5,403
Materials: \$20 per bird guard	\$4,020
Total estimated cost to utility	\$9,423

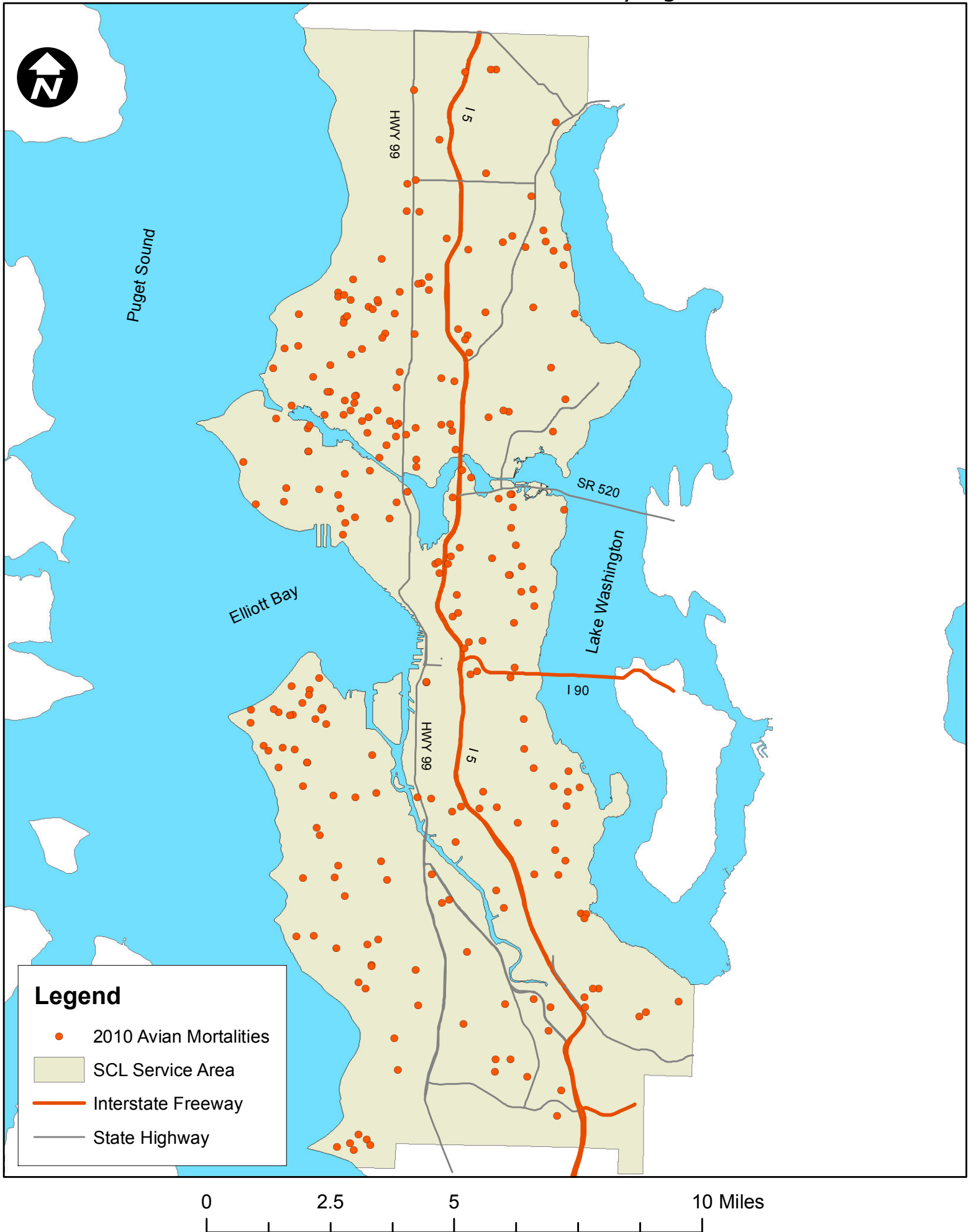
Summary of Avian Mortalities by Month

Month	Total	% of Total Mortalities
January	4	1.5%
February	6	2.3%
March	2	0.8%
April	1	0.4%
May	6	2.3%
June	77	29.3%
July	87	33.1%
August	41	15.6%
September	22	8.4%
October	4	1.5%
November	2	0.8%
December	11	4.2%
Grand Total	263	100.0%

Summary of Avian Mortalities by Structure Type

Structure/Equip Type	Total	% of Total Mortalities
Feeder	2	0.8%
Other/Unknown	26	9.9%
Terminal Pole	28	10.6%
Transformer	207	78.7%
Grand Total	263	100.0%

2010 Known Avian Mortalities in Seattle City Light Service Area



Seattle City Light Known Avian Mortalities - 2011. All records are of individual mortalities unless indicated in total column.

DATE	SPECIES	ADDRESS	COUNTY	X - UTM	Y - UTM	Structure_Equip_Type	Remedial_Action	Total	DISPOSITION
1/2/2011	Crow	NE 42nd St / 7 Av NE,	King	-122.3209	47.6576	Transformer	Bird Guard	1	Mortality-disposed
1/8/2011	Gull	52 Av S / Rainier Ave S,	King	-122.2647	47.52315	Wires	Unspecified	1	Mortality-disposed
1/19/2011	Crow	11234 TUKWILA INTERNATIONAL BLVD,TUKWILA WA 98168-1945	King	-122.2934	47.50211	Transformer	Bird Guard	1	Mortality-disposed
1/29/2011	Crow	9044A 17TH AVE SW,SEATTLE	King	-122.3564	47.52166	Transformer	Bird Guard	1	Mortality-disposed
1/30/2011	Gull	1033 SW 151ST ST APT 1,BURIEN	King	-122.3457	47.46779	Other	Equipment re-set	1	Mortality-disposed
2/5/2011	Crow	10005 46TH AVE S,SEATTLE WA 98178-2001	King	-122.2752	47.51085	Transformer	Bird Guard	1	Mortality-disposed
2/9/2011	C. Goose	10315 E Marginal Way S.	King	-122.2922	47.51016	Wires	Unspecified	1	Mortality-disposed
	Unknown	2725 2ND AVE N,SEATTLE WA 98109-1810	King	-122.3535	47.64569	Transformer	Unspecified	1	Mortality-disposed
2/13/2011	Crow	9820 DES MOINES MEMORIAL DR APT 11,SEATTLE WA 98108-5044	King	-122.3131	47.51521	Transformer	Bird Guard	1	Mortality-disposed
2/17/2011	Crow	749 N 96TH ST,SEATTLE	King	-122.3474	47.69864	Transformer	Bird Guard	1	Mortality-disposed
3/8/2011	Gull	7709 5TH AVE S,SEATTLE WA 98108-4301	King	-122.3283	47.53205	Wires	Unspecified	1	Mortality-disposed
3/23/2011	Crow	435 N 34TH ST,SEATTLE WA 98103-8601	King	-122.3532	47.65024	Feeder	Unspecified	1	Mortality-disposed
3/27/2011	Gull	4923 NE 93RD ST,SEATTLE	King	-122.2741	47.69592	Transformer	Equipment re-set	1	Mortality-disposed
4/18/2011	Crow	3450 16TH AVE W BLDG HSE,SEATTLE WA 98119-1667	King	-122.3774	47.65224	Terminal Pole	Equipment re-set	1	Mortality-disposed
4/30/2011	C. Goose	Feeder 2741 Cycled	King	-122.3381	47.54068	Feeder	Equipment Repaired	1	Mortality-disposed
	Gull		King	-122.3643	47.65169	Transformer	Bird Guard	1	Mortality-disposed
5/2/2011	Gull	10437 11TH AVE SW,SEATTLE WA 98146-1423	King	-122.3486	47.50906	Transformer	Unspecified	1	Mortality-disposed
5/6/2011	Crow	7724 31ST AVE SW,SEATTLE	King	-122.3718	47.53285	Transformer	Bird Guard	1	Mortality-disposed
5/21/2011	Crow		King	-122.3632	47.64329	Terminal Pole	Equipment re-set	1	Mortality-disposed
5/30/2011	Crow	2737 NE 97TH ST,SEATTLE	King	-122.2967	47.69936	Transformer	Bird Guard	1	Mortality-disposed
6/1/2011	Unknown	2559 S RAYMOND ST,SEATTLE WA 98108-3157	King	-122.2975	47.54853	Transformer	Bird Guard	1	Mortality-disposed
6/2/2011	Crow	4016 8TH AVE NE,SEATTLE WA 98105	King	-122.3199	47.6563	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/3/2011	Crow	2440 NW 57TH ST UNIT 3,SEATTLE	King	-122.3896	47.67015	Transformer	Bird Guard	1	Mortality-disposed
6/6/2011	Crow	14109 43RD AVE S APT 1,TUKWILA WA 98168-4105	King	-122.2798	47.4764	Transformer	Bird Guard	1	Mortality-disposed
		6535 SEAVIEW AVE NW SVC HSE,SEATTLE WA 98117-6060	King	-122.4062	47.67655	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/7/2011	Crow	1800 EASTLAKE AVE E APT 207,SEATTLE	King	-122.3248	47.63496	Terminal Pole	Bird Guard	1	Mortality-disposed
		7728 DIBBLE AVE NW,SEATTLE WA 98117-3253	King	-122.3672	47.68581	Transformer	Bird Guard	1	Mortality-disposed
			King	-122.4062	47.67529	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/8/2011	Crow	6411 SEAVIEW AVE NW,SEATTLE WA 98107-2666	King	-122.3515	47.67776	Transformer	Bird Guard	1	Mortality-disposed
6/10/2011	Crow	527 N 67TH ST,SEATTLE WA 98103-5311	King	-122.3858	47.57557	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/13/2011	Crow	11000 1ST AVE SW APT 103,SEATTLE WA 98146-2346	King	-122.3351	47.50447	Terminal Pole	Equipment re-set	1	Mortality-disposed
		4322 7 Av NE	King	-122.3207	47.66018	Terminal Pole	Equipment re-set	1	Mortality-disposed
		5038 19TH AVE NE,SEATTLE WA 98105-3307	King	-122.3066	47.66615	Transformer	Equipment re-set	1	Mortality-disposed
		714 N 91ST ST,SEATTLE	King	-122.3494	47.69497	Transformer	Bird Guard	1	Mortality-disposed
			King	-122.335	47.76601	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/14/2011	Crow	2106 N 189TH ST,SHORELINE	King	-122.3714	47.68544	Transformer	Bird Guard	1	Mortality-disposed
		7728 12TH AVE NW,SEATTLE	King	-122.3608	47.70003	Transformer	Bird Guard	1	Mortality-disposed
		9719 3RD AVE NW,SEATTLE	King	-122.3103	47.76299	Other	Unspecified	1	Mortality-disposed
	Unknown	19004 LAGO PL NE,LAKE FOREST PARK	King	-122.3488	47.49334	Transformer	Bird Guard	1	Mortality-disposed
6/15/2011	Crow	1035 SW 122ND ST APT A,SEATTLE WA 98146-2793	King	-122.302	47.48992	Transformer	Bird Guard	1	Mortality-disposed
		12621 24TH AVE S,SEATTLE	King	-122.3136	47.54596	Transformer	Bird Guard	1	Mortality-disposed
		1495 S HARDY ST,SEATTLE WA 98108	King	-122.3084	47.67103	Transformer	Bird Guard	1	Mortality-disposed
		1800 NE 58TH ST,SEATTLE	King	-122.3172	47.58294	Transformer	Bird Guard	1	Mortality-disposed
		2306 12TH AVE S,SEATTLE WA 98144-5002	King	-122.3035	47.6948	Transformer	Bird Guard	1	Mortality-disposed
		2315 NE 91ST ST,SEATTLE	King	-122.3959	47.5798	Transformer	Bird Guard	1	Mortality-disposed
		2649 50TH AVE SW,SEATTLE WA 98116-2310	King	-122.2978	47.60584	Transformer	Bird Guard	1	Mortality-disposed
6/16/2011	Crow	349 27TH AVE,SEATTLE	King	-122.302	47.60906	Transformer	Bird Guard	1	Mortality-disposed
		2320 E COLUMBIA ST,SEATTLE WA 98122-4838	King	-122.3629	47.64101	Transformer	Bird Guard	1	Mortality-disposed

Seattle City Light Known Avian Mortalities - 2011. All records are of individual mortalities unless indicated in total column.

DATE	SPECIES	ADDRESS	COUNTY	X - UTM	Y - UTM	Structure_Equip_Type	Remedial_Action	Total	DISPOSITION
		4420 38TH AVE SW,SEATTLE	King	-122.3794	47.56407	Transformer	Bird Guard	1	Mortality-disposed
		SW 132 St	King	-122.3487	47.48477	Other	Unspecified	1	Mortality-disposed
6/17/2011	Crow	4515 CASCADIA AVE S,SEATTLE WA 98118-1643	King	-122.2827	47.56228	Transformer	Unspecified	1	Mortality-disposed
		7327 33RD AVE S,SEATTLE	King	-122.29	47.5363	Transformer	Bird Guard	1	Mortality-disposed
		9741 48TH AVE NE,SEATTLE WA 98115-2625	King	-122.2764	47.70072	Transformer	Unspecified	1	Mortality-disposed
		W/s of 8 Av NE, 1 N of NE 83St	King	-122.3204	47.68902	Other	Unspecified	1	Mortality-disposed
6/18/2011	Crow	1135 30TH AVE S,SEATTLE WA 98144-3209	King	-122.2935	47.59221	Transformer	Bird Guard	1	Mortality-disposed
		12934 1ST AVE SW,BURIEN WA 98146-3301	King	-122.3352	47.487	Transformer	Bird Guard	1	Mortality-disposed
		4349 4 Av NW. *	King	-122.3621	47.66051	Other	Unspecified	1	Mortality-disposed
		5640 3RD AVE NW,SEATTLE	King	-122.3608	47.67083	Transformer	Bird Guard	1	Mortality-disposed
		806 NW 49TH ST,SEATTLE WA 98107-3614	King	-122.367	47.66442	Transformer	Bird Guard	1	Mortality-disposed
		Feeder 2734 Cycled	King	-122.8798	47.61501	Feeder	Unspecified	1	Mortality-disposed
6/19/2011	Crow	1618 6TH AVE W,SEATTLE	King	-122.3644	47.63402	Transformer	Bird Guard	1	Mortality-disposed
		4515 48TH AVE S,SEATTLE	King	-122.2732	47.56234	Transformer	Bird Guard	1	Mortality-disposed
		5312 12TH AVE S,SEATTLE WA 98108-2305	King	-122.3171	47.55447	Transformer	Bird Guard	1	Mortality-disposed
		8313 46TH AVE SW,SEATTLE	King	-122.3916	47.52945	Transformer	Bird Guard	1	Mortality-disposed
6/20/2011	Crow	10045 26TH AVE SW,SEATTLE	King	-122.3658	47.51213	Transformer	Bird Guard	1	Mortality-disposed
		1507 1/2 NW 61ST ST,SEATTLE	King	-122.3766	47.67313	Transformer	Bird Guard	1	Mortality-disposed
		3259 56TH AVE SW,SEATTLE WA 98116-3101	King	-122.4034	47.57401	Transformer	Bird Guard	1	Mortality-disposed
		Sand Point Wy NE & NE 70 St	King	-122.2637	47.67864	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/21/2011	Crow	13433 Roosevelt Wy NE	King	-122.3308	47.72676	Terminal Pole	Equipment re-set	1	Mortality-disposed
5/6/2011	Crow	7724 31ST AVE SW,SEATTLE	King	-122.3718	47.53285	Transformer	Bird Guard	1	Mortality-disposed
5/21/2011	Crow		King	-122.3632	47.64329	Terminal Pole	Equipment re-set	1	Mortality-disposed
5/30/2011	Crow	2737 NE 97TH ST,SEATTLE	King	-122.2967	47.69936	Transformer	Bird Guard	1	Mortality-disposed
6/1/2011	Unknown	2559 S RAYMOND ST,SEATTLE WA 98108-3157	King	-122.2975	47.54853	Transformer	Bird Guard	1	Mortality-disposed
6/2/2011	Crow	4016 8TH AVE NE,SEATTLE WA 98105	King	-122.3199	47.6563	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/3/2011	Crow	2440 NW 57TH ST UNIT 3,SEATTLE	King	-122.3896	47.67015	Transformer	Bird Guard	1	Mortality-disposed
6/6/2011	Crow	14109 43RD AVE S APT 1,TUKWILA WA 98168-4105	King	-122.2798	47.4764	Transformer	Bird Guard	1	Mortality-disposed
		6535 SEAVIEW AVE NW SVC HSE,SEATTLE WA 98117-6060	King	-122.4062	47.67655	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/7/2011	Crow	1800 EASTLAKE AVE E APT 207,SEATTLE	King	-122.3248	47.63496	Terminal Pole	Bird Guard	1	Mortality-disposed
		7728 DIBBLE AVE NW,SEATTLE WA 98117-3253	King	-122.3672	47.68581	Transformer	Bird Guard	1	Mortality-disposed
6/8/2011	Crow	6411 SEAVIEW AVE NW,SEATTLE WA 98107-2666	King	-122.4062	47.67529	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/10/2011	Crow	527 N 67TH ST,SEATTLE WA 98103-5311	King	-122.3515	47.67776	Transformer	Bird Guard	1	Mortality-disposed
6/12/2011	Crow	3000 CALIFORNIA AVE SW,	King	-122.3858	47.57557	Terminal Pole	Equipment re-set	1	Mortality-disposed
6/13/2011	Crow	11000 1ST AVE SW APT 103,SEATTLE WA 98146-2346	King	-122.3351	47.50447	Terminal Pole	Equipment re-set	1	Mortality-disposed
		4322 7 Av NE	King	-122.3207	47.66018	Terminal Pole	Equipment re-set	1	Mortality-disposed
		5038 19TH AVE NE,SEATTLE WA 98105-3307	King	-122.3066	47.66615	Transformer	Equipment re-set	1	Mortality-disposed
		714 N 91ST ST,SEATTLE	King	-122.3494	47.69497	Transformer	Bird Guard	1	Mortality-disposed
6/14/2011	Crow	2106 N 189TH ST,SHORELINE	King	-122.335	47.76601	Terminal Pole	Equipment re-set	1	Mortality-disposed
		7728 12TH AVE NW,SEATTLE	King	-122.3714	47.68544	Transformer	Bird Guard	1	Mortality-disposed
		9719 3RD AVE NW,SEATTLE	King	-122.3608	47.70003	Transformer	Bird Guard	1	Mortality-disposed
	Unknown	19004 LAGO PL NE,LAKE FOREST PARK	King	-122.3103	47.76299	Other	Unspecified	1	Mortality-disposed
6/15/2011	Crow	1035 SW 122ND ST APT A,SEATTLE WA 98146-2793	King	-122.3488	47.49334	Transformer	Bird Guard	1	Mortality-disposed
		12621 24TH AVE S,SEATTLE	King	-122.302	47.48992	Transformer	Bird Guard	1	Mortality-disposed
		1495 S HARDY ST,SEATTLE WA 98108	King	-122.3136	47.54596	Transformer	Bird Guard	1	Mortality-disposed
		1800 NE 58TH ST,SEATTLE	King	-122.3084	47.67103	Transformer	Bird Guard	1	Mortality-disposed
		2306 12TH AVE S,SEATTLE WA 98144-5002	King	-122.3172	47.58294	Transformer	Bird Guard	1	Mortality-disposed
		2315 NE 91ST ST,SEATTLE	King	-122.3035	47.6948	Transformer	Bird Guard	1	Mortality-disposed

Seattle City Light Known Avian Mortalities - 2011. All records are of individual mortalities unless indicated in total column.

DATE	SPECIES	ADDRESS	COUNTY	X - UTM	Y - UTM	Structure_Equip_Type	Remedial_Action	Total	DISPOSITION
7/2/2011	Crow	1024 NE 100TH ST, SEATTLE WA 98125-7518	King	-122.3163	47.70123	Transformer	Bird Guard	1	Mortality-disposed
		8803 38TH AVE S, SEATTLE WA 98118-4814	King	-122.2854	47.52423	Transformer	Bird Guard	1	Mortality-disposed
7/3/2011	Crow	4002 CORLISS AVE N, SEATTLE WA 98103-8431	King	-122.3306	47.6556	Transformer	Bird Guard	1	Mortality-disposed
7/4/2011	Crow	1019 S SOUTHERN ST, SEATTLE WA 98108-4443	King	-122.3194	47.5294	Transformer	Bird Guard	1	Mortality-disposed
		1111 E PIKE ST APT 202, SEATTLE	King	-122.318	47.61534	Terminal Pole	Bird Guard	1	Mortality-disposed
		11526 20TH AVE NE, SEATTLE	King	-122.307	47.71302	Transformer	Bird Guard	1	Mortality-disposed
		2101 N 55 St	King	-122.3336	47.66821	Terminal Pole	Equipment re-set	1	Mortality-disposed
		3904 M L KING JR WAY S APT HSE1, SEATTLE WA 98108	King	-122.296	47.56631	Terminal Pole	Equipment re-set	1	Mortality-disposed
7/5/2011	Crow	14410 22ND AVE SW, BURIEN WA 98166-1006	King	-122.3619	47.47355	Transformer	Bird Guard	1	Mortality-disposed
		2918 9TH AVE W, SEATTLE WA 98119-1816	King	-122.3693	47.64654	Transformer	Bird Guard	1	Mortality-disposed
		2922 39TH AVE SW, SEATTLE WA 98116-3402	King	-122.3813	47.57585	Transformer	Bird Guard	1	Mortality-disposed
		6712 17TH AVE NW, SEATTLE	King	-122.379	47.67807	Transformer	Bird Guard	1	Mortality-disposed
		8705 17TH AVE NW, SEATTLE	King	-122.379	47.69272	Transformer	Bird Guard	1	Mortality-disposed
7/6/2011	Crow	1545 NW 57TH ST BLDG HSE, SEATTLE WA 98107-5641	King	-122.3778	47.66938	Terminal Pole	Equipment re-set	1	Mortality-disposed
		2716 13TH AVE S, SEATTLE	King	-122.3154	47.57945	Transformer	Bird Guard	1	Mortality-disposed
		5139 PALMER DR NW UPPR, SEATTLE	King	-122.3579	47.66681	Transformer	Bird Guard	1	Mortality-disposed
7/7/2011	Crow	8712 20TH AVE NW, SEATTLE WA 98117-3526	King	-122.3823	47.69226	Transformer	Bird Guard	1	Mortality-disposed
7/9/2011	Crow		King	-122.3392	47.56204	Transformer	Bird Guard	1	Mortality-disposed
		1032 S JACKSON ST STE 100, SEATTLE WA 98104-3048	King	-122.3195	47.59929	Terminal Pole	Equipment re-set	1	Mortality-disposed
		1609 PEACH CT E, SEATTLE WA 98112-3428	King	-122.3051	47.6335	Transformer	Bird Guard	1	Mortality-disposed
		4103 FRANCIS AVE N, SEATTLE	King	-122.3533	47.65673	Transformer	Bird Guard	1	Mortality-disposed
		4415A 44TH AVE SW, SEATTLE	King	-122.3888	47.56412	Transformer	Bird Guard	1	Mortality-disposed
		714 33RD AVE, SEATTLE WA 98122-5123	King	-122.2905	47.6086	Transformer	Bird Guard	1	Mortality-disposed
7/10/2011	Crow	9014 25TH AVE NW, SEATTLE	King	-122.3887	47.69464	Transformer	Bird Guard	1	Mortality-disposed
		14962 20TH AVE SW, BURIEN WA 98166-1604	King	-122.359	47.4674	Transformer	Bird Guard	1	Mortality-disposed
7/11/2011	Crow	4847 S JUNEAU ST, SEATTLE	King	-122.2705	47.5497	Transformer	Bird Guard	1	Mortality-disposed
		3514 SW 105TH ST, SEATTLE WA 98146-1154	King	-122.3766	47.50901	Transformer	Bird Guard	1	Mortality-disposed
		5121 S HAZEL ST, SEATTLE WA 98178-2119	King	-122.2696	47.50493	Transformer	Bird Guard	1	Mortality-disposed
		6211 44TH AVE NE, SEATTLE	King	-122.2816	47.67431	Transformer	Bird Guard	1	Mortality-disposed
7/12/2011	Crow	1210 1/2 E PINE ST FL 1, SEATTLE	King	-122.3162	47.61532	Transformer	Bird Guard	1	Mortality-disposed
7/13/2011	Crow	2109 N 193RD ST, SHORELINE WA 98133-4135	King	-122.3345	47.76914	Transformer	Bird Guard	1	Mortality-disposed
		5530 S 129TH ST, SEATTLE	King	-122.2628	47.48864	Transformer	Bird Guard	1	Mortality-disposed
		6208 57TH AVE S, SEATTLE	King	-122.2618	47.5453	Transformer	Bird Guard	1	Mortality-disposed
		914 E HARRISON ST APT 102, SEATTLE WA 98102-6016	King	-122.3199	47.62231	Transformer	Bird Guard	1	Mortality-disposed
7/14/2011	Crow	1410 E MARION ST, SEATTLE	King	-122.3135	47.61042	Transformer	Bird Guard	1	Mortality-disposed
7/15/2011	Crow	319 Terry Ave, Seattle	King	-122.3228	47.60446	Transformer	Bird Guard	1	Mortality-disposed
		3408 15TH AVE S, SEATTLE WA 98144-6608	King	-122.3135	47.5727	Transformer	Bird Guard	1	Mortality-disposed
7/16/2011	Crow	1727 HARBOR AVE SW UNIT N106, SEATTLE	King	-122.3775	47.58646	Terminal Pole	Equipment Repaired	1	Mortality-disposed
		3424 36TH AVE SW, SEATTLE WA 98126-2211	King	-122.3772	47.57217	Transformer	Bird Guard	1	Mortality-disposed
		5122 S DAWSON ST, SEATTLE	King	-122.2691	47.55489	Transformer	Bird Guard	1	Mortality-disposed
		5544 S ORCAS ST, SEATTLE WA 98118-2541	King	-122.2629	47.55106	Transformer	Bird Guard	1	Mortality-disposed
		Roosevelt & NE 94 St	King	-122.3172	47.69812	Terminal Pole	Unspecified	1	Mortality-disposed
7/17/2011	Crow	3410 36TH AVE SW, SEATTLE	King	-122.3771	47.57282	Transformer	Bird Guard	1	Mortality-disposed
		410 10TH AVE E, SEATTLE	King	-122.3199	47.62258	Transformer	Bird Guard	1	Mortality-disposed
7/18/2011	Crow	219 S HORTON ST SVC HSE, SEATTLE WA 98134-1931	King	-122.3301	47.57379	Terminal Pole	Equipment re-set	1	Mortality-disposed
		3 Av S / S Horton St	King	-122.3301	47.57379	Terminal Pole	Equipment re-set	1	Mortality-disposed
		3219 57TH AVE SW, SEATTLE WA 98116-3108	King	-122.4055	47.57515	Transformer	Bird Guard	1	Mortality-disposed
		3421 SW ROXBURY ST, SEATTLE WA 98126-4161	King	-122.3762	47.518	Terminal Pole	Equipment re-set	1	Mortality-disposed

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DATE	SPECIES	ADDRESS	COUNTY	X - UTM	Y - UTM	Structure_Equip_Type	Remedial_Action	Total	DISPOSITION
		8211 S 120TH ST,SEATTLE	King	-122.2297	47.49539	Transformer	Bird Guard	1	Mortality-disposed
7/19/2011	Crow	9246 8TH AVE NW,SEATTLE	King	-122.3659	47.69745	Transformer	Bird Guard	1	Mortality-disposed
7/20/2011	C. Goose	1400 shilshole,	King	-122.3738	47.66139	Other	Unspecified	1	Mortality-disposed
7/21/2011	Crow	1120 Cherry St	King	-122.3228	47.60839	Transformer	Equipment re-set	1	Mortality-disposed
		14024 WAYNE PL N,SEATTLE	King	-122.3354	47.73137	Transformer	Bird Guard	1	Mortality-disposed
		7227 SEWARD PARK AVE S,SEATTLE	King	-122.2679	47.53693	Transformer	Bird Guard	1	Mortality-disposed
7/22/2011	Gull	2440 W COMMODORE WAY,SEATTLE WA 98199-1228	King	-122.3882	47.66129	Wires	Re energized	1	Mortality-disposed
7/23/2011	Crow	1211 E Alder St	King	-122.3167	47.60408	Terminal Pole	Equipment re-set	1	Mortality-disposed
		15919 18TH AVE SW,BURIEN	King	-122.3566	47.45991	Transformer	Bird Guard	1	Mortality-disposed
7/24/2011	Crow		King	-122.3006	47.61161	Transformer	Equipment Repaired	1	Mortality-disposed
		6334 RAINIER AVE S APT HSE,SEATTLE WA 98118-2769	King	-122.2736	47.54557	Terminal Pole	Equipment Repaired	1	Mortality-disposed
7/25/2011	Crow	15624 18TH AVE SW,BURIEN	King	-122.3567	47.46189	Transformer	Bird Guard	1	Mortality-disposed
		9227 36TH AVE SW,SEATTLE WA 98126-3828	King	-122.378	47.52032	Transformer	Bird Guard	1	Mortality-disposed
7/26/2011	Crow	11330 LAKESIDE AVE NE,SEATTLE WA 98125-5945	King	-122.2778	47.71213	Transformer	Bird Guard	1	Mortality-disposed
		3624 30TH AVE W,SEATTLE	King	-122.3955	47.65278	Transformer	Bird Guard	1	Mortality-disposed
		5508 ROOSEVELT WAY NE FRNT,SEATTLE	King	-122.3173	47.66885	Transformer	Bird Guard	1	Mortality-disposed
	Gull		King	-122.878	47.62216	Wires	No Outage	1	Mortality-disposed
		Feeder 2638 Cycled	King	-122.3289	47.57121	Feeder	Unspecified	2	Mortality-disposed
7/27/2011	Crow		King	-122.3067	47.64514	Terminal Pole	Equipment re-set	1	Mortality-disposed
7/29/2011	Crow	6603 34TH AVE NW,SEATTLE	King	-122.4017	47.67656	Transformer	Bird Guard	1	Mortality-disposed
		936 NW 49TH ST,SEATTLE WA 98107-3653	King	-122.3697	47.66443	Transformer	Bird Guard	1	Mortality-disposed
7/30/2011	Crow	2925 S 112 St	King	-122.2959	47.50284	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/1/2011	Crow	10406 11TH AVE SW,SEATTLE	King	-122.3495	47.51018	Transformer	Bird Guard	1	Mortality-disposed
8/3/2011	Crow	5795 S 130 St	King	-122.2573	47.48188	Terminal Pole	Unspecified	1	Mortality-disposed
8/4/2011	Crow	721 AURORA AVE N,SEATTLE WA 98109-4315	King	-122.344	47.62631	Transformer	Bird Guard	1	Mortality-disposed
8/5/2011	Crow	2348 22ND AVE S,SEATTLE WA 98144-5220	King	-122.3043	47.58163	Transformer	Bird Guard	1	Mortality-disposed
		3311 S 120TH PL STE 110,TUKWILA WA 98168-5125	King	-122.2886	47.49242	Terminal Pole	Unspecified	1	Mortality-disposed
8/6/2011	Crow	5795 S 130 PI	King	-122.2573	47.48188	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/8/2011	Crow	Feeder 2764 Cycled	King	-122.3089	47.61532	Terminal Pole	Unspecified	1	Mortality-disposed
8/10/2011	Crow	100 W HARRISON ST,SEATTLE WA 98119-4116	King	-122.3579	47.62205	Terminal Pole	Equipment re-set	1	Mortality-disposed
		1400 NW 59TH ST APT 4,SEATTLE	King	-122.3737	47.67167	Transformer	Bird Guard	1	Mortality-disposed
		401 BROADWAY E STE 223,SEATTLE WA 98102-5092	King	-122.3221	47.62282	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/11/2011	Crow	3828 25TH AVE W,SEATTLE	King	-122.3881	47.65416	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/14/2011	Crow	4503 S OTHELLO ST,SEATTLE	King	-122.2768	47.53658	Transformer	Bird Guard	1	Mortality-disposed
8/15/2011	Crow	946 13TH AVE E,SEATTLE WA 98102-4518	King	-122.3152	47.6271	Transformer	Bird Guard	1	Mortality-disposed
8/16/2011	Crow	2300 N 165TH ST SPC SCLE H,SHORELINE WA 98133-5515	King	-122.3319	47.74957	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/21/2011	Crow	901 NW 57TH ST APT 1,SEATTLE	King	-122.3692	47.67011	Transformer	Bird Guard	1	Mortality-disposed
8/22/2011	Crow	2629 SW Andover St	King	-122.3671	47.56766	Terminal Pole	Equipment re-set	1	Mortality-disposed
8/27/2011	Crow	14649 11TH AVE SW,BURIEN WA 98166-1801	King	-122.3485	47.47066	Transformer	Bird Guard	1	Mortality-disposed
8/28/2011	Crow	955 21ST AVE APT 1,SEATTLE	King	-122.3049	47.61168	Transformer	Bird Guard	1	Mortality-disposed
8/30/2011	Crow	933 NW 59TH ST,SEATTLE WA 98107-2851	King	-122.3704	47.67167	Transformer	Bird Guard	1	Mortality-disposed
8/31/2011	Crow	737 N 102ND ST,SEATTLE WA 98133-9317	King	-122.3485	47.70253	Transformer	Bird Guard	1	Mortality-disposed
9/1/2011	Crow	7210 ORCHARD PL S,SEATTLE	King	-122.2688	47.53761	Transformer	Bird Guard	1	Mortality-disposed
9/4/2011	Crow	5506 S FERDINAND ST,SEATTLE WA 98118-1542	King	-122.264	47.55824	Transformer	Bird Guard	1	Mortality-disposed
9/6/2011	Crow	9999 Holman rd, Seattle @ QFC	King	-122.365	47.70177	Terminal Pole	Unspecified	1	Mortality-disposed
9/9/2011	Crow	4747 44TH AVE SW,SEATTLE WA 98116-4401	King	-122.3889	47.55962	Transformer	Bird Guard	1	Mortality-disposed
9/14/2011	Crow	5640 20TH AVE NE,SEATTLE	King	-122.3066	47.67037	Transformer	Bird Guard	1	Mortality-disposed
		SW 122 St / 2 PI SW	King	-122.336	47.49361	Transformer	Bird Guard	1	Mortality-disposed

Seattle City Light Known Avian Mortalities - 2011. All records are of individual mortalities unless indicated in total column.

DATE	SPECIES	ADDRESS	COUNTY	X - UTM	Y - UTM	Structure_Equip_Type	Remedial_Action	Total	DISPOSITION
9/17/2011	Crow	1827 SW ORCHARD ST, SEATTLE WA 98106-1824	King	-122.359	47.53771	Transformer	Bird Guard	1	Mortality-disposed
	Gull	1426 S JACKSON ST, SEATTLE WA 98144	King	-122.3115	47.59964	Other	Equipment re-set	1	Mortality-disposed
9/18/2011	Crow	9435 50TH AVE S, SEATTLE	King	-122.2712	47.5176	Transformer	Bird Guard	1	Mortality-disposed
9/22/2011	Crow	525 BELMONT AVE E UNIT 7E, SEATTLE WA 98102-4866	King	-122.3241	47.62405	Terminal Pole	Equipment re-set	1	Mortality-disposed
9/24/2011	Crow	113 N 51ST ST, SEATTLE	King	-122.356	47.66574	Transformer	Bird Guard	1	Mortality-disposed
9/26/2011	Crow	2917 1ST AVE S FL 2, SEATTLE WA 98134-1821	King	-122.3341	47.57692	Transformer	Bird Guard	1	Mortality-disposed
		418A FEDERAL AVE E, SEATTLE WA 98102-5012	King	-122.3189	47.62256	Transformer	Bird Guard	1	Mortality-disposed
	C. Goose	700 ALASKAN WAY W, SEATTLE WA 98119	King	-122.369	47.62614	Terminal Pole/wires	Equipment re-set	1	Mortality-disposed
9/27/2011	C. Goose	Fdr 2602 carrying 2659	King	-122.3636	47.62566	Wires	Unspecified	1	Mortality-disposed
9/28/2011	Crow	1043 S WASHINGTON ST APT 453, SEATTLE	King	-122.3177	47.60081	Transformer	Bird Guard	1	Mortality-disposed
		200 24TH AVE S, SEATTLE WA 98144-2312	King	-122.3009	47.60032	Transformer	Bird Guard	1	Mortality-disposed
9/29/2011	Crow	3817 NE 105TH ST, SEATTLE WA 98125-7923	King	-122.2875	47.7047	Transformer	Bird Guard	1	Mortality-disposed
10/9/2011	Crow	8438 S 118TH ST, SEATTLE WA 98178-4021	King	-122.2256	47.49676	Transformer	Bird Guard	1	Mortality-disposed
10/11/2011	Unknown		King	-122.2881	47.501	Feeder	Unspecified	1	Mortality-disposed
10/24/2011	Gull	4602 2ND AVE NE, SEATTLE	King	-122.3271	47.66143	Other	Equipment re-set	1	Mortality-disposed
11/3/2011	Crow	401 N 87TH ST APT 2, SEATTLE	King	-122.3539	47.69203	Transformer	Bird Guard	1	Mortality-disposed
11/9/2011	Unknown	7717 S MISSION DR, SEATTLE WA 98178-3143	King	-122.2371	47.50353	Transformer	Bird Guard	1	Mortality-disposed
11/16/2011	Crow	714 HARVARD AVE E APT 206, SEATTLE	King	-122.3225	47.6258	Transformer	Bird Guard	1	Mortality-disposed
11/21/2011	Crow	3283 MCCLINTOCK AVE S, SEATTLE WA 98144-6100	King	-122.2919	47.57393	Transformer	Bird Guard	1	Mortality-disposed
11/23/2011	Crow	4901 RAINIER AVE S, SEATTLE	King	-122.2861	47.55777	Transformer	Bird Guard	1	Mortality-disposed
12/1/2011	Crow	9031 21ST AVE SW, SEATTLE	King	-122.3612	47.5218	Transformer	Equipment Repaired	1	Mortality-disposed
12/7/2011	Pigeon	W/s of Minor Av, 1 S of E Madison	King	-122.324	47.60969	Feeder	Unspecified	1	Mortality-disposed
12/19/2011	Unknown	1936 41st Ave SW, Seattle	King	-122.3831	47.58576	Transformer	Bird Guard	1	Mortality-disposed
12/24/2011	Unknown	204 NE 94th St, Seattle, WA 98115-2752	King	-122.323	47.69671	Other	Unspecified	1	Mortality-disposed
Grand Total								217	

Seattle City Light Avian Mortalities 2011 -- Species, Month, Remedial Action, and Structure Types

Number of mortalities by species

SPECIES	Total	% of Mortalities
Crow	191	88.0%
Goose	5	2.3%
Gull	12	5.5%
Pigeon	1	0.5%
Unknown	8	3.7%
Grand Total	217	100.0%

Corrective action taken

Corrective Action	Total	%
Bird Guard	143	65.0%
Bird Guard (proactive)	2	0.9%
Equipment Repaired	6	2.7%
Equipment re-set	38	17.3%
Nest Excluder	1	0.5%
No Outage	1	0.5%
Re energized	1	0.5%
Replaced insulator	1	0.5%
Unspecified	27	12.3%
Grand Total	220	100.0%

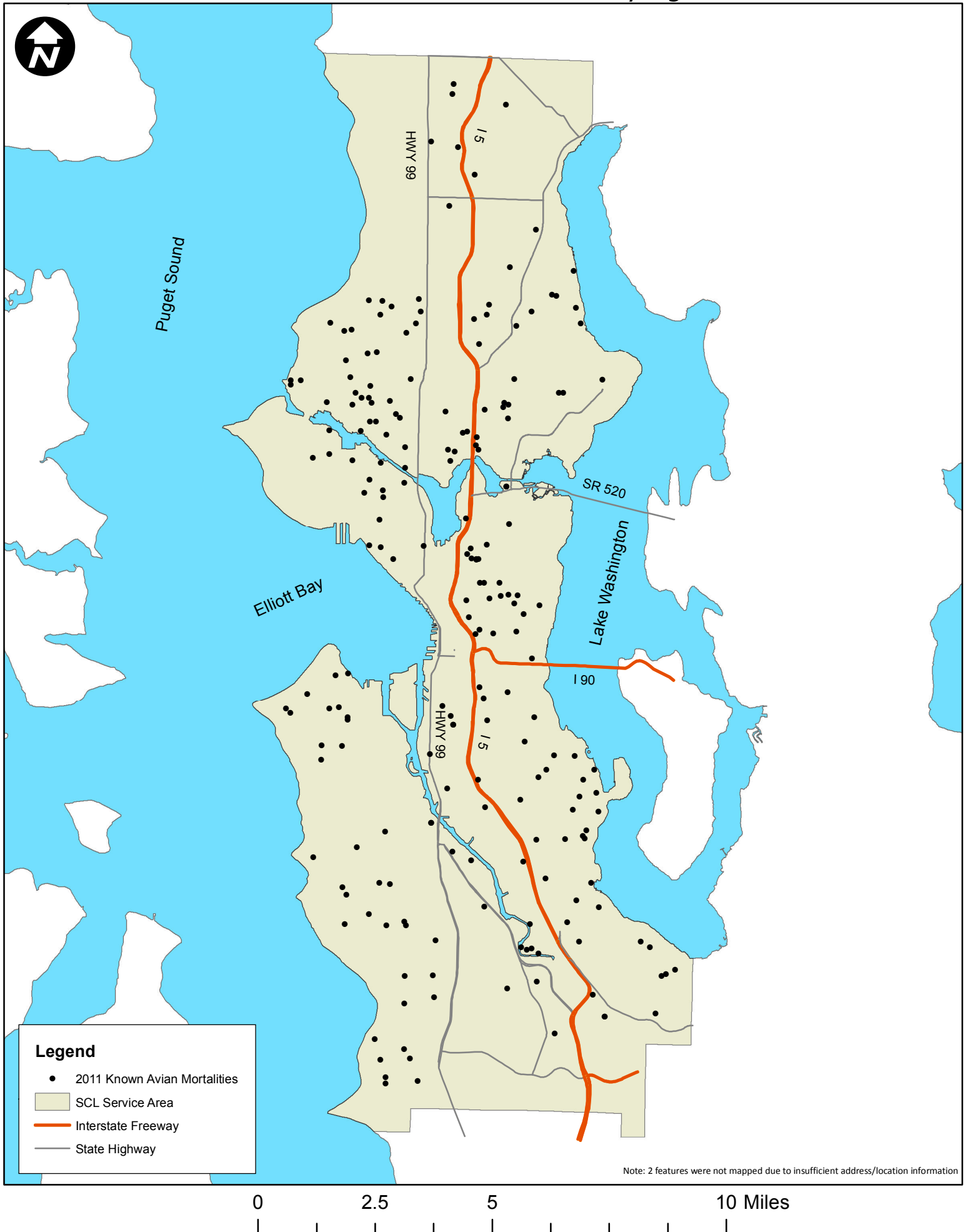
Number of mortalities by month

Month	Total	% of Mortalities
January	5	2.3%
February	5	2.3%
March	3	1.4%
April	3	1.4%
May	4	1.8%
June	72	33.0%
July	76	34.9%
August	20	9.2%
September	18	8.3%
October	3	1.4%
November	5	2.3%
December	4	1.8%
Grand Total	218	100.0%

Number of mortalities by structure type

Structure Type	Total	%
Feeder	8	3.7%
Other	11	5.1%
Terminal Pole	41	18.9%
Terminal Pole/wires	1	0.5%
Transformer	150	69.1%
Wires	6	2.8%
Grand Total	217	100.0%

2011 Known Avian Mortalities in Seattle City Light Service Area





City of Seattle

Michael Patrick McGinn, Mayor

Your Seattle City Light

Jorge Carrasco, Superintendent

February 01, 2013

Jennifer Miller
Chief, Migratory Bird Permit Office
USFWS - Pacific Region
911 NE 11th Avenue
Portland, OR 97232-4181

Amanda Crook
United States Fish and Wildlife Services
14852 NE 95th Street
Redmond, WA 98052

RE: Renewal of Seattle City Light Permit MB161960 and 2012 Annual Report

Dear Ms. Miller and Ms. Crook:

Seattle City Light (SCL) is hereby submitting its 2012 Annual Report for Federal Migratory Bird Special Purpose Permit, MB161960-0. We are also requesting that this permit be renewed and that Ronald Tressler be retained as a sub-permittee. As Seattle City Light is department within the City of Seattle, we understand that we are exempt from the \$100 fee requirement.

If you have any questions about our report or renewal request please call me at (206) 684-4238 or Ron Tressler at (206) 386-4506.

Sincerely,

A handwritten signature in blue ink, appearing to read "Colleen McShane".

Colleen McShane,
Manager Natural Resources and Environmental Planning

RT:sw

Enclosures: Signed application certification
Signed annual report form + attached table of bird and nest take



700 Fifth Avenue, P.O. Box 34023, Seattle, WA 98124-4023

Tel: (206) 684-3000, TTY/TDD: (206) 684-3225, Fax: (206) 625-3709

An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided upon request.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Migratory Bird Permit Office

911 NE 11th Avenue

Portland, Oregon 97232-4181



In Reply Refer to:
FWS/R1/MBHP

SPUT-161960, 03/31/2013
SEATTLE CITY LIGHT
700 5TH AVENUE SUITE 3360
PO BOX 34023
SEATTLE, WA 98124-4023
U.S.A.

December 1, 2012

Your Federal Migratory Bird SPECIAL PURPOSE UTILITIY (SPUT) PERMIT, expires on March 31, 2013.

Please indicate if a renewal is desired: Yes ☒ No ☐

RENEWAL PROCEDURES:

1. Enclose a check or money order in the amount of \$100 and payable to the U.S. Fish and Wildlife Service. Federal, State, Tribal and Municipal government agencies are exempt from the fee requirement.
☒ Check if you are claiming fee exemption
2. Please clearly print your current email address: colleen.mcshane@seattle.gov
A current email address is required for renewal.
3. Please update the following information:
 - a. Name: Colleen McShane
 - b. Address: 700 Fifth Ave, P.O. Box 34023, Seattle WA 98124 (suite 3316)
 - c. Phone number(s): 206-684-4238
 - d. Location of activity: City of Seattle and surrounding cities
 - e. Location of records: Seattle City Light office
 - f. If business, principal officer (owner, manager): James Baggs, Power Supply and Environmental Affairs Officer
 - g. If business, primary contact (person FWS should contact):
Colleen McShane
4. Attach a list of the subpermittee(s) conducting work under this permit. Individuals who are conducting work unsupervised should be listed as subpermittees. If an individual is not currently listed on your permit, provide a brief description regarding qualifications and experience.
5. Attach your 2012 Annual Report
6. Sign and date this renewal letter and return it with your fee to the address above **by January 31, 2013.**

If this written request for renewal of your permit is **postmarked 30 days prior to expiration**, you may continue activities authorized by your expired permit until the Service has acted on your request for renewal. (See 50 CFR 13.22) You will be required to submit a new application if you allow your current permit to expire.

If you have any questions, please contact this office at the address above or call 503-872-2715. Information, regulations and forms may be obtained by visiting our website at www.fws.gov/permits. Please note that the Service revised the list of species protected under the Migratory Bird Treaty Act effective March 31, 2010. For more information, please visit <http://www.fws.gov/migratorybirds/mbpermits.html>.

I hereby certify that all information submitted in support of my original application remains current and correct except as changed previously or with this form. I understand any false statement may subject me to the criminal penalties of 18 USC 1001.

Signature  Date 2-1-2013



U.S. FISH & WILDLIFE SERVICE - MIGRATORY BIRD PERMIT OFFICE

(See attached addresses)

SPECIAL PURPOSE - UTILITY (AVIAN TAKE MONITORING) - ANNUAL REPORT

PERMITTEE: **Seattle City Light (Colleen McShane)**PERMIT NUMBER: **MB 161960-0**ADDRESS: **700 Fifth Ave., Suite 3316, P.O. Box 34023**REPORT FOR CALENDAR YEAR: **2012****Seattle, WA****WA 98124**REPORT DUE DATE: **January 31, 2012**

City

State

Zip Code

Check here if reporting a change of name, address, or contact information

PHONE: **206-684-4238**Email: **colleen.mcshane@seattle.gov**

INSTRUCTIONS: Type or print the information requested below for all migratory birds, including eagles, salvaged or recovered under your permit during the report year, and return the completed report to the above address by the due date. Use of this form is not mandatory, but the same information must be submitted. A supplemental sheet is available if needed. Filing an annual report is a condition of your permit. Failure to file a timely report could result in suspension of your permit. You must submit a report even if you had no activity during the report year. **NOTE: If your permit conditions require report information that is different from that requested below, please provide the additional information on a separate sheet. MAKE SURE YOU SIGN & DATE THE CERTIFICATION STATEMENT BELOW BEFORE YOU SUBMIT YOUR REPORT.** (Ref. 50 CFR parts 13 & 21)

A. Type of Utility/Equipment/structure potentially causing the injury/mortality:
Electrical distribution equipment

B. SPECIES (Common Name)	WHEN & WHERE SALVAGED / RECOVERED		Description C= Carcass P=Parts A=Alive	Apparent Cause of Inj./Mortality E=Electrocution C=Collision B=Barotrauma Other (Specify)	Estimate date of mortality/ injury	Weather conditions when mortality/ injury likely occurred, if known (clear, fog, windy, snow, rain)	Disposition D=Destroyed (buried, incinerated) T=Transferred (to whom/permit no.) Other (Specify)
	Date	State; county; nearest town or name of facility	GPS coordinates in decimal degrees				
Example 1 Golden Eagle	10/7	CO, Lincoln, Hugo	38.889722°, - 77.008889°	C	10/6	Windy	T-USFWS/OLE
Example 2 Red-tailed hawk	9/1	VA, Louisa, ACME distribution station	38.889722°, - 77.008889°	A	8/30	Fog	T-Avian rehab cntr. MB123456
SEE ATTACHED		SEE ATTACHED	SEE ATTACHED				

CERTIFICATION: I certify that the information in this report is true and correct to the best of my knowledge. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

Signature: *Colleen McShane*Date: **2-1-2013**

Form 3-202-17

OMB No. 1018-0022

Expires 02/28/2014

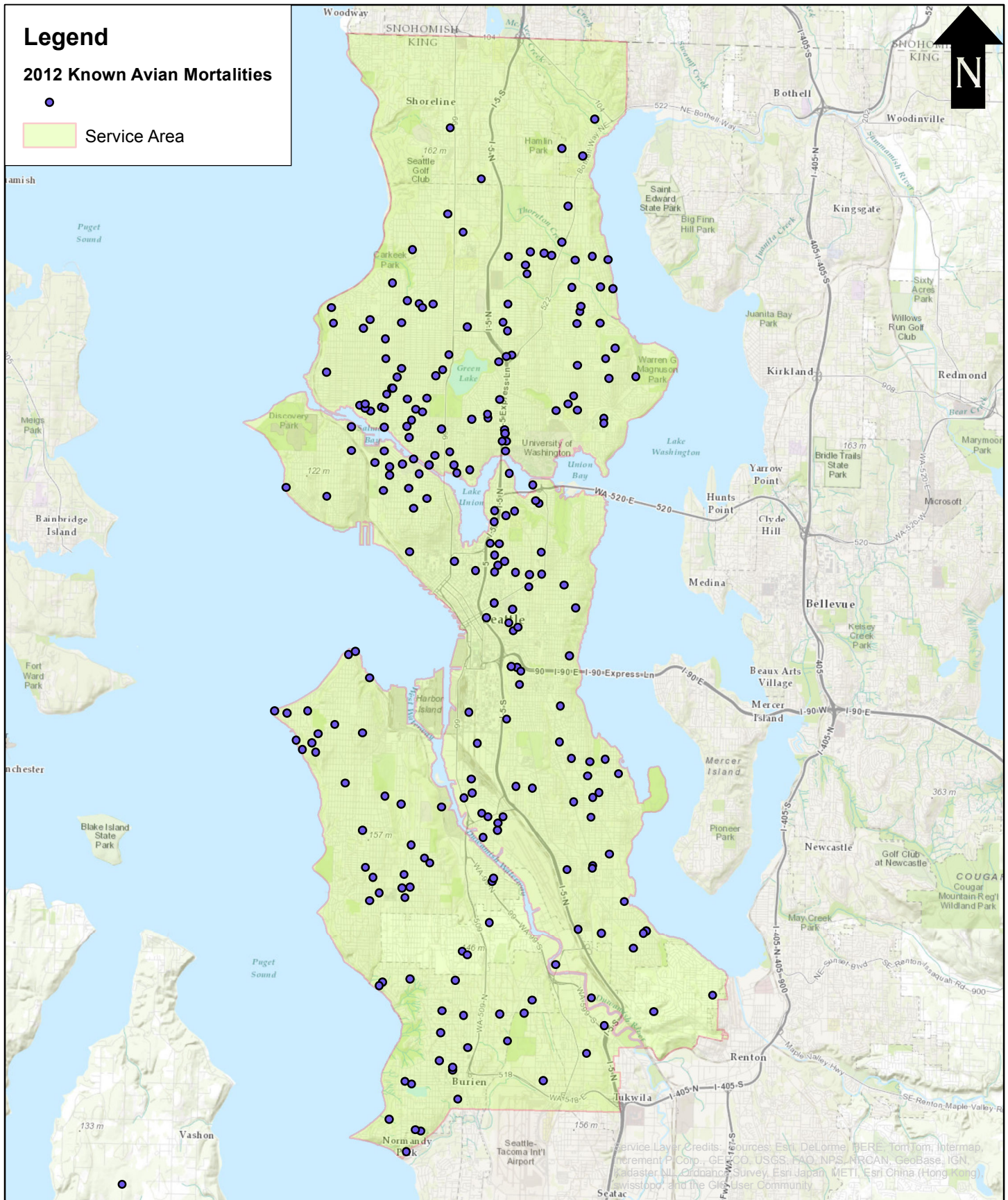
SPECIES	DATE	State, Co., Town	Latitude	Longitude	Description	Apparent Cause	Mortality Date	Weather	Disposition
Gull	1/11/2012	WA, King, Seattle	47.53587996	-122.2715466	C	E	1/11/2012	Unknown	D
Gull	1/14/2012	WA, King, Seattle	47.62198588	-122.341755	C	E	1/14/2012	Unknown	D
Crow	1/17/2012	WA, King, Seattle	47.61933223	-122.3323359	C	E	1/17/2012	Unknown	D
Gull	1/19/2012	WA, King, Seattle	47.55179951	-122.3354522	C	E	1/19/2012	Unknown	D
Unknown	1/20/2012	WA, King, Burien	47.49674114	-122.3696677	C	E	1/20/2012	Unknown	D
Gull	1/20/2012	WA, King, Seattle	47.52188081	-122.2644925	C	E	1/20/2012	Unknown	D
Gull	1/26/2012	WA, King, Seattle	47.56794472	-122.4095827	C	E	1/26/2012	Unknown	D
Crow	1/30/2012	WA, King, Seattle	47.65070376	-122.3775531	C	E	1/30/2012	Unknown	D
Pigeon	2/8/2012	WA, King, Seattle	47.53104061	-122.2899024	C	E	2/8/2012	Unknown	D
Unknown	2/9/2012	WA, King, Seattle	47.60981717	-122.3239454	C	E	2/9/2012	Unknown	D
Crow	2/11/2012	WA, King, Seattle	47.69855833	-122.3204169	C	E	2/11/2012	Unknown	D
Crow	2/15/2012	WA, King, Seattle	47.52510911	-122.3584171	C	E	2/15/2012	Unknown	D
Gull	2/17/2012	WA, King, Seattle	47.56817755	-122.3301019	C	E	2/17/2012	Unknown	D
Crow	2/20/2012	WA, King, Seattle	47.52771047	-122.3746306	C	E	2/20/2012	Unknown	D
Crow	2/20/2012	WA, King, Seattle	47.66178601	-122.3639202	C	E	2/20/2012	Unknown	D
Goose - Canada	3/9/2012	WA, King, Seattle	47.66138793	-122.3737515	C	C	3/9/2012	Unknown	D
Gull	3/15/2012	WA, King, Seattle	47.56456923	-122.4008896	C	E	3/15/2012	Unknown	D
Crow	3/29/2012	WA, King, Burien	47.4885685	-122.3434473	C	E	3/29/2012	Unknown	D
Crow	4/23/2012	WA, King, Seattle	47.64832774	-122.318458	C	E	4/23/2012	Unknown	D
Crow	4/26/2012	WA, King, Seattle	47.66360612	-122.3617197	C	E	4/26/2012	Unknown	D
Crow	4/30/2012	WA, King, Seattle	47.62451825	-122.3616528	C	E	4/30/2012	Unknown	D
Crow	5/2/2012	WA, King, Seattle	47.69338685	-122.2799194	C	E	5/2/2012	Unknown	D
Crow	6/2/2012	WA, King, Seattle	47.69831045	-122.2884856	C	E	6/2/2012	Unknown	D
Osprey	6/3/2012	WA, King, Seattle	47.65208827	-122.3607147	C	E	6/3/2012	Unknown	D
Crow	6/4/2012	WA, King, Seattle	47.68297266	-122.2770798	C	E	6/4/2012	Unknown	D
Crow	6/7/2012	WA, King, Seattle	47.71327626	-122.2837255	C	E	6/7/2012	Unknown	D
Crow	6/8/2012	WA, King, Burien	47.4673972	-122.3590461	C	E	6/8/2012	Unknown	D
Crow	6/9/2012	WA, King, Seattle	47.71191525	-122.2914374	C	E	6/9/2012	Unknown	D
Crow	6/9/2012	WA, King, Seattle	47.72492559	-122.3478458	C	E	6/9/2012	Unknown	D
Crow	6/10/2012	WA, King, Seattle	47.51335843	-122.2546264	C	E	6/10/2012	Unknown	D
Crow	6/12/2012	WA, King, Seattle	47.71031354	-122.3131203	C	E	6/12/2012	Unknown	D
Crow	6/12/2012	WA, King, Seattle	47.6504001	-122.3538864	C	E	6/12/2012	Unknown	D
Crow	6/12/2012	WA, King, Seattle	47.62404732	-122.324114	C	E	6/12/2012	Unknown	D
Crow	6/12/2012	WA, King, Shoreline	47.75054738	-122.3472888	C	E	6/12/2012	Unknown	D
Crow	6/12/2012	WA, King, Seattle	47.62515129	-122.3037904	C	E	6/12/2012	Unknown	D
Unknown	6/12/2012	WA, King, Seattle	47.43507312	-122.4816589	P	E	6/12/2012	Unknown	D
Crow	6/13/2012	WA, King, Seattle	47.71421902	-122.3110902	C	E	6/13/2012	Unknown	D
Crow	6/13/2012	WA, King, Seattle	47.54161724	-122.3798969	C	E	6/13/2012	Unknown	D
Crow	6/13/2012	WA, King, Seattle	47.53232051	-122.3499535	C	E	6/13/2012	Unknown	D
Crow	6/13/2012	WA, King, Seattle	47.66018571	-122.3207467	C	E	6/13/2012	Unknown	D
Crow	6/14/2012	WA, King, Seattle	47.71385556	-122.3051178	C	E	6/14/2012	Unknown	D
Crow	6/15/2012	WA, King, Seattle	47.55336862	-122.3320644	C	E	6/15/2012	Unknown	D
Crow	6/15/2012	WA, King, Seattle	47.66925096	-122.2932533	C	E	6/15/2012	Unknown	D
Crow	6/15/2012	WA, King, Seattle	47.52869345	-122.3611022	C	E	6/15/2012	Unknown	D
Crow	6/15/2012	WA, King, Seattle	47.69707396	-122.3581135	C	E	6/15/2012	Unknown	D
Crow	6/16/2012	WA, King, Seattle	47.69818841	-122.3533548	C	E	6/16/2012	Unknown	D
Crow	6/16/2012	WA, King, Seattle	47.55557131	-122.312872	C	E	6/16/2012	Unknown	D
Crow	6/16/2012	WA, King, Seattle	47.61471837	-122.3089208	C	E	6/16/2012	Unknown	D
Crow	6/17/2012	WA, King, Seattle	47.59471176	-122.3845672	C	E	6/17/2012	Unknown	D
Crow	6/17/2012	WA, King, Seattle	47.58689588	-122.378063	C	E	6/17/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.64718778	-122.3710127	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.6931515	-122.3224891	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.52186918	-122.3605504	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.69158347	-122.338158	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.54895702	-122.345361	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Burien	47.45273152	-122.3517297	C	E	6/18/2012	Unknown	D
Crow	6/18/2012	WA, King, Seattle	47.6504001	-122.3538864	C	E	6/18/2012	Unknown	D
Crow	6/19/2012	WA, King, Seattle	47.55417346	-122.2764924	C	E	6/19/2012	Unknown	D
Crow	6/19/2012	WA, King, Seattle	47.61908682	-122.3240689	C	E	6/19/2012	Unknown	D
Crow	6/19/2012	WA, King, Seattle	47.54448295	-122.3205097	C	E	6/19/2012	Unknown	D
Crow	6/19/2012	WA, King, Burien	47.46231957	-122.3357504	C	E	6/19/2012	Unknown	D
Crow	6/19/2012	WA, King, Seattle	47.64512868	-122.3079725	C	E	6/19/2012	Unknown	D
Crow	6/19/2012	WA, King, Seattle	47.66018571	-122.3207467	C	E	6/19/2012	Unknown	D
Crow	6/20/2012	WA, King, Burien	47.47774337	-122.331912	C	E	6/20/2012	Unknown	D
Crow	6/20/2012	WA, King, Seattle	47.4683673	-122.2985518	C	E	6/20/2012	Unknown	D
Crow	6/20/2012	WA, King, Seattle	47.68296708	-122.320746	C	E	6/20/2012	Unknown	D
Crow	6/20/2012	WA, King, Seattle	47.69899358	-122.3647653	C	E	6/20/2012	Unknown	D

SPECIES	DATE	State, Co., Town	Latitude	Longitude	Description	Apparent Cause	Mortality Date	Weather	Disposition
Crow	6/21/2012	WA, King, Seattle	47.6584355	-122.3628887	C	E	6/21/2012	Unknown	D
Crow	6/21/2012	WA, King, Seattle	47.68751497	-122.374032	C	E	6/21/2012	Unknown	D
Crow	6/21/2012	WA, King, Seattle	47.66131958	-122.3210049	C	E	6/21/2012	Unknown	D
Crow	6/21/2012	WA, King, Seattle	47.67878293	-122.3666434	C	E	6/21/2012	Unknown	D
Crow	6/22/2012	WA, King, Seattle	47.65422306	-122.3736474	C	E	6/22/2012	Unknown	D
Crow	6/22/2012	WA, King, Tukwila	47.49323198	-122.2780126	C	E	6/22/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.52310817	-122.371959	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.67714587	-122.2756269	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.4921986	-122.3041747	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.61904201	-122.3149671	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.6428836	-122.4162602	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.66728874	-122.2985605	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.5424258	-122.3206402	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.69243993	-122.3672058	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.67012664	-122.3553154	C	E	6/23/2012	Unknown	D
Crow	6/23/2012	WA, King, Seattle	47.56898229	-122.2942062	C	E	6/23/2012	Unknown	D
Crow	6/24/2012	WA, King, Seattle	47.48942904	-122.2507308	C	E	6/24/2012	Unknown	D
Crow	6/24/2012	WA, King, Seattle	47.67629969	-122.3686555	C	E	6/24/2012	Unknown	D
Crow	6/24/2012	WA, King, Seattle	47.60162589	-122.3154309	C	E	6/24/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.69190698	-122.3969074	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.52728565	-122.3224842	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.66385746	-122.277392	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.66676076	-122.3823965	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.5463887	-122.3182073	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.6907122	-122.3203707	C	E	6/25/2012	Unknown	D
Crow	6/25/2012	WA, King, Seattle	47.62734458	-122.3223093	C	E	6/25/2012	Unknown	D
Crow	6/26/2012	WA, King, Seattle	47.64328233	-122.3626084	C	E	6/26/2012	Unknown	D
Crow	6/26/2012	WA, King, Seattle	47.67013723	-122.3234459	C	E	6/26/2012	Unknown	D
Crow	6/26/2012	WA, King, Shoreline	47.74507913	-122.2981283	C	E	6/26/2012	Unknown	D
Crow	6/26/2012	WA, King, Seattle	47.66682698	-122.3601765	C	E	6/26/2012	Unknown	D
Crow	6/26/2012	WA, King, Seattle	47.56318925	-122.2807802	C	E	6/26/2012	Unknown	D
Crow	6/27/2012	WA, King, Burien	47.48729188	-122.333951	C	E	6/27/2012	Unknown	D
Crow	6/27/2012	WA, King, Seattle	47.57671275	-122.4047833	C	E	6/27/2012	Unknown	D
Crow	6/27/2012	WA, King, Seattle	47.65324438	-122.3513442	C	E	6/27/2012	Unknown	D
Crow	6/28/2012	WA, King, Seattle	47.66426084	-122.3355472	C	E	6/28/2012	Unknown	D
Crow	6/28/2012	WA, King, Lake Forest Park	47.74293397	-122.2888483	C	E	6/28/2012	Unknown	D
Crow	6/28/2012	WA, King, Burien	47.47375922	-122.3441617	C	E	6/28/2012	Unknown	D
Crow	6/29/2012	WA, King, Seattle	47.71233763	-122.2768786	C	E	6/29/2012	Unknown	D
Crow	6/29/2012	WA, King, Seattle	47.6832704	-122.3460344	C	E	6/29/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.70426063	-122.3713393	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.54740126	-122.3276263	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.63719574	-122.3246434	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.57540357	-122.3174355	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.65442413	-122.3447369	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.67874566	-122.3485018	C	E	6/30/2012	Unknown	D
Crow	6/30/2012	WA, King, Seattle	47.59369314	-122.3874663	C	E	6/30/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.66467842	-122.3282204	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.6834641	-122.3184945	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.6504822	-122.3655499	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.56415703	-122.2739949	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.64254705	-122.3736597	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Burien	47.48208163	-122.3437978	C	E	7/1/2012	Unknown	D
Crow	7/1/2012	WA, King, Seattle	47.63392691	-122.3246197	C	E	7/1/2012	Unknown	D
Crow	7/2/2012	WA, King, Burien	47.49561799	-122.3710795	C	E	7/2/2012	Unknown	D
Crow	7/2/2012	WA, King, Seattle	47.57053875	-122.3806142	C	E	7/2/2012	Unknown	D
Crow	7/2/2012	WA, King, Seattle	47.69315796	-122.2901548	C	E	7/2/2012	Unknown	D
Crow	7/3/2012	WA, King, Seattle	47.5652189	-122.4068182	C	E	7/3/2012	Unknown	D
Crow	7/3/2012	WA, King, Seattle	47.67695398	-122.3515901	C	E	7/3/2012	Unknown	D
Crow	7/3/2012	WA, King, Seattle	47.65787889	-122.3218419	C	E	7/3/2012	Unknown	D
Crow	7/3/2012	WA, King, Burien	47.45599102	-122.3656663	C	E	7/3/2012	Unknown	D
Crow	7/3/2012	WA, King, Seattle	47.70423327	-122.2800037	C	E	7/3/2012	Unknown	D
Crow	7/3/2012	WA, King, Seattle	47.56996524	-122.4001715	C	E	7/3/2012	Unknown	D
Crow	7/4/2012	WA, King, Shoreline	47.73553973	-122.333217	C	E	7/4/2012	Unknown	D
Crow	7/6/2012	WA, King, Seattle	47.51335843	-122.2546264	C	E	7/6/2012	Unknown	D
Crow	7/6/2012	WA, King, Seattle	47.54672649	-122.2798305	C	E	7/6/2012	Unknown	D
Crow	7/6/2012	WA, King, Seattle	47.53246104	-122.2784873	C	E	7/6/2012	Unknown	D
Crow	7/7/2012	WA, King, Seattle	47.55905062	-122.2817121	C	E	7/7/2012	Unknown	D

SPECIES	DATE	State, Co., Town	Latitude	Longitude	Description	Apparent Cause	Mortality Date	Weather	Disposition
Crow	7/8/2012	WA, King, Seattle	47.60398319	-122.3174542	C	E	7/8/2012	Unknown	D
Crow	7/8/2012	WA, King, Seattle	47.61555288	-122.2936291	C	E	7/8/2012	Unknown	D
Crow	7/8/2012	WA, King, Seattle	47.47109847	-122.3382014	C	E	7/8/2012	Unknown	D
Crow	7/8/2012	WA, King, Seattle	47.54024899	-122.3269093	C	E	7/8/2012	Unknown	D
Crow	7/8/2012	WA, King, Seattle	47.51354063	-122.2844424	C	E	7/8/2012	Unknown	D
Crow	7/9/2012	WA, King, Seattle	47.66611406	-122.3571706	C	E	7/9/2012	Unknown	D
Starling	7/9/2012	WA, King, Tukwila	47.48506317	-122.2722497	C	E	7/9/2012	Unknown	D
Crow	7/9/2012	WA, King, Seattle	47.69316571	-122.3810539	C	E	7/9/2012	Unknown	D
Crow	7/9/2012	WA, King, Seattle	47.47183535	-122.3381952	C	E	7/9/2012	Unknown	D
Crow	7/9/2012	WA, King, Seattle	47.66577669	-122.3284375	C	E	7/9/2012	Unknown	D
Crow	7/10/2012	WA, King, Seattle	47.52820913	-122.3220178	C	E	7/10/2012	Unknown	D
Crow	7/10/2012	WA, King, Seattle	47.58966178	-122.3116828	C	E	7/10/2012	Unknown	D
Crow	7/10/2012	WA, King, Seattle	47.67777778	-122.2637224	C	E	7/10/2012	Unknown	D
Crow	7/11/2012	WA, King, Seattle	47.59086559	-122.3135022	C	E	7/11/2012	Unknown	D
Crow	7/11/2012	WA, King, Seattle	47.69054034	-122.3837915	C	E	7/11/2012	Unknown	D
Crow	7/11/2012	WA, King, Seattle	47.71424347	-122.3629109	C	E	7/11/2012	Unknown	D
Crow	7/12/2012	WA, King, Seattle	47.60549985	-122.3274316	C	E	7/12/2012	Unknown	D
Crow	7/14/2012	WA, King, Seattle	47.63957864	-122.305172	C	E	7/14/2012	Unknown	D
Crow	7/14/2012	WA, King, Seattle	47.52077562	-122.376074	C	E	7/14/2012	Unknown	D
Crow	7/14/2012	WA, King, Burien	47.46665517	-122.3560787	C	E	7/14/2012	Unknown	D
Crow	7/14/2012	WA, King, Seattle	47.591162	-122.3160495	C	E	7/14/2012	Unknown	D
Crow	7/16/2012	WA, King, Seattle	47.53366511	-122.3522374	C	E	7/16/2012	Unknown	D
Crow	7/16/2012	WA, King, Seattle	47.66525781	-122.2774154	C	E	7/16/2012	Unknown	D
Crow	7/17/2012	WA, King, Seattle	47.51494391	-122.3233935	C	E	7/17/2012	Unknown	D
Crow	7/18/2012	WA, King, Seattle	47.71962543	-122.3407063	C	E	7/18/2012	Unknown	D
Crow	7/18/2012	WA, King, Seattle	47.62231198	-122.3198642	C	E	7/18/2012	Unknown	D
Crow	7/19/2012	WA, King, Burien	47.49779677	-122.3577925	C	E	7/19/2012	Unknown	D
Pigeon	7/20/2012	WA, King, Seattle	47.60979725	-122.3240262	C	E	7/20/2012	Unknown	D
Crow	7/20/2012	WA, King, Seattle	47.55514042	-122.3056266	C	E	7/20/2012	Unknown	D
Crow	7/21/2012	WA, King, Seattle	47.50521143	-122.3328142	C	E	7/21/2012	Unknown	D
Crow	7/22/2012	WA, King, Seattle	47.64774663	-122.3580538	C	E	7/22/2012	Unknown	D
Crow	7/22/2012	WA, King, Seattle	47.50819546	-122.2601669	C	E	7/22/2012	Unknown	D
Crow	7/23/2012	WA, King, Seattle	47.69820431	-122.359469	C	E	7/23/2012	Unknown	D
Crow	7/23/2012	WA, King, Seattle	47.64967276	-122.3710363	C	E	7/23/2012	Unknown	D
Crow	7/23/2012	WA, King, Seattle	47.72804161	-122.2948558	C	E	7/23/2012	Unknown	D
Crow	7/24/2012	WA, King, Seattle	47.55985759	-122.2680974	C	E	7/24/2012	Unknown	D
Crow	7/25/2012	WA, King, Seattle	47.64923246	-122.3357402	C	E	7/25/2012	Unknown	D
Crow	7/26/2012	WA, King, Burien	47.44656306	-122.3577684	C	E	7/26/2012	Unknown	D
Crow	7/27/2012	WA, King, Seattle	47.5945721	-122.2906496	C	E	7/27/2012	Unknown	D
Crow	7/29/2012	WA, King, Seattle	47.5305354	-122.378022	C	E	7/29/2012	Unknown	D
Crow	7/29/2012	WA, King, Seattle	47.60271755	-122.3134055	C	E	7/29/2012	Unknown	D
Crow	7/29/2012	WA, King, Seattle	47.70387607	-122.2924714	C	E	7/29/2012	Unknown	D
Crow	7/29/2012	WA, King, Seattle	47.68136938	-122.3240423	C	E	7/29/2012	Unknown	D
Crow	7/29/2012	WA, King, Seattle	47.60808893	-122.3160182	C	E	7/29/2012	Unknown	D
Crow	7/30/2012	WA, King, Seattle	47.58574827	-122.3121303	C	E	7/30/2012	Unknown	D
Crow	7/30/2012	WA, King, Seattle	47.66752584	-122.2891261	C	E	7/30/2012	Unknown	D
Crow	7/30/2012	WA, King, Seattle	47.60891417	-122.2882287	C	E	7/30/2012	Unknown	D
Crow	7/31/2012	WA, King, Seattle	47.67304312	-122.370868	C	E	7/31/2012	Unknown	D
Crow	7/31/2012	WA, King, Seattle	47.64036946	-122.3544192	C	E	7/31/2012	Unknown	D
Crow	7/31/2012	WA, King, Seattle	47.55549998	-122.3877226	C	E	7/31/2012	Unknown	D
Crow	8/1/2012	WA, King, Seattle	47.64825799	-122.3414385	C	E	8/1/2012	Unknown	D
Crow	8/1/2012	WA, King, Seattle	47.55269774	-122.2791859	C	E	8/1/2012	Unknown	D
Crow	8/1/2012	WA, King, Seattle	47.48826982	-122.3075412	C	E	8/1/2012	Unknown	D
Crow	8/2/2012	WA, King, Seattle	47.57275745	-122.3927527	C	E	8/2/2012	Unknown	D
Crow	8/2/2012	WA, King, Seattle	47.6730451	-122.3702916	C	E	8/2/2012	Unknown	D
Crow	8/3/2012	WA, King, Seattle	47.53760505	-122.3582415	C	E	8/3/2012	Unknown	D
Crow	8/5/2012	WA, King, Seattle	47.56729418	-122.4027695	C	E	8/5/2012	Unknown	D
Crow	8/5/2012	WA, King, Seattle	47.55189688	-122.3702551	C	E	8/5/2012	Unknown	D
Crow	8/6/2012	WA, King, Seattle	47.66685294	-122.3737286	C	E	8/6/2012	Unknown	D
Crow	8/6/2012	WA, King, Seattle	47.69645427	-122.3979869	C	E	8/6/2012	Unknown	D
Crow	8/6/2012	WA, King, Seattle	47.65415768	-122.3881182	C	E	8/6/2012	Unknown	D
Crow	8/7/2012	WA, King, Seattle	47.55129371	-122.2875205	C	E	8/7/2012	Unknown	D
Crow	8/9/2012	WA, King, Seattle	47.69668078	-122.2888424	C	E	8/9/2012	Unknown	D
Crow	8/10/2012	WA, King, Burien	47.47991349	-122.314426	C	E	8/10/2012	Unknown	D
Crow	8/10/2012	WA, King, Seattle	47.63747393	-122.360279	C	E	8/10/2012	Unknown	D
Crow	8/12/2012	WA, King, Seattle	47.52473927	-122.3618965	C	E	8/12/2012	Unknown	D
Crow	8/13/2012	WA, King, Seattle	47.61847472	-122.3089047	C	E	8/13/2012	Unknown	D

SPECIES	DATE	State, Co., Town	Latitude	Longitude	Description	Apparent Cause	Mortality Date	Weather	Disposition
Crow	8/13/2012	WA, King, Seattle	47.70375873	-122.2745731	C	E	8/13/2012	Unknown	D
Crow	8/14/2012	WA, King, Seattle	47.654944	-122.3204139	C	E	8/14/2012	Unknown	D
Gull	8/14/2012	WA, King, Seattle	47.66128672	-122.3882296	C	E	8/14/2012	Unknown	D
Crow	8/14/2012	WA, King, Seattle	47.61864659	-122.303463	C	E	8/14/2012	Unknown	D
Crow	8/15/2012	WA, King, Seattle	47.5796359	-122.2941459	C	E	8/15/2012	Unknown	D
Crow	8/16/2012	WA, King, Seattle	47.64047221	-122.3984054	C	E	8/16/2012	Unknown	D
Crow	8/16/2012	WA, King, Seattle	47.5315811	-122.2786454	C	E	8/16/2012	Unknown	D
Crow	8/18/2012	WA, King, Seattle	47.55747538	-122.3325446	C	E	8/18/2012	Unknown	D
Crow	8/19/2012	WA, King, Tukwila	47.50287062	-122.2940448	C	E	8/19/2012	Unknown	D
Crow	8/19/2012	WA, King, Seattle	47.54959377	-122.3631493	C	E	8/19/2012	Unknown	D
Crow	8/20/2012	WA, King, Seattle	47.71335839	-122.3016943	C	E	8/20/2012	Unknown	D
Crow	8/21/2012	WA, King, Seattle	47.65058198	-122.3428656	C	E	8/21/2012	Unknown	D
Crow	8/22/2012	WA, King, Seattle	47.67112929	-122.3729448	C	E	8/22/2012	Unknown	D
Crow	8/23/2012	WA, King, Burien	47.45303898	-122.3540963	C	E	8/23/2012	Unknown	D
Crow	8/23/2012	WA, King, Seattle	47.65784982	-122.3198355	C	E	8/23/2012	Unknown	D
Crow	8/24/2012	WA, King, Seattle	47.49460093	-122.2250031	C	E	8/24/2012	Unknown	D
Crow	8/26/2012	WA, King, Seattle	47.68077053	-122.2894186	C	E	8/26/2012	Unknown	D
Crow	8/28/2012	WA, King, Seattle	47.50625021	-122.3350939	C	E	8/28/2012	Unknown	D
Crow	8/28/2012	WA, King, Seattle	47.67171764	-122.2908263	C	E	8/28/2012	Unknown	D
Crow	8/30/2012	WA, King, Seattle	47.66111514	-122.3486902	C	E	8/30/2012	Unknown	D
Crow	9/1/2012	WA, King, Seattle	47.63721099	-122.3158774	C	E	9/1/2012	Unknown	D
Crow	9/2/2012	WA, King, Lake Forest Park	47.67736047	-122.3996815	C	E	9/2/2012	Unknown	D
Crow	9/3/2012	WA, King, Seattle	47.75394015	-122.2839509	C	E	9/3/2012	Unknown	D
Crow	9/5/2012	WA, King, Seattle	47.71737052	-122.2973562	C	E	9/5/2012	Unknown	D
Crow	9/6/2012	WA, King, Seattle	47.68171314	-122.3736732	C	E	9/6/2012	Unknown	D
Crow	9/6/2012	WA, King, Seattle	47.49766289	-122.3378906	C	E	9/6/2012	Unknown	D
Crow	9/13/2012	WA, King, Seattle	47.6210259	-122.3226821	C	E	9/13/2012	Unknown	D
Crow	9/18/2012	WA, King, Seattle	47.70764128	-122.3123437	C	E	9/18/2012	Unknown	D
Crow	9/19/2012	WA, King, Seattle	47.51262886	-122.255788	C	E	9/19/2012	Unknown	D
Crow	9/23/2012	WA, King, Tukwila	47.47672288	-122.2798317	C	E	9/23/2012	Unknown	D
Crow	9/24/2012	WA, King, Seattle	47.64031268	-122.3066363	C	E	9/24/2012	Unknown	D
Crow	9/30/2012	WA, King, Seattle	47.71266582	-122.3207275	C	E	9/30/2012	Unknown	D
Crow	10/3/2012	WA, King, Seattle	47.66721402	-122.3752287	C	E	10/3/2012	Unknown	D
Gull	10/9/2012	WA, King, Seattle	47.57659889	-122.4193208	C	E	10/9/2012	Unknown	D
Crow	10/9/2012	WA, King, Seattle	47.68613039	-122.273099	C	E	10/9/2012	Unknown	D
Crow	10/13/2012	WA, King, Seattle	47.48792697	-122.3181146	C	E	10/13/2012	Unknown	D
Crow	10/18/2012	WA, King, Seattle	47.66983275	-122.3639409	C	E	10/18/2012	Unknown	D
Crow	10/23/2012	WA, King, Seattle	47.63590251	-122.3196192	C	E	10/23/2012	Unknown	D
Crow	10/26/2012	WA, King, Seattle	47.57726341	-122.3340575	C	E	10/26/2012	Unknown	D
Goose - Canada	11/22/2012	WA, King, Seattle	47.57600784	-122.4139592	C	C	11/22/2012	Unknown	D
Crow	12/1/2012	WA, King, Seattle	47.66771144	-122.3847454	C	E	12/1/2012	Unknown	D
Crow	12/3/2012	WA, King, Seattle	47.51248305	-122.2743881	C	E	12/3/2012	Unknown	D
Gull	12/4/2012	WA, King, Seattle	47.66606984	-122.3799208	C	E	12/4/2012	Unknown	D
Unknown	12/12/2012	WA, King, Seattle	47.66811193	-122.3823011	P	E	12/12/2012	Unknown	D
Crow	12/23/2012	WA, King, Seattle	47.56415154	-122.2888525	C	E	12/23/2012	Unknown	D
Crow	12/24/2012	WA, King, Seattle	47.54631608	-122.3249626	C	E	12/24/2012	Unknown	D
Crow	7/10/2012	WA, King, Seattle	47.63574157	-122.3465254	A	entangled	n/a	Unknown	Released
Crow	6/12/2012	WA, King, Seattle	47.62742164	-122.3263074	A	entangled	n/a	Unknown	Released
Crow	6/25/2012	WA, King, Seattle	47.63430494	-122.3244002	A	entangled	n/a	Unknown	Released

2012 Known Avian Mortalities in Seattle City Light Service Area





City of Seattle

Edward B. Murray, Mayor

Seattle City Light

Jorge Carrasco, General Manager and CEO

March 6, 2014

Jennifer Miller
Chief, Migratory Bird Permit Office
USFWS - Pacific Region
911 NE 11th Ave.
Portland, OR 97232-4181

RE: Seattle City Light Permit MB161960-0 Annual Report for 2013

Dear Ms. Miller:

Seattle City Light (SCL) is hereby submitting its 2013 Annual Report for Federal Migratory Bird Special Purpose Permit, MB161960-0. As requested in the permit, we are submitting this letter and report to permitsR1MB@fws.gov. We apologize for not providing the report by January 31st but the computer database that tracks all of the avian issues experienced technical issues that required us to retrieve the data manually.

If you have any questions about our report please call me at (206) 684-4238 or Ron Tressler at (206) 386-4506.

Sincerely,

Colleen McShane,
Manager Natural Resources and Environmental Planning

RT:sw

Enclosures:

Signed annual report form + attached table of bird and nest take



U.S. FISH & WILDLIFE SERVICE - MIGRATORY BIRD PERMIT OFFICE

(See attached addresses)

SPECIAL PURPOSE - UTILITY (AVIAN TAKE MONITORING) - ANNUAL REPORT

PERMITTEE: **Seattle City Light**

PERMIT NUMBER: **MB161960-0**

ADDRESS: **700 5th Ave., Suite 3316**

REPORT FOR CALENDAR YEAR: **2013**

Seattle

WA

98104

REPORT DUE DATE: **January 31, 2014**

City

State

Zip Code

☐ Check here if reporting a change of name, address, or contact information. PHONE: **206-684-4238** Email: **colleen.mcshane@seattle.gov**

INSTRUCTIONS: Type or print the information requested below for all migratory birds, including eagles, salvaged or recovered under your permit during the report year, and return the completed report to the above address by the due date. Use of this form is not mandatory, but the same information must be submitted. A supplemental sheet is available if needed. Filing an annual report is a condition of your permit. Failure to file a timely report could result in suspension of your permit. You must submit a report even if you had no activity during the report year. NOTE: If your permit conditions require report information that is different from that requested below, please provide the additional information on a separate sheet. MAKE SURE YOU SIGN & DATE THE CERTIFICATION STATEMENT BELOW BEFORE YOU SUBMIT YOUR REPORT. (Ref. 50 CFR parts 13 & 21)

A. Type of Utility/Equipment/structure potentially causing the injury/mortality:

B. SPECIES (Common Name)	WHEN & WHERE SALVAGED / RECOVERED		Description C= Carcass P=Parts A=Alive	Apparent Cause of Inj./Mortality E=Electrocution C=Collision B=Barotrauma Other (Specify)	Estimate date of mortality/ injury	Weather conditions when mortality/ injury likely occurred, if known (clear, fog, windy, snow, rain)	Disposition D=Destroyed (buried, incinerated) T=Transferred (to whom/permit no.) Other (Specify)
	Date	State; county; nearest town or name of facility					
Example 1 Golden Eagle	10/7	CO, Lincoln, Hugo	38.89722°, - 77.008889°	C	10/6	Windy	T-USFWS/OLE
Example 2 Red-tailed hawk	9/1	VA, Louisa, ACME distribution station	38.89722°, - 77.008889°	A	8/30	Fog	T-Avian rehab entr. MB123456
See Attached							
Spreadsheets							

CERTIFICATION: I certify that the information in this report is true and correct to the best of my knowledge. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. § 1001.

Signature: *Colleen McShane*

Date: 3/6/2014

SPECIES	DATE	CITY, COUNTY, STATE	LAT	LONG	DESCRIPTION	APPARENT CAUSE	MORTALITY DATE	WEATHER	DISPOSITION
Crow	1/13/2013	SEATTLE, KING, WA	47.69381891	-122.331628	C	E	1/13/2013	Unknown	D
Unknown	1/18/2013	SEATTLE, KING, WA	47.67460802	-122.3750015	P	E	1/18/2013	Unknown	D
Woodpecker sp.	1/23/2013	SEATTLE, KING, WA	47.69766773	-122.325217	C	E	1/23/2013	Unknown	D
Crow	1/25/2013	KING COUNTY	47.48744803	-122.258068	C	E	1/25/2013	Unknown	D
Gull	1/27/2013	SEATTLE, KING, WA	47.58461666	-122.3351981	C	E	1/27/2013	Unknown	D
Crow	2/12/2013	SEATTLE, KING, WA	47.57676321	-122.328922	C	E	2/12/2013	Unknown	D
Nest - crow	2/18/2013	SEATTLE, KING, WA	47.6659209	-122.3838826	-	-	-	-	Removed Inactive
Gull	2/21/2013	SEATTLE, KING, WA	47.61640342	-122.3108452	C	E	2/21/2013	Unknown	D
Unknown	3/22/2013	SEATTLE, KING, WA	47.52386162	-122.3234793	P	E	3/22/2013	Unknown	D
Pigeon	3/24/2013	SEATTLE, KING, WA	47.60980237	-122.3240287	C	E	3/24/2013	Unknown	D
Crow	3/25/2013	SEATTLE, KING, WA	47.70047152	-122.3427919	C	E	3/25/2013	Unknown	D
Nest - Crow	4/13/2013	SEATTLE, KING, WA	47.56865711	-122.3289815	-	-	-	-	Removed Inactive
Crow	4/17/2013	SEATTLE, KING, WA	47.62895292	-122.344059	C	E	4/17/2013	Unknown	D
Redtailed Hawk	5/9/2013	SEATTLE, KING, WA	47.59823782	-122.3347082	C	E	5/9/2013	Unknown	D
Crow	5/23/2013	SEATTLE, KING, WA	47.64808468	-122.3402278	C	E	5/23/2013	Unknown	D
Crow	5/25/2013	SEATTLE, KING, WA	47.69459722	-122.3754275	C	E	5/25/2013	Unknown	D
Crow	5/29/2013	SEATTLE, KING, WA	47.70058559	-122.3467413	C	E	5/29/2013	Unknown	D
Crow	6/4/2013	SEATTLE, KING, WA	47.66580087	-122.3300907	C	E	6/4/2013	Unknown	D
Crow	6/6/2013	SEATTLE, KING, WA	47.64406177	-122.3026107	C	E	6/6/2013	Unknown	D
Woodpecker sp.	6/7/2013	SEATTLE, KING, WA	47.56844472	-122.3153734	C	E	6/7/2013	Unknown	D
Crow	6/8/2013	SEATTLE, KING, WA	47.69970506	-122.3420727	C	E	6/8/2013	Unknown	D
Crow	6/9/2013	SEATTLE, KING, WA	47.65634798	-122.3564667	C	E	6/9/2013	Unknown	D
Crow	6/9/2013	SEATTLE, KING, WA	47.65398902	-122.323035	C	E	6/9/2013	Unknown	D
Crow	6/9/2013	KING COUNTY	47.50637451	-122.3525297	C	E	6/9/2013	Unknown	D
Crow	6/10/2013	SEATTLE, KING, WA	47.68689219	-122.3667052	C	E	6/10/2013	Unknown	D
Crow	6/10/2013	SEATTLE, KING, WA	47.70881925	-122.3138684	C	E	6/10/2013	Unknown	D
Crow	6/10/2013	SEATTLE, KING, WA	47.62304541	-122.3243639	C	E	6/10/2013	Unknown	D
Crow	6/11/2013	SEATTLE, KING, WA	47.62421321	-122.3139988	C	E	6/11/2013	Unknown	D
Crow	6/13/2013	SEATTLE, KING, WA	47.52715504	-122.388431	C	E	6/13/2013	Unknown	D
Crow	6/13/2013	SEATTLE, KING, WA	47.61969341	-122.3037225	C	E	6/13/2013	Unknown	D
Crow	6/13/2013	SEATTLE, KING, WA	47.63523828	-122.3223131	C	E	6/13/2013	Unknown	D
Crow	6/14/2013	SEATTLE, KING, WA	47.68258827	-122.3609212	C	E	6/14/2013	Unknown	D
Crow	6/14/2013	SEATTLE, KING, WA	47.6787654	-122.2823736	C	E	6/14/2013	Unknown	D
Crow	6/15/2013	SEATTLE, KING, WA	47.5647131	-122.3893216	C	E	6/15/2013	Unknown	D
Crow	6/15/2013	SEATTLE, KING, WA	47.65775682	-122.3436173	C	E	6/15/2013	Unknown	D
Crow	6/15/2013	SEATTLE, KING, WA	47.62790351	-122.3053738	C	E	6/15/2013	Unknown	D
Crow	6/15/2013	SEATTLE, KING, WA	47.67230644	-122.3675904	C	E	6/15/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.54092063	-122.379141	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.56301417	-122.339816	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.62203309	-122.3229946	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.63756928	-122.3728355	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.67460597	-122.3791427	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.66507424	-122.3084052	C	E	6/16/2013	Unknown	D
Crow	6/16/2013	SEATTLE, KING, WA	47.69868483	-122.3491633	C	E	6/16/2013	Unknown	D
Crow	6/17/2013	SEATTLE, KING, WA	47.66266452	-122.3282071	C	E	6/17/2013	Unknown	D
Crow	6/17/2013	KING COUNTY	47.50120187	-122.3379526	C	E	6/17/2013	Unknown	D
Crow	6/17/2013	KING COUNTY	47.65725647	-122.5533141	C	E	6/17/2013	Unknown	D
Crow	6/18/2013	SEATTLE, KING, WA	47.70316751	-122.3351691	C	E	6/18/2013	Unknown	D
Crow	6/18/2013	SEATTLE, KING, WA	47.66584812	-122.3004852	C	E	6/18/2013	Unknown	D
Crow	6/18/2013	SEATTLE, KING, WA	47.69188682	-122.3875181	C	E	6/18/2013	Unknown	D
Crow	6/19/2013	SEATTLE, KING, WA	47.64204359	-122.3725976	C	E	6/19/2013	Unknown	D
Crow	6/20/2013	SEATTLE, KING, WA	47.65428649	-122.3393489	A	E	6/20/2013	Unknown	D
Crow	6/20/2013	SEATTLE, KING, WA	47.62940286	-122.3527187	C	E	6/20/2013	Unknown	D
Crow	6/20/2013	TUKWILA, KING, WA	47.48188565	-122.2572614	C	E	6/20/2013	Unknown	D
Crow	6/20/2013	SEATTLE, KING, WA	47.63777244	-122.363616	C	E	6/20/2013	Unknown	D

SPECIES	DATE	CITY, COUNTY, STATE	LAT	LONG	DESCRIPTION	APPARENT CAUSE	MORTALITY DATE	WEATHER	DISPOSITION
Crow	6/20/2013	SEATTLE, KING, WA	47.55018387	-122.3810155	C	E	6/20/2013	Unknown	D
Crow	6/20/2013	SEATTLE, KING, WA	47.66136498	-122.3456673	C	E	6/20/2013	Unknown	D
Crow	6/20/2013	KING COUNTY	47.51562291	-122.365784	C	E	6/20/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.64415182	-122.3624455	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.69492611	-122.3855503	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.66785542	-122.3619734	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.65122	-122.3350383	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.65004573	-122.3463059	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.70848734	-122.2828375	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.69701129	-122.3999138	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.69480289	-122.3038636	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.50946609	-122.2646664	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.56023763	-122.3888666	C	E	6/21/2013	Unknown	D
Nest - Unknown Species	6/21/2013	KING COUNTY	47.51469692	-122.3059252	-	-	-	-	Removed Inactive
Crow	6/21/2013	SEATTLE, KING, WA	47.67167612	-122.3783956	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.70026539	-122.368649	C	E	6/21/2013	Unknown	D
Crow	6/21/2013	SEATTLE, KING, WA	47.70048456	-122.3497442	C	E	6/21/2013	Unknown	D
Crow	6/22/2013	SEATTLE, KING, WA	47.62498076	-122.3528801	C	E	6/22/2013	Unknown	D
Crow	6/22/2013	SEATTLE, KING, WA	47.66499076	-122.3261258	C	E	6/22/2013	Unknown	D
Crow	6/22/2013	SEATTLE, KING, WA	47.6256315	-122.3192136	C	E	6/22/2013	Unknown	D
Crow	6/22/2013	SEATTLE, KING, WA	47.5771192	-122.3174226	C	E	6/22/2013	Unknown	D
Crow	6/23/2013	SEATTLE, KING, WA	47.56848595	-122.4043404	C	E	6/23/2013	Unknown	D
Crow	6/23/2013	TUKWILA, KING, WA	47.47831453	-122.2770705	C	E	6/23/2013	Unknown	D
Crow	6/23/2013	SEATTLE, KING, WA	47.69341049	-122.3467253	C	E	6/23/2013	Unknown	D
Crow	6/23/2013	SEATTLE, KING, WA	47.60478416	-122.3127834	C	E	6/23/2013	Unknown	D
Crow	6/23/2013	SHORELINE, KING, WA	47.74150232	-122.3347612	C	E	6/23/2013	Unknown	D
Crow	6/23/2013	SEATTLE, KING, WA	47.72446171	-122.3478363	C	E	6/23/2013	Unknown	D
Nest - Unknown Species	6/23/2013	KING COUNTY	47.51429137	-122.3058991	-	-	-	-	Removed Inactive
Nest - Unknown Species	6/23/2013	TUKWILA, KING, WA	47.51375219	-122.3056978	-	-	-	-	Removed Inactive
Crow	6/24/2013	KING COUNTY	47.48622674	-122.2444409	C	E	6/24/2013	Unknown	D
Crow	6/24/2013	SEATTLE, KING, WA	47.70294739	-122.3517985	C	E	6/24/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.6668885	-122.359681	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.67084501	-122.3361229	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.55400214	-122.3936001	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.71638295	-122.2987155	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.67210329	-122.2979991	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.69116337	-122.3351473	C	E	6/25/2013	Unknown	D
Crow	6/25/2013	SEATTLE, KING, WA	47.68249566	-122.3624803	C	E	6/25/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.56496487	-122.2744384	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.56798179	-122.3247369	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.69054011	-122.3848632	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.55447859	-122.2731053	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.58660202	-122.3258451	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.51902544	-122.2759998	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	KING COUNTY	47.50751243	-122.3357506	C	E	6/26/2013	Unknown	D
Crow	6/26/2013	SEATTLE, KING, WA	47.67282404	-122.3174447	C	E	6/26/2013	Unknown	D
Crow	6/27/2013	SEATTLE, KING, WA	47.62653392	-122.3339608	C	E	6/27/2013	Unknown	D
Crow	6/27/2013	SEATTLE, KING, WA	47.59117068	-122.317209	C	E	6/27/2013	Unknown	D
Crow	6/27/2013	SEATTLE, KING, WA	47.51788125	-122.3749639	C	E	6/27/2013	Unknown	D
Crow	6/27/2013	SEATTLE, KING, WA	47.64847419	-122.3735784	C	E	6/27/2013	Unknown	D
Crow	6/28/2013	SEATTLE, KING, WA	47.54418876	-122.2769071	C	E	6/28/2013	Unknown	D
Crow	6/28/2013	SEATTLE, KING, WA	47.58477822	-122.3004208	C	E	6/28/2013	Unknown	D
Nest - Unknown Species	6/28/2013	TUKWILA, KING, WA	47.51513826	-122.3010973	-	-	-	-	Removed Inactive
Crow	6/30/2013	SEATTLE, KING, WA	47.57467758	-122.3078221	C	E	6/30/2013	Unknown	D
Crow	7/1/2013	SEATTLE, KING, WA	47.68640989	-122.3230274	C	E	7/1/2013	Unknown	D

SPECIES	DATE	CITY, COUNTY, STATE	LAT	LONG	DESCRIPTION	APPARENT CAUSE	MORTALITY DATE	WEATHER	DISPOSITION
Crow	7/1/2013	SEATTLE, KING, WA	47.66678661	-122.3015992	C	E	7/1/2013	Unknown	D
Crow	7/1/2013	SEATTLE, KING, WA	47.55926245	-122.3840097	C	E	7/1/2013	Unknown	D
Crow	7/2/2013	SEATTLE, KING, WA	47.55354836	-122.38777	C	E	7/2/2013	Unknown	D
Crow	7/2/2013	SEATTLE, KING, WA	47.52331234	-122.2764033	C	E	7/2/2013	Unknown	D
Crow	7/3/2013	SEATTLE, KING, WA	47.62952456	-122.3286084	C	E	7/3/2013	Unknown	D
Crow	7/3/2013	SEATTLE, KING, WA	47.67228777	-122.3651743	C	E	7/3/2013	Unknown	D
Crow	7/3/2013	SEATTLE, KING, WA	47.67217728	-122.3197264	C	E	7/3/2013	Unknown	D
Crow	7/3/2013	SEATTLE, KING, WA	47.66217793	-122.3196325	C	E	7/3/2013	Unknown	D
Crow	7/3/2013	SEATTLE, KING, WA	47.53994502	-122.3550578	C	E	7/3/2013	Unknown	D
Crow	7/3/2013	KING COUNTY	47.6392407	-122.5506949	C	E	7/3/2013	Unknown	D
Crow	7/4/2013	SEATTLE, KING, WA	47.68167558	-122.3842484	C	E	7/4/2013	Unknown	D
Crow	7/4/2013	TUKWILA, KING, WA	47.48257984	-122.2856514	C	E	7/4/2013	Unknown	D
Crow	7/4/2013	SEATTLE, KING, WA	47.53934807	-122.3210166	C	E	7/4/2013	Unknown	D
Crow	7/5/2013	SEATTLE, KING, WA	47.66532549	-122.3363481	C	E	7/5/2013	Unknown	D
Crow	7/5/2013	SEATTLE, KING, WA	47.63623368	-122.3266152	C	E	7/5/2013	Unknown	D
Crow	7/6/2013	SEATTLE, KING, WA	47.70712539	-122.3206245	C	E	7/6/2013	Unknown	D
Crow	7/7/2013	SEATTLE, KING, WA	47.68252828	-122.3464865	C	E	7/7/2013	Unknown	D
Crow	7/7/2013	SEATTLE, KING, WA	47.63649851	-122.3467027	C	E	7/7/2013	Unknown	D
Crow	7/7/2013	SEATTLE, KING, WA	47.67946472	-122.3983839	C	E	7/7/2013	Unknown	D
Crow	7/7/2013	SEATTLE, KING, WA	47.67947137	-122.3848472	C	E	7/7/2013	Unknown	D
Crow	7/7/2013	SEATTLE, KING, WA	47.59672412	-122.3183738	C	E	7/7/2013	Unknown	D
Crow	7/9/2013	SEATTLE, KING, WA	47.54813567	-122.2798391	C	E	7/9/2013	Unknown	D
Crow	7/9/2013	SEATTLE, KING, WA	47.53544263	-122.3536055	C	E	7/9/2013	Unknown	D
Crow	7/9/2013	SEATTLE, KING, WA	47.65697578	-122.365294	C	E	7/9/2013	Unknown	D
Crow	7/9/2013	SEATTLE, KING, WA	47.70215721	-122.3393362	C	E	7/9/2013	Unknown	D
Crow	7/10/2013	SEATTLE, KING, WA	47.53581382	-122.3312316	C	E	7/10/2013	Unknown	D
Crow	7/10/2013	SEATTLE, KING, WA	47.66251249	-122.335088	C	E	7/10/2013	Unknown	D
Crow	7/11/2013	SEATTLE, KING, WA	47.56640401	-122.2744238	C	E	7/11/2013	Unknown	D
Crow	7/11/2013	SEATTLE, KING, WA	47.63798881	-122.3623734	C	E	7/11/2013	Unknown	D
Crow	7/11/2013	KING COUNTY	47.50906268	-122.3485991	C	E	7/11/2013	Unknown	D
Crow	7/11/2013	SEATTLE, KING, WA	47.63099893	-122.3698382	C	E	7/11/2013	Unknown	D
Crow	7/12/2013	SEATTLE, KING, WA	47.65678756	-122.3424514	C	E	7/12/2013	Unknown	D
Crow	7/12/2013	SEATTLE, KING, WA	47.68727084	-122.3671936	C	E	7/12/2013	Unknown	D
Crow	7/12/2013	NORMANDY PARK, KING, WA	47.45056316	-122.353784	C	E	7/12/2013	Unknown	D
Crow	7/12/2013	SEATTLE, KING, WA	47.69476544	-122.3203878	C	E	7/12/2013	Unknown	D
Crow	7/12/2013	SEATTLE, KING, WA	47.51826064	-122.3761612	C	E	7/12/2013	Unknown	D
Crow	7/13/2013	SEATTLE, KING, WA	47.64808468	-122.3402278	C	E	7/13/2013	Unknown	D
Crow	7/13/2013	SEATTLE, KING, WA	47.66496532	-122.3520908	C	E	7/13/2013	Unknown	D
Crow	7/14/2013	SEATTLE, KING, WA	47.54359926	-122.2997791	C	E	7/14/2013	Unknown	D
Crow	7/14/2013	SEATTLE, KING, WA	47.62776153	-122.3661383	C	E	7/14/2013	Unknown	D
Crow	7/14/2013	SEATTLE, KING, WA	47.72856633	-122.347634	C	E	7/14/2013	Unknown	D
Crow	7/14/2013	SEATTLE, KING, WA	47.54680419	-122.3231127	C	E	7/14/2013	Unknown	D
Crow	7/15/2013	SEATTLE, KING, WA	47.68326038	-122.368338	C	E	7/15/2013	Unknown	D
Crow	7/15/2013	KING COUNTY	47.50180289	-122.2242701	C	E	7/15/2013	Unknown	D
Peregrine Falcon	7/15/2013	SEATTLE, KING, WA	47.65448496	-122.3227003	C	C (airplane?)	7/15/2013	Unknown	D
Crow	7/15/2013	LAKE FOREST PARK, KING, WA	47.75523271	-122.2974031	C	E	7/15/2013	Unknown	D
Crow	7/15/2013	SEATTLE, KING, WA	47.68608437	-122.2754052	C	E	7/15/2013	Unknown	D
Crow	7/16/2013	BURIEN, KING, WA	47.48760566	-122.3140885	C	E	7/16/2013	Unknown	D
Crow	7/18/2013	SEATTLE, KING, WA	47.62705377	-122.3004021	C	E	7/18/2013	Unknown	D
Crow	7/18/2013	SEATTLE, KING, WA	47.7044206	-122.3667396	C	E	7/18/2013	Unknown	D
Crow	7/18/2013	BURIEN, KING, WA	47.47810353	-122.3397654	C	E	7/18/2013	Unknown	D
Crow	7/19/2013	BURIEN, KING, WA	47.45140209	-122.3671466	C	E	7/19/2013	Unknown	D
Crow	7/19/2013	SEATTLE, KING, WA	47.58790151	-122.3809345	C	E	7/19/2013	Unknown	D
Crow	7/19/2013	SEATTLE, KING, WA	47.68171653	-122.3833153	C	E	7/19/2013	Unknown	D
Crow	7/19/2013	SEATTLE, KING, WA	47.51064669	-122.2570146	C	E	7/19/2013	Unknown	D

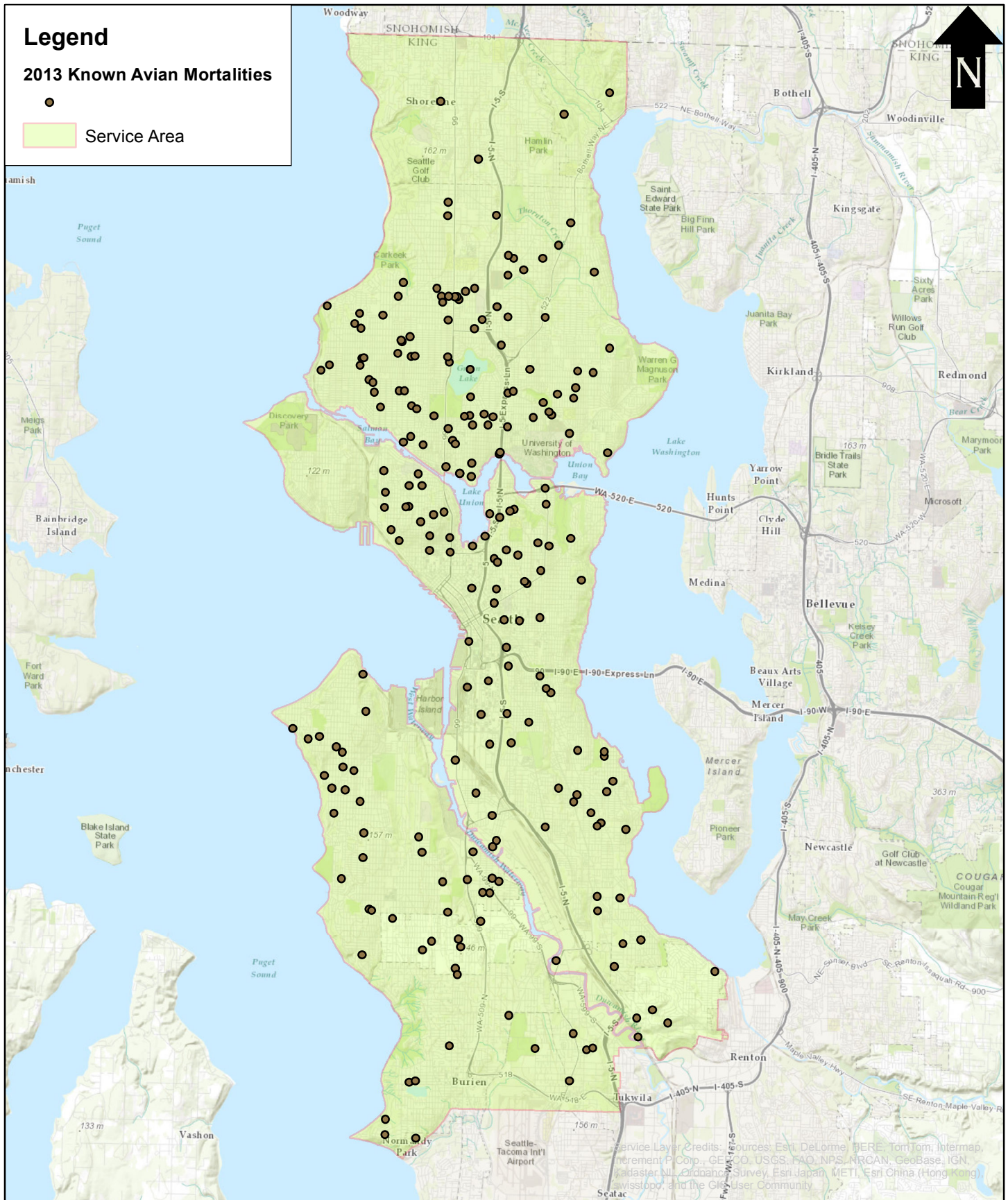
SPECIES	DATE	CITY, COUNTY, STATE	LAT	LONG	DESCRIPTION	APPARENT CAUSE	MORTALITY DATE	WEATHER	DISPOSITION
Crow	7/20/2013	SEATTLE, KING, WA	47.66502833	-122.3385202	C	E	7/20/2013	Unknown	D
Crow	7/22/2013	SEATTLE, KING, WA	47.67415256	-122.2901748	C	E	7/22/2013	Unknown	D
Crow	7/22/2013	SEATTLE, KING, WA	47.50264227	-122.2684508	C	E	7/22/2013	Unknown	D
Crow	7/23/2013	SEATTLE, KING, WA	47.66052008	-122.2924017	C	E	7/23/2013	Unknown	D
Crow	7/23/2013	SEATTLE, KING, WA	47.63352967	-122.3569841	C	E	7/23/2013	Unknown	D
Crow	7/25/2013	SEATTLE, KING, WA	47.64417086	-122.3567697	C	E	7/25/2013	Unknown	D
Crow	7/26/2013	SEATTLE, KING, WA	47.66722396	-122.3756202	C	E	7/26/2013	Unknown	D
Crow	7/29/2013	SEATTLE, KING, WA	47.56919201	-122.3994774	C	E	7/29/2013	Unknown	D
Crow	7/30/2013	SEATTLE, KING, WA	47.57701865	-122.3792797	C	E	7/30/2013	Unknown	D
Crow	7/30/2013	SEATTLE, KING, WA	47.52686063	-122.3441168	C	E	7/30/2013	Unknown	D
Crow	7/30/2013	SEATTLE, KING, WA	47.533454	-122.3793011	C	E	7/30/2013	Unknown	D
Crow	7/31/2013	SEATTLE, KING, WA	47.64730738	-122.3352288	C	E	7/31/2013	Unknown	D
Crow	8/1/2013	SEATTLE, KING, WA	47.55129371	-122.2875205	C	E	8/1/2013	Unknown	D
Crow	8/3/2013	SEATTLE, KING, WA	47.545094	-122.275318	C	E	8/3/2013	Unknown	D
Crow	8/3/2013	SEATTLE, KING, WA	47.5883341	-122.3032398	C	E	8/3/2013	Unknown	D
Goose	8/7/2013	SEATTLE, KING, WA	47.65211378	-122.3146452	C	C	8/7/2013	Unknown	D
Crow	8/7/2013	SEATTLE, KING, WA	47.6049456	-122.3195	C	E	8/7/2013	Unknown	D
Crow	8/8/2013	SEATTLE, KING, WA	47.71303725	-122.3207491	C	E	8/8/2013	Unknown	D
Crow	8/10/2013	SEATTLE, KING, WA	47.55526608	-122.2942687	C	E	8/10/2013	Unknown	D
Crow	8/12/2013	SEATTLE, KING, WA	47.67937326	-122.3103908	C	E	8/12/2013	Unknown	D
Crow	8/12/2013	SEATTLE, KING, WA	47.50462865	-122.3788411	C	E	8/12/2013	Unknown	D
Crow	8/19/2013	SEATTLE, KING, WA	47.6170601	-122.2859685	C	E	8/19/2013	Unknown	D
Nest - Unknown Species	8/20/2013	TUKWILA, KING, WA	47.51482049	-122.3013769	-	-	-	-	Removed Inactive
Crow	8/21/2013	SEATTLE, KING, WA	47.71234805	-122.3056751	C	E	8/21/2013	Unknown	D
Goose	8/21/2013	SEATTLE, KING, WA	47.70154027	-122.3727312	C	C	8/21/2013	Unknown	D
Crow	8/24/2013	SEATTLE, KING, WA	47.55334845	-122.3304102	C	E	8/24/2013	Unknown	D
Crow	8/24/2013	KING COUNTY	47.49936015	-122.3370139	C	E	8/24/2013	Unknown	D
Crow	8/25/2013	SEATTLE, KING, WA	47.72296188	-122.2937188	C	E	8/25/2013	Unknown	D
Crow	8/26/2013	SEATTLE, KING, WA	47.70046026	-122.3438465	C	E	8/26/2013	Unknown	D
Crow	8/26/2013	SEATTLE, KING, WA	47.63574407	-122.3513633	C	E	8/26/2013	Unknown	D
Crow	8/28/2013	SEATTLE, KING, WA	47.62454826	-122.3436642	C	E	8/28/2013	Unknown	D
Crow	8/28/2013	SEATTLE, KING, WA	47.61411425	-122.3339852	C	E	8/28/2013	Unknown	D
Crow	8/28/2013	TUKWILA, KING, WA	47.47779483	-122.2797894	C	E	8/28/2013	Unknown	D
Pigeon	8/29/2013	SEATTLE, KING, WA	47.72480691	-122.3262239	C	E	8/29/2013	Unknown	D
Crow	8/29/2013	SEATTLE, KING, WA	47.52822282	-122.3225563	C	E	8/29/2013	Unknown	D
Crow	8/30/2013	SEATTLE, KING, WA	47.54336894	-122.2644424	C	E	8/30/2013	Unknown	D
Crow	8/31/2013	SEATTLE, KING, WA	47.64772209	-122.3584711	C	E	8/31/2013	Unknown	D
Crow	9/1/2013	SEATTLE, KING, WA	47.58359473	-122.2985734	C	E	9/1/2013	Unknown	D
Crow	9/5/2013	BURIEN, KING, WA	47.46709975	-122.3571445	C	E	9/5/2013	Unknown	D
Crow	9/6/2013	BURIEN, KING, WA	47.45598575	-122.3671098	C	E	9/6/2013	Unknown	D
Crow	9/6/2013	SEATTLE, KING, WA	47.56658074	-122.2861631	C	E	9/6/2013	Unknown	D
Crow	9/7/2013	BURIEN, KING, WA	47.46753092	-122.3545262	C	E	9/7/2013	Unknown	D
Crow	9/8/2013	SEATTLE, KING, WA	47.63768418	-122.3159195	C	E	9/8/2013	Unknown	D
Crow	9/8/2013	SEATTLE, KING, WA	47.63719474	-122.3178975	C	E	9/8/2013	Unknown	D
Crow	9/14/2013	SEATTLE, KING, WA	47.61399845	-122.323066	C	E	9/14/2013	Unknown	D
Crow	9/16/2013	SEATTLE, KING, WA	47.68838529	-122.3633237	C	E	9/16/2013	Unknown	D
Crow	9/25/2013	SEATTLE, KING, WA	47.60576149	-122.3037588	C	E	9/25/2013	Unknown	D
Crow	9/27/2013	SEATTLE, KING, WA	47.6393376	-122.302098	C	E	9/27/2013	Unknown	D
Pigeon	9/28/2013	SEATTLE, KING, WA	47.55759963	-122.2705799	C	E	9/28/2013	Unknown	D
Crow	9/28/2013	SEATTLE, KING, WA	47.67902466	-122.2893579	C	E	9/28/2013	Unknown	D
Crow	9/30/2013	SEATTLE, KING, WA	47.67106249	-122.290825	C	E	9/30/2013	Unknown	D
Crow	10/3/2013	SEATTLE, KING, WA	47.56624451	-122.3920535	C	E	10/3/2013	Unknown	D
Redtailed Hawk	10/11/2013	KING COUNTY	47.51720644	-122.3276191	C	E	10/11/2013	Unknown	D
Crow	10/11/2013	SEATTLE, KING, WA	47.65871348	-122.3619467	C	E	10/11/2013	Unknown	D
Redtailed Hawk	10/11/2013	SEATTLE, KING, WA	47.52759094	-122.333514	C	E	10/11/2013	Unknown	D

SPECIES	DATE	CITY, COUNTY, STATE	LAT	LONG	DESCRIPTION	APPARENT CAUSE	MORTALITY DATE	WEATHER	DISPOSITION
Crow	10/15/2013	SEATAC, KING, WA	47.47786852	-122.3022412	C	E	10/15/2013	Unknown	D
Crow	10/15/2013	SEATTLE, KING, WA	47.68099467	-122.3456825	C	E	10/15/2013	Unknown	D
Crow	10/17/2013	SEATTLE, KING, WA	47.61570861	-122.3097179	C	E	10/17/2013	Unknown	D
Crow	10/20/2013	SEATTLE, KING, WA	47.54653464	-122.3924695	C	E	10/20/2013	Unknown	D
Crow	10/23/2013	KING COUNTY	47.50998687	-122.3369007	C	E	10/23/2013	Unknown	D
Starling	10/25/2013	SEATTLE, KING, WA	47.57141512	-122.4112824	C	E	10/25/2013	Unknown	D
Crow	10/27/2013	SEATTLE, KING, WA	47.6753404	-122.3808342	C	E	10/27/2013	Unknown	D
Crow	10/27/2013	LAKE FOREST PARK, KING, WA	47.76178255	-122.2775332	C	E	10/27/2013	Unknown	D
Crow	10/27/2013	SEATTLE, KING, WA	47.65498906	-122.2754985	C	E	10/27/2013	Unknown	D
Crow	11/1/2013	SEATTLE, KING, WA	47.52387888	-122.3265503	C	E	11/1/2013	Unknown	D
Crow	11/5/2013	SEATTLE, KING, WA	47.52299009	-122.26644	C	E	11/5/2013	Unknown	D
Unknown	11/8/2013	KING COUNTY	47.6290803	-122.5507848	P	E	11/8/2013	Unknown	D
Unknown	11/11/2013	SEATTLE, KING, WA	47.58077565	-122.3864815	P	E	11/11/2013	Unknown	D
Pigeon	11/12/2013	SEATTLE, KING, WA	47.7121452	-122.3183678	C	E	11/12/2013	Unknown	D
Pigeon	11/13/2013	KING COUNTY	47.61930064	-122.5507763	C	E	11/13/2013	Unknown	D
Redtailed Hawk	11/19/2013	SEATTLE, KING, WA	47.66912085	-122.3040803	A	E	11/19/2013	Unknown	T-Sarvey Wildlife Rehab
Unknown	11/19/2013	SHORELINE, KING, WA	47.75842417	-122.351905	P	E	11/19/2013	Unknown	D
Pigeon	11/20/2013	TUKWILA, KING, WA	47.4684026	-122.287181	C	E	11/20/2013	Unknown	D
Gull	11/21/2013	SEATTLE, KING, WA	47.51771821	-122.3416553	C	E	11/21/2013	Unknown	D
Crow	11/29/2013	KING COUNTY	47.48995927	-122.2513051	C	E	11/29/2013	Unknown	D
Crow	11/29/2013	SEATTLE, KING, WA	47.53746854	-122.3226565	C	E	11/29/2013	Unknown	D
Gull	12/3/2013	SEATTLE, KING, WA	47.55344782	-122.2861173	C	E	12/3/2013	Unknown	D
Unknown	12/9/2013	SEATTLE, KING, WA	47.62938491	-122.2909298	P	E	12/9/2013	Unknown	D
Goose	12/12/2013	KING COUNTY	47.47912216	-122.2522482	C	C	12/12/2013	Unknown	D
Pigeon	12/13/2013	SEATTLE, KING, WA	47.60980237	-122.3240287	C	E	12/13/2013	Unknown	D
Great-blue Heron	12/14/2013	SEATTLE, KING, WA	47.55754941	-122.3969617	C	C	12/14/2013	Unknown	D
Crow	12/16/2013	SEATTLE, KING, WA	47.67892386	-122.3365074	C	E	12/16/2013	Unknown	D
Gull	12/17/2013	SEATTLE, KING, WA	47.67787612	-122.4020666	C	E	12/17/2013	Unknown	D
Crow	12/25/2013	SEATTLE, KING, WA	47.5272766	-122.3196933	C	E	12/25/2013	Unknown	D
Double-crested Cormorant	12/26/2013	TUKWILA, KING, WA	47.50399128	-122.2938422	C	C	12/26/2013	Unknown	D
Sharp-shinned Hawk	10/2/2014	DIABLO, WHATCOM, WA	48.71964045	-121.122837	C	C (BUILDING)	10/2/2014	Unknown	D

Species	Number	Action Taken	Number
Crow	211	terminators and fused cutouts	2
Crow - Unharmed	1	Avian Protective devices installed	1
Falcon	1	BG	3
Goose	3	Blow fused sectionalizer	1
Gull	5	BO fuse & limiter	10
Red-tailed Hawk	4	BO xfmr	1
Sharp-shinned Hawk	1	close transformer cutout	1
Great-blue Heron	1	Fuse Limiter	3
Pigeon	7	FL& clean up terminator	1
Starling	1	FL_BG	71
Unknown	6	Refuse & limiter	9
Woodpecker sp.	2	Refused	3
Total Avian	243	Refused & closed	2
		Refused and limiter	8
Nests removed (all inactive)		Refused, closed sectionalizers	1
Crow	2	Relaced Transformer	2
Unknown Species	5	Relimiter	1
		Rep_Prim	1
		repair BO limiter	1
		Replaced Limiter	1
		Replaced Xfmr (Y57164)	1
		Unknown	115
		bird flight diverters	1
		Xfmr had no limiter installed	1
		xfmr replaced	2
		Grand Total	243

Cost Summary	Cost
Labor 2 line workers (\$69.30/hr), 15 min each	\$ 8,419.95
Materials (\$25 per bird guard)	\$ 1,850.00
Bird flight diverters	\$ 500.00
insulated tubing	\$ 500.00
Total	\$11,269.95

2013 Known Avian Mortalities in Seattle City Light Service Area



0 1 2 4 6 8 Miles

Appendix B. Department Policy & Procedure – Avian Protection & System Reliability



City of Seattle Seattle City Light Department

DEPARTMENT POLICY & PROCEDURE - **DRAFT**

Subject: AVIAN PROTECTION AND SYSTEM RELIABILITY

Number: DPP 500 P I-1000

Effective: TBD

Supersedes: N/A

Approved by Jorge Carrasco: _____

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1.0 Purpose

To improve energy delivery reliability; ensure that City Light is in compliance with federal and state laws regarding migratory birds; and provide a basis for the Avian Protection Program (APP).

2.0 Organizations Affected

- 2.1 Environmental Affairs and Real Estate Division
- 2.2 Energy Delivery Operations Division
- 2.3 Asset Management and Large Projects Division
- 2.4 Communications and Public Affairs Division
- 2.5 Energy Delivery Engineering Division
- 2.6 Power Production Division
- 2.7 System Operations Division

3.0 References

- 3.1 City Light's Avian Protection Plan (2012)
- 3.2 City Light's Environment Inweb Homepage: <http://sclweb/es/>
- 3.3 Suggested Practices of Avian Protection of Power Lines (APLIC 2006)
- 3.4 Mitigating Bird Collisions with Power Lines (APLIC 1997)

- 3.5 Migratory Bird Treaty Act (1918; 16 U.S.C. 703-712) - prohibits, unless permitted by regulations, pursuing; hunting; taking; capturing; killing; attempting to take, capture or kill; possessing; offering for sale; selling; offering to purchase; purchasing; delivering for shipment; shipping, causing to be shipped; delivering for transportation; transporting; causing to be transported; carrying, or cause to be carried by any means whatever; receiving for shipment, transportation, or carriage; or exporting, at any time, or in any manner, any migratory bird.
<http://www.fws.gov/laws/lawsdigest/migtrea.html>.
- 3.6 Bald and Golden Eagle Protection Act (1940; 16 U.S.C. 668-668c) - prohibits the "taking" of bald and golden eagles, including their parts, nests, or eggs without a permit issued by the U.S. Secretary of Interior. "Take" is defined as "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing."
<http://www.fws.gov/laws/lawsdigest/baldegl.html>
- 3.7 Endangered Species Act (1973; 16 U.S.C. 1531-1543) - provides for the conservation of threatened and endangered plants and animals and their habitats.
<http://www.fws.gov/laws/lawsdigest/ESACT.html>

4.0 Definitions

- 4.1 Avian Protection Program (APP): City Light's program for reducing impacts to migratory birds from energy delivery and generation facilities. The APP is defined and established in the Avian Protection Plan (Plan) and is implemented by Energy Delivery Operations and by Energy Delivery in coordination with APP biologists from the Department's EA&RED.
- 4.2 Avian Protection Plan (Plan): The document that describes the elements of City Light's Avian Protection Program and is intended to serve as the primary reference document for the APP. The Plan provides the legal basis for the APP and summarizes the history of avian mortality in City Light's distribution territory and effects on reliability, as well as efforts to remedy problems. It defines roles and responsibilities within the Department, mortality reporting requirements, corrective actions, and avian safe standards.
- 4.3 Avian Safe Standards: Separation distances between conductors, insulation, markers, and other protective devices used on power lines and associated energy delivery equipment and facilities to prevent avian electrocution and collision (see APLIC 2006).
- 4.4 Avian Sensitive Areas: Areas near water and forested parks that are typically more heavily used by native birds than urban sites. In these areas power lines may represent an electrocution risk to a wide range of bird species.
- 4.5 Avian Species: Bird species; there are over 300 bird species in Washington.
- 4.6 Corrective Action: Actions taken to prevent future avian mortality at equipment that has killed or injured a protected bird. May include installation of appropriate protective devices (i.e. bird guards, perch guards, nest deterrents, flight diverters) and/or increased spacing between energized conductors or equipment.

- 4.7 Department: Seattle City Light
- 4.8 Energy Delivery Equipment: Cables, wires, conductors, transformers, switches, poles, bushings, relays, and other devices associated with electricity delivery.
- 4.9 Energy Delivery Facilities: Distribution (≤ 26 kV) and transmission (≥ 115 kV) power lines, substations, and switchyards.
- 4.10 Listed Species: Any bird protected by the Endangered Species Act.
- 4.11 Migratory Bird: Species that traverse certain parts of the United States, Canada, Mexico, Russia, or Japan in the course of their annual migration. This includes not only neotropical (long-distance) migrants, but also temperate (short-distance) migrants and resident species. In practical terms it is all bird species native to the United States.
- 4.12 Mortality Reduction Measures: Includes (1) corrective actions at sites where Department equipment has resulted in avian mortality; (2) preventative measures at existing or new equipment identified during the risk assessment as potentially representing a high risk of electrocution or collision.
- 4.13 Nesting Season: The period during the year that birds build nests, lay eggs, and raise young. Species dependent and influenced by weather, but typically from early-April through early-August in Washington.
- 4.14 Non-protected species: Bird species that are not protected by the Migratory Bird Treaty Act. In the City Light Service Area, non-protected species include pheasant and quail and three non-native introduced species: pigeon, European starling, and English house sparrow.
- 4.15 Nuisance Nest: The nest of a protected species that is (1) in a location where nest material or bird droppings could foul sensitive equipment over time; (2) in a building; (3) in a streetlight; or (4) near a frequently used door. These nests do not represent an immediate risk to equipment or facilities.
- 4.16 Power Line: Two or more cables used to deliver electricity from one location to another.
- 4.17 Problem Nest: An active bird nest that presents a risk to electrical equipment or facilities and that needs to be relocated or removed.
- 4.18 Protected Bird/Species: All bird species protected under the Migratory Bird Treaty Act.
- 4.19 Protective Devices: Materials that can be installed on electrical equipment to prevent electrocution or collisions including, but not limited to:
 - 4.19.1 Bird Guard: A cover installed over transformer bushings to prevent birds from contacting the conductor.

- 4.19.2 Perch Guard: A plastic triangle or row of plastic spikes mounted on power line cross arms to prevent birds from perching.
- 4.19.3 Bird Flight Diverter: Materials installed on power lines to make them more visible to birds in flight and easier to avoid, particularly under low light conditions. Includes various types of line markers, such as coils made from colored polyvinyl chloride, “flappers”, and fireflies.
- 4.19.4 Nest Deterrent: Materials installed on cross arms to prevent birds, particularly raptors, from nesting.
- 4.19.5 Insulation: Silicon tape or hose installed on lines to insulate them from contact.
- 4.19.6 Raptor Construction Retrofits: Various measure and materials used to make power lines safe for raptors, including (1) modifying the configuration of conductors and/or grounded equipment to ensure that there is at least 60 inches between them (avian-safe spacing) or (2) installing a silicon guard on the primary insulator to mitigate lines that cannot be modified to avian-safe spacing standards.
- 4.19.7 See Appendix E of the Avian Protection Plan for a comprehensive list of available materials.
- 4.20 Raptors: Birds of prey (eat other birds, mammals, or reptiles); including eagles, hawks, owls, falcons, and osprey.
- 4.21 Retrofit: Actions taken and/or devices installed on existing equipment or facilities that represent a high risk for electrocution.
- 4.22 Service Territory: The area served by City Light’s electrical distribution facilities.
- 4.23 U.S. Fish and Wildlife Service: The federal agency charged with managing and enforcing the Migratory Bird Treaty Act, Endangered Species Act, and Bald and Golden Eagle Protection Act.
- 4.24 Washington Department of Fish and Wildlife: The state agency responsible for protecting and managing wildlife, including birds, within Washington.

5.0 Policy

- 5.1 New or upgraded energy delivery facilities in avian sensitive areas shall be proactively designed and constructed to meet avian safe standards to prevent electrocution and collision. See section 6.5 for responsible division.
- 5.2 The Department shall maintain supplies of equipment and devices needed to retrofit or construct power lines and other facilities to avian safe standards. See section 6.4 for responsible division.

- 5.3 The Department shall maintain a database of avian mortality locations, causes, and actions taken to prevent mortality at that location in the future. See section 6.3 for responsible division.
- 5.4 The Department shall maintain and update as needed a map of avian sensitive areas and a map of avian mortality locations. See section 6.3 for responsible division.
- 5.5 The Department shall apply for and maintain all required federal and state permits for handling and disposing protected bird species. See section 6.3 for responsible division.
- 5.6 The number and species of birds killed by Department equipment or facilities shall be reported annually to the U.S. Fish and Wildlife Service. Reports shall include actions taken to prevent future avian mortality at each site where a bird was killed. See section 6.3 for responsible division.
- 5.7 Bird nests on Department equipment shall be left in place unless they present a risk to the equipment or are a significant nuisance. Problem nests shall be removed as soon as possible and in coordination with EA&RED and the Washington Department of Fish and Wildlife. Nuisance nests shall be removed before or after nesting season.
- 5.8 The number and species of protected bird nests removed by Department crews shall be reported annually to the U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife. See section 6.3 for responsible division.
- 5.9 If possible, the Department shall avoid disturbing breeding raptors and heron rookeries by scheduling major construction activities in proximity to nest sites outside the nesting season. See section 6.4 for responsible division.
- 5.10 Where possible, the Department shall mitigate the removal of osprey nests from power poles by constructing artificial nest platforms in suitable locations. See section 6.4 for responsible division.

6.0 Responsibilities

- 6.1 Asset Management and Large Projects Division: Responsible for developing and maintaining the Outage Management System and for developing avian safe equipment standards.
- 6.2 Communications and Public Affairs: Handles public inquiries and media related to avian issues at City Light facilities and equipment.
- 6.3 Environmental Affairs and Real Estate Division (EA&RED): The division within the Department is responsible for:
 - 6.3.1 Consulting with other Department divisions on all bird issues, as well as avian safe standards and equipment;
 - 6.3.2 Implementing the APP;

- 6.3.3 Assigning at least one wildlife biologist to lead and coordinate the APP;
 - 6.3.4 Conducting a risk assessment and creating and maintain a map of avian sensitive areas;
 - 6.3.5 Maintaining the avian mortality database and map;
 - 6.3.6 Applying for and maintaining all required federal and state permits;
 - 6.3.7 Reporting to and coordinating with the U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife;
 - 6.3.8 Providing Department training on the APP; and
 - 6.3.9 Providing other divisions with guidance on nest removal, osprey platforms, avian sensitive areas, and construction timing.
- 6.4 Energy Delivery Division: Responsible for:
- 6.4.1 Documenting all bird-related outages and any birds that might have been electrocuted by or collided with Department equipment;
 - 6.4.2 Disposing of dead birds per permit requirements;
 - 6.4.3 Evaluating the cause of bird mortality from Department equipment and facilities;
 - 6.4.4 Installing protective devices or implementing other mortality reduction measures to prevent future problems at Department equipment and facilities known to have resulted in bird mortality;
 - 6.4.5 Reporting all problem and nuisance nests to the EA&RED prior to taking any action;
 - 6.4.6 Removing nests as needed and after consultation with the EA&RED;
 - 6.4.7 Ensuring that all routinely used protective devices are in stock and available for use; and
 - 6.4.8 Coordinating with EA&RED as needed on avian issues (i.e. construction timing, osprey pole location and installation.
- 6.5 Energy Delivery Engineering Division: Responsible for:
- 6.5.1 Coordinating with EA&RED on the need for preventative measures for new and upgraded power lines and other facilities;
 - 6.5.2 Investigating and identifying new equipment and materials that meet avian safe standards; and

- 6.5.3 Designing new construction methods and materials for Avian Sensitive Areas to meet avian safe standards.
- 6.6 Power Production Division: Coordinates with the EA&RED on construction and maintenance activities that may affect birds at Department dams, powerhouses, and associated facilities.
- 6.7 System Operations Division: Maintains the database of all outages, including those caused by birds; notifies the EA&RED immediately when outages are caused by any species other than pigeons, starlings, English house sparrow, crows, or gulls.

7.0 Procedure:

- 7.1 Avian Mortality Documentation: Crews responding to outages or other service problems will determine if they were caused by a bird. Bird-caused outages/service problems will be reported as such in the Outage Management System and/or Dispatchers Logging System. Birds will be identified to species, if possible. Crews will notify System Operations if the outage was caused by any protected bird species; System Operations staff will in turn notify EA&RED if the outage was caused by any protected bird species other than crow or gull.
- 7.2 Avian Mortality Response: For each incident of avian mortality crews will determine the most probable cause and will make all needed corrective actions and/or install any needed protective devices to ensure that future bird mortality/outages at that site will not occur. If the appropriate corrective action or protective device is not obvious, crews will consult with EA&RED. Mortality reduction measures will be noted in the Outage Management System (OMS) and/or Dispatchers Logging System. If the cause of mortality cannot be determined, crews will report the incident to the Field Operations Manager for evaluation and resolution.
- 7.3 Avian Mortality Tracking and Reporting: Staff from the EA&RED will periodically import data from the OMS and Dispatchers Logging System to maintain a database on the number and species of birds killed by Department facilities or equipment. The data will be used to prepare annual reports to the U.S. Fish and Wildlife Service.
- 7.4 Avian Protective Devices: The Energy Delivery Support Services Unit will coordinate with EA&RED, Asset Management, and Energy Delivery Field Operations to ensure that all routinely used avian protective devices are in stock.
- 7.5 Bird Carcass Disposal: In general, bird carcasses will be left on site unless in urban or residential areas where it would not be appropriate to leave a dead bird on the sidewalk or street. In these areas, crews will place the carcass in a bag which will be disposed in a dumpster at one of the Department's service centers.
- 7.6 Equipment Standards: Engineers in the Standards and Asset Management Unit will develop SCL standards for protective devices designed to prevent electrocution or collisions and will coordinate with Energy Delivery to ensure that these devices are in stock and available for use.

They will also investigate new standards and meet annually with staff from Energy Delivery and EA&RED.

- 7.7 New Construction and Upgrades: Engineers involved in the construction of new power lines and major upgrades will coordinate with an APP Lead Biologist to determine if the project is in an Avian Sensitive Area. If so, the projects will be designed to meet standards to prevent avian electrocution and minimize the risk of collision.
- 7.8 Protected Bird Nest Reporting and Removal: Problem bird nests will be reported by crews to an APP Lead Biologist, who will determine if a protected species is involved and provide removal options and timing. Nuisance nests will be evaluated by an APP Lead Biologist for possible removal before or after the nesting season. The number and species of nests removed will be reported annually by the EA&RED to the Washington Department of Fish and Wildlife and U.S. Fish and Wildlife Service.
- 7.9 Training: An APP Lead Biologist will provide training to all Department electrical, civil, operator, and system control crews every two years. Training materials provided to crews will summarize avian incident reporting and response requirements, provide contact names and phone numbers, and include information that will aid in the identification of protected and unprotected species.

8.0 Appendix:

- 8.1 Distribution: Posted online at <http://sclweb.light.ci.seattle.wa.us/dpp/>

9.0 Revision History

Version	Date	Changes Made	Author/Key Contact
1.0	TBD	Original Draft Update Coordinated By: Connor Lieb	Natural Resources and Environmental Planning Manager Colleen McShane

Appendix C. City Light Avian Protection – Program Training Materials



Seattle City Light Avian Protection Program Training



Overview

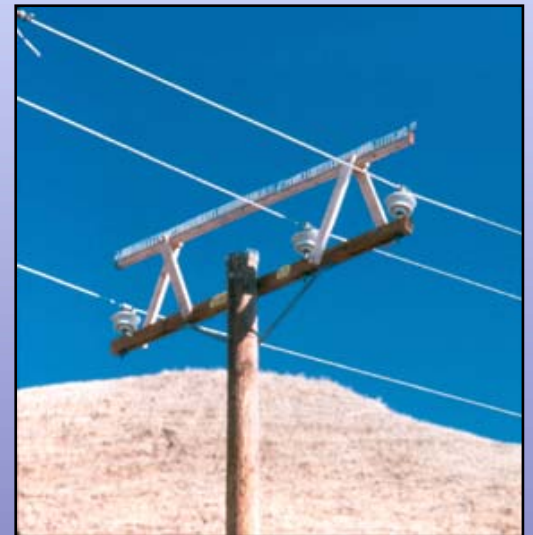
- I. Background: Problems with Birds & Power Lines
- II. Implications for Utilities
- III. SCL's Current Approach to Avian Protection
- IV. Why We Need a More Formalized Approach
- V. What Will It Take?
- VI. What Does It Mean for You?
- VII. What are the Benefits to SCL?
- VIII. Questions



I. Background: Problems with Birds & Power Lines

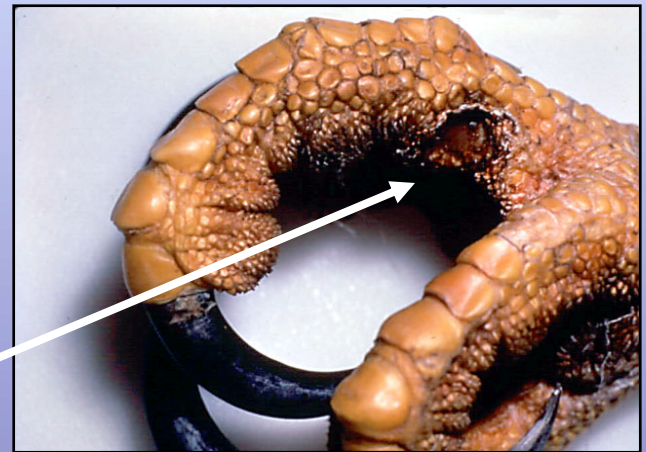
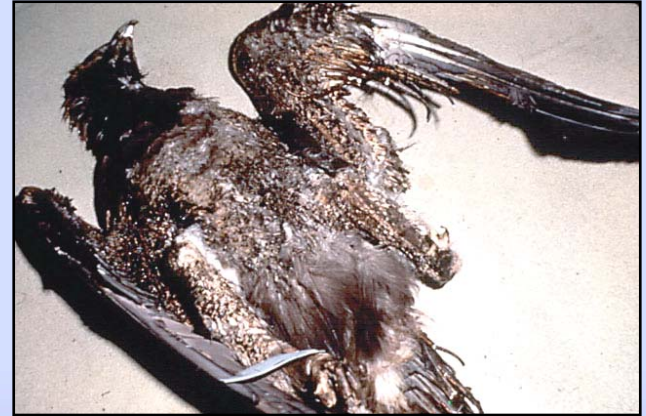


- Birds can be **electrocuted** by power lines
- Birds can **collide** with power lines
- Birds can **nest** on power poles



Electrocution

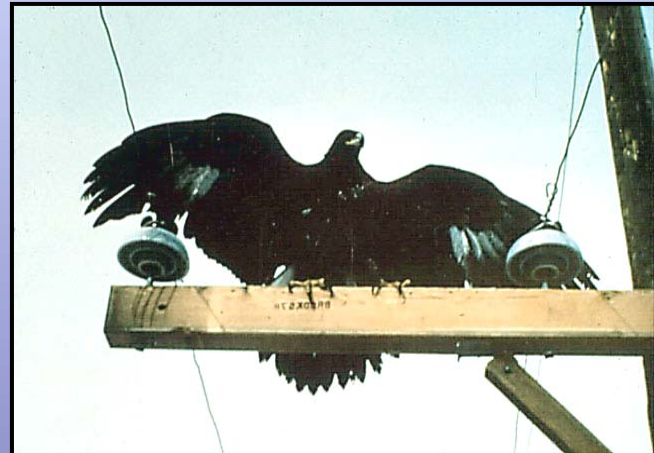
- Typically more of a problem for distribution lines
- Results in:
 - Outages
 - Dead birds - **> 10,000** birds per year in the US
- Evidence can be obvious or not so obvious



Exit wound

How Electrocution Occurs

- Bird simultaneously touches two energized lines/parts
- or-
- Bird simultaneously touches an energized line/part and a grounded or neutral line/part

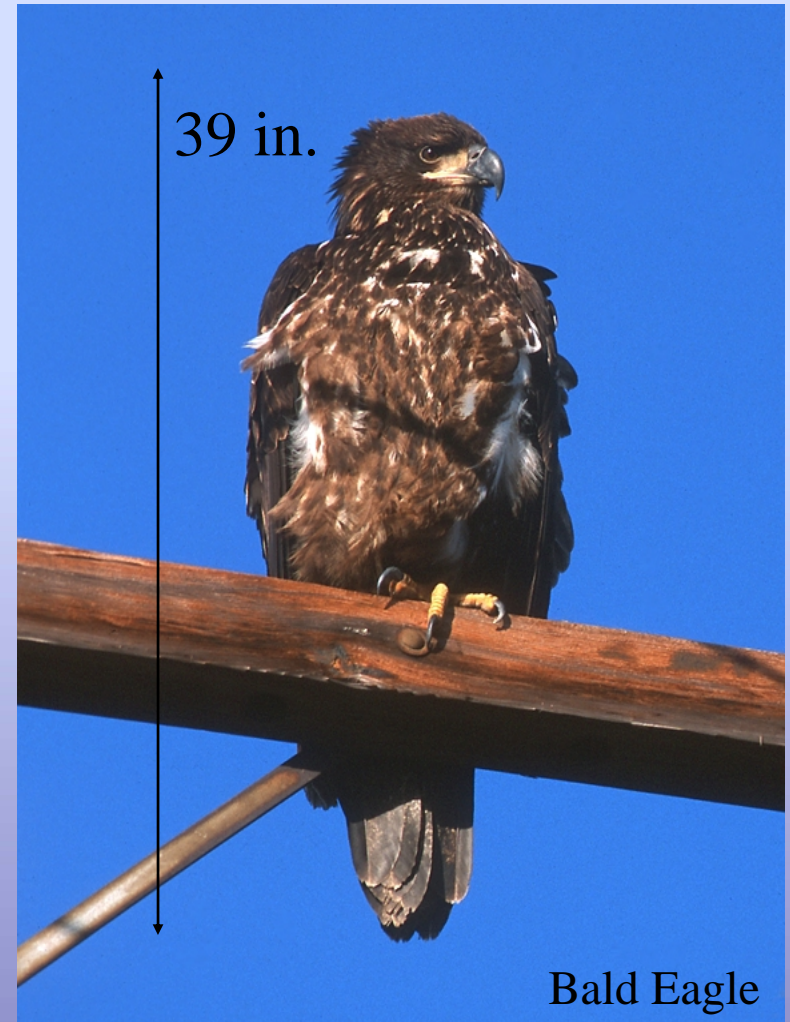


Environmental Factors Influencing Electrocution

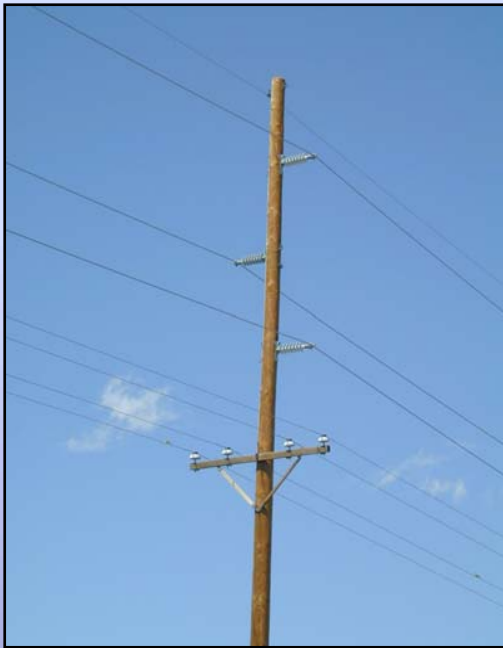
- **Species** with large wingspan (eagles, hawks, owls, osprey, vultures)
- Presence of **nests**
- **Habitat** – power poles provide hunting & perching sites in open areas
- **Weather** – wet feathers are conductive, dry feathers act as insulation



Birds & Power Lines – Size Considerations



Design Factors Influencing Electrocution



- Distribution lines (<69 kv) with **< 60-in. separation** between conductors, other equipment
- **Under-built** transmission lines



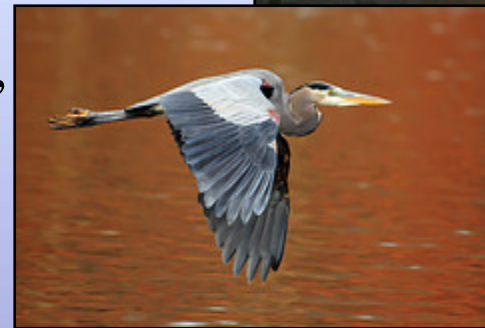
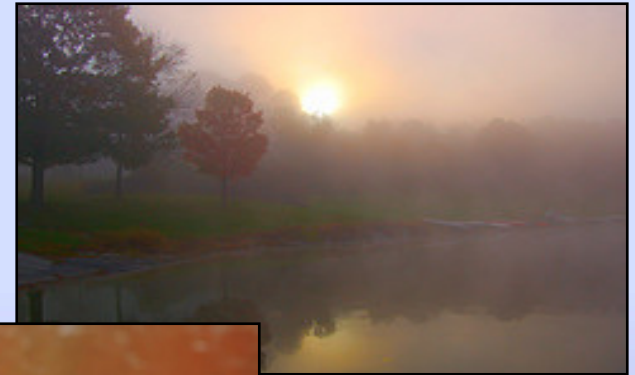
Collision

- Can occur at both distribution & transmission lines
- Results in:
 - Outages
 - Dead birds - up to 174 million birds/yr in US



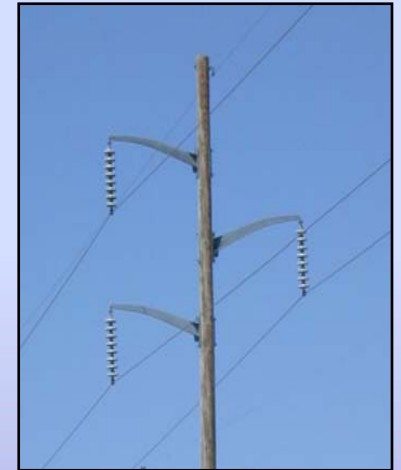
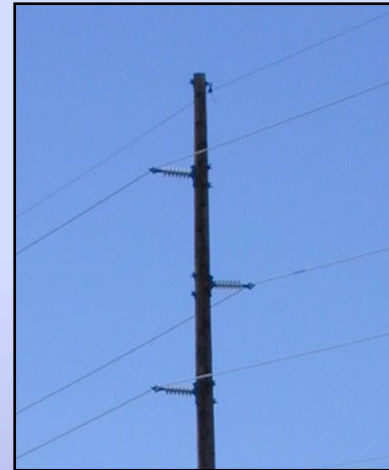
Environmental Factors Influencing Collision

- Species:
 - with **low flight altitude** (ducks, geese)
 - With **limited flight maneuverability** (cranes, herons)
 - that fly in **flocks**
- Weather & time of day – **fog, rain, low light**



Design & Location Factors Influencing Collision

- Line configuration
 - Overhead static wire
 - High number of vertical conductor tiers
- Location
 - Near water or wetland
 - Between 2 high use areas (feeding & roosting sites)



Inappropriate Nest Location

- Can occur on both transmission towers or distribution poles
- Can result in fire, outages
- Risk depends on location, nest size & construction



II. Implications for Utilities

- Outages
- Bad public relations
- Legal problems
 - Migratory Bird Treaty Act
 - Endangered Species Act
 - Bald & Golden Eagle Protection Act



Implications for SCL

- **280 known** bird-related outages in 2007 (*$\approx 10\%$ of avian electrocutions/collisions cause outages*)
- **2 bald eagle** electrocutions in the last 5 yrs
- **2 osprey nests** on power poles in the past 5 yrs



III. SCL's Current Approach to Avian Protection

Informal, mixture of reactive & proactive measures



Reactive Measures

- Bird outages – Installed bird guards, insulated wires and/or line markers, as appropriate
- Bald eagle electrocutions - Added perch guards & “fire flies”
- Osprey nests on poles – Relocated to new platforms
- Cooperation & coordination with USFWS



Pro-active Measures

- 10-ft cross arms standard
- Osprey research at Seattle area nest sites
- Monitoring study & expert panel to identify collision hazards at Skagit River line crossing
- Flight diverters on optical cable in select locations on Skagit line



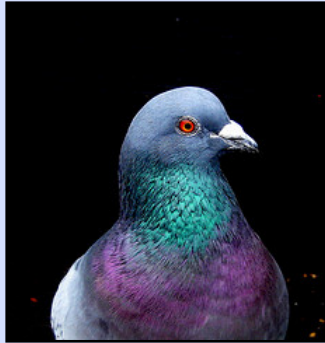
IV. Why We Need a More Formalized Approach

Change in Regulatory Direction

USFWS is prompting utilities to develop more formalized & pro-active Avian Protection Plans to comply with the **Migratory Bird Treaty Act**



Migratory Bird Treaty Act



- Protects **620** migratory bird species in the continental U.S.
- **Strict liability** for misdemeanor charge - no need to prove intent, negligence or fault
- **Stiff Financial Penalties** including imprisonment

Migratory Bird Treaty Act

*Unless and except as permitted by regulation, it shall be unlawful to pursue, hunt, take, capture, **kill**, attempt to take, capture, or kill, **possess**, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, **transport** or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any **migratory bird**, or any **part, nest, or egg** of any such bird.....*



Other Applicable Laws

- **Endangered Species Act** – currently applies to only 4 avian species in WA
- **Bald and Golden Eagle Protection Act** – protects eagles, their nests, eggs, & parts
- **State regulations**



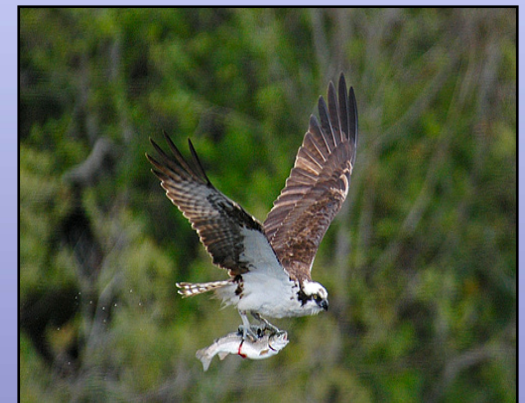
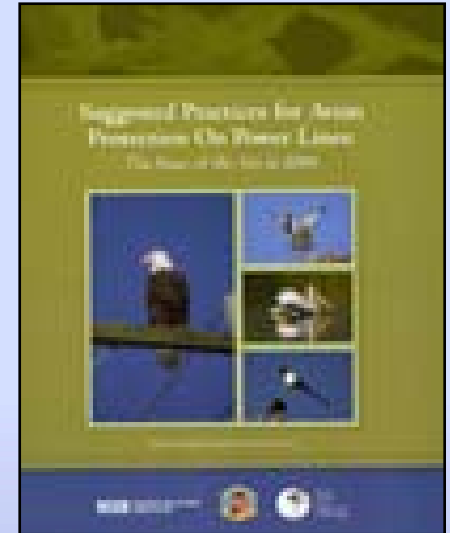
Case Study: Moon Lake Electric

- 17 electrocutions over 3-year period
- Charged with 13 misdemeanor violations of MBTA and BGEPA
- Fined \$100,000
- Required to conduct surveys of **all** facilities to determine raptor electrocution risk
- Entered into an MOU
- Retrofitted all problem poles
- As of 2006, modified over 3,000 poles at an average cost of \$238 (\$714K)



Other Reasons

- **Higher Industry Standards**
 - New suggested practices published in 2006
 - Formal Avian Protection Plans developed & implemented by 8 OR & 4 WA electric utilities in past 3 yrs
- **Biological** – Increasing Seattle area populations of bald eagles, ospreys, herons, cormorants, geese



V. What Will It Take?



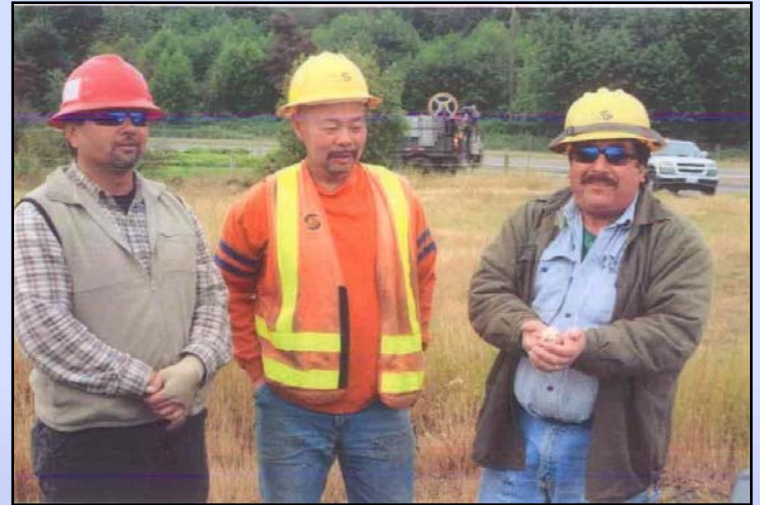
Yes,
even I
count!

- Reporting *all* bird mortalities to USFWS
- If we *kill* a protected bird (including crows), we *fix* the problem
- Commit to bird safe retrofits & new construction
- Training and improved process for communication & tracking



VI. What Does This Mean for You?

- **New standards for:**
 - **Reporting** bird-related outages &/or dead or injured birds
 - **Disposing** of dead birds
 - **Managing** nests
- **Identifying & fixing** problems ASAP
- Additional **coordination** with the Environmental Affairs Division



Main Changes

- **Outage Reporting** - Record *species of all dead birds* in Dispatcher's Logging System
- Contact Dispatcher to report dead birds found along power line corridors.
- Dispatcher then reports to the Environmental Affairs Division (EAD) all dead birds *except starlings, pigeons, house sparrows, and crows*
- Report *all nests* to Dispatcher or EAD because permits are required to remove or relocate nests (except pigeons, starlings, English house sparrows)



Bird-caused Outage or Problem

Follow flow chart to determine outage cause

SHEET 1

Was a bird carcass found?

YES

NO

What type of bird was found?

Not protected

Protected



Starling



House Sparrow



Pigeon

Non-protected bird mortality

Leave on site, bury, or transport to dumpster and dispose



Hawks,
Eagles,
Owls,
Ospreys



Crows,
Jays,
Ravens



Herons,
Cormorants,
Gulls



Ducks,
Geese,
Swans



Blackbirds,
Woodpeckers,
Songbirds

Was outage caused by a bird nest?

YES

Bird Nest (see Sheet 2)

NO

Were birds suspected as the cause?

- Flock of birds caused the lines to jump or
- Bird excrement caused arcing or
- Suspect that birds collided with wires

Contact EAD to Consult

Colleen McShane (206) 684-4238
Ron Tressler (206) 388-4506

Protected Bird Mortality
(see Sheet 3)

**Dead Protected Bird**
(Do not transport carcass)**Bald Eagle**

(or listed endangered species)

**Leave on site**
(Do not bury)**Other Protected Birds**

(except crows)

**Leave or bury on site**
(Move carcass to less visible location if not buried)**Crows or Gulls****Leave or bury on site**
(Move to less visible location if not buried)**Contact Dispatcher****Contact Environmental Affairs Division**Colleen McShane (206) 684-4238 or (206) 794-4202 or Ron
Tressler (206) 386-4506**Conduct Remedial Action**

Determine problem and conduct remedial action (during outage, if possible). Install bird guards or other covers/caps as needed to prevent future outages from birds. Line markers will be needed if cause was a bird collision. For eagle mortalities remedial action is required within 30 days.

**Enter Species into Dispatcher Logging System**



PROBLEM BIRD NEST

SHEET 2

Eagle or colonial water bird (includes cormorants and herons)



Active or inactive nests

All other protected birds



Active nests (eggs or young present)

Inactive nests (no eggs or young)

Contact Dispatcher

In case of imminent danger (very rare) take necessary action first, then contact Dispatcher

Contact Environmental Affairs Division

Colleen McShane 206-684-4238 or 206-794-4202 or Ron Tressler 206-386-4506
for required federal and state permits to relocate or remove nest

Conduct Appropriate Action

Nests that do not pose an operational, safety or electrocution hazard should not be removed. Never move or relocate active nests without EAD approval. Pole with nest plus nearby poles should be retrofitted to prevent electrocution and or have perch deterrents installed. Enter information into Dispatcher Logging System.



Unprotected Species – No Worries!

Pigeon



English house
sparrow – female



Starling



English house sparrow - male

Protected Species at Greatest Risk for Electrocution in Western WA



Bald Eagle - Adult

Yellow beak,
white head &
tail, brown
body

Dark beak,
mottled head,
tail, body



Bald Eagle - Juvenile

Protected Species at Greatest Risk for Electrocution in Western WA, continued.



Black eye
stripe, mostly
white breast,
brown body

Red tail, brown
“belly band”,
brown body

Red-tailed Hawk



Osprey

Protected Species at Greatest Risk for Electrocution in Western WA, continued.



Barn Owl



Great Horned Owl

Protected Species at Greatest Risk for Electrocution in Western WA, continued



Common Crow



Gulls

Protected Species at Greatest Risk for Collisions in Western WA



Canada Goose



Great Blue Heron

Protected Species at Greatest Risk for Collisions in Western WA, continued



Double-crested Cormorant



Mallards

Ducks



Widgeons

VII. What Are the Benefits for SCL?



- Legal compliance
- Fewer outages
- Compliance with our environmental policy
- Consistency with current industry standards
- Good public relations

A bald eagle is shown in flight, its wings spread wide, against a dark, textured background. The eagle's head is white with a sharp yellow beak, and its eyes are focused forward. The lighting highlights the texture of its feathers and the intensity of its gaze.

VIII. Questions?

Contacts: Colleen McShane or Ron Tressler
SCL Environmental Affairs Division

Appendix D. USFWS and WDFW Avian Permits (2013)



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS
50 CFR Part 13
50 CFR 21.27

1. PERMITTEE

SEATTLE CITY LIGHT
700 5TH AVENUE SUITE 3360
PO BOX 34023
SEATTLE, WA 98124-4023
U.S.A.

3. NUMBER
MB161960-0

4. RENEWABLE
☒ YES
☐ NO

5. MAY COPY
☒ YES
☐ NO

6. EFFECTIVE
04/01/2013

7. EXPIRES
03/01/2016

8. NAME AND TITLE OF PRINCIPAL OFFICER (If not a business)
COLLEEN MCSHANE
MANAGER, NATURAL RESOURCES & ENVIRONMENT

9. TYPE OF PERMIT
MIGRATORY BIRD SPECIAL PURPOSE UTILITY SALVAGE PERMIT -
ELECTRIC

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
Activities Conducted: Seattle and surrounding area
Records Maintained: Seattle City Light Environmental Affairs Division
Address in Block 1 Above
KING COUNTY

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. Possession and transport.

(1) You and subpermittees are authorized to collect, transport and temporarily possess carcasses and partial remains of migratory birds, **except Bald Eagles and Golden Eagles (Eagles)** and species listed as **Threatened or Endangered** under the U.S. Endangered Species Act (see 50 CFR § 17.11), found at the location/property specified in Block 10 for migratory bird mortality monitoring purposes or disposal or burial of carcasses for human health and safety purposes.

For **Eagles and federally listed Threatened or Endangered Species** you must call a U.S. Fish and Wildlife Service (Service), Office of Law Enforcement (OLE) special agent for instructions and approval before collecting or moving the carcass or any of its parts. It may be necessary to preserve the carcass onsite until an agent or other Service or State representative arrives to collect it. Your OLE contact phone numbers are:

Hawaii: 808-861-8525
Oregon: 503-682-6131

Idaho: 208-442-9551
Washington: 425-883-8122

(2) Except for take caused by your infrastructure and operations, you may not collect or disturb and must immediately report to OLE any dead migratory birds that appear to have been poisoned, shot, or otherwise killed or injured as the result of potential criminal activity.

(2) Except for take caused by your infrastructure and operations, you may not collect or disturb and must immediately report to OLE any dead migratory birds that appear to have been poisoned, shot, or otherwise killed or injured as the result of potential criminal activity.

E. Active Nest Relocation. **Except for federally listed Endangered or Threatened Species and Eagles, in emergency situations** you

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31
You must submit an annual report to your Regional Migratory Bird Permit Office each year, even if you had no activity. Form: www.fws.gov/forms/3-202-17.pdf.

ISSUED BY

Jennifer Miller

TITLE

CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 1

DATE

05/10/2013

are authorized to relocate active migratory bird nests, including eggs or nestlings, found on the utility structures when (1) the safety of the migratory birds, nests or eggs is at risk, or (2) the migratory birds, nests, or eggs pose a threat of serious bodily injury or a risk to human life, including a threat of fire hazard, mechanical failure or power outage. You may not use this authority for situations in which migratory birds are merely causing a nuisance or inconvenience.

If you need to harass or live-trap and relocate an Endangered or Threatened Species, Bald Eagle, or Golden Eagle, or their nests, you must obtain an additional permit to do so.

F. Data Collection.

(All relevant and applicable data associated with each carcass or part collection, or injured bird, should be recorded, including the information below. Required data are designated with an asterisk (*).

- (a) discovery date *
- (b) collection/recovery date *
- (c) species *
- (d) sex and age (juvenile/adult), if known
- (e) condition of bird (alive or dead) *
- (f) condition of carcass (entire, partial, scavenged)
- (g) description of carcass (intact, feather spot, headless, wing sheared, blood in mouth)
- (h) pole/structure ID number
- (i) line name/circuit number/circuit name
- (j) location (State/county/address, cross streets, or nearest town) *
- (k) the GPS coordinates in decimal degrees for the location where carcass/part found, if known
- (l) apparent cause of mortality/injury (collision, electrocution, other)
- (m) estimated date of mortality or estimate of time since death (e.g., <1 day, 1 day, 2-3 days)
- (n) weather conditions at likely time of death, if known
- (o) information on carcass or injured bird disposition
- (p) any special notes or additional information

G. **Injured birds.** Injured migratory birds, including Eagles and federally listed Threatened or Endangered Species, must be transferred to a federally permitted migratory bird rehabilitator or a licensed veterinarian for care. Rehabilitation and/or veterinary costs are the utility's responsibility. See condition I for reporting instructions.

H. **Take and collection of live, non-injured migratory birds, eggs, or nests is not authorized by this permit.** In addition, this permit does not authorize the take, capture, harassment or disturbance of **Eagles or federally listed Endangered or Threatened Species** (see 50 CFR 17.11).

I. Reporting.

You must report bird injuries and deaths in accordance with the time frames specified in (a) and (b) below. You must submit a written mortality or injury report to your Regional Migratory Bird Permit Office (RMBPO) PermitsR1MB@fws.gov.

(1) You must report any **Bald Eagle or Golden Eagle or Threatened or Endangered Species** found dead or injured to OLE immediately if possible, but no later than the **next business day** (see Condition D for contact information) and PermitsR1MB@fws.gov. Your report must include as much of the information from condition F as possible. You can provide information not available at the time of your initial report to OLE and your RMBPO within **48 hours** or as directed by the OLE special agent. *A written mortality or injury report must be submitted to your RMBPO, to include the data in condition F, no later than **one week (7 days)** from the date of discovery and collection of the carcass.*

A list of Threatened and Endangered species by State may be found in the Service's Threatened and Endangered Species System (TESS) database at: <http://www.fws.gov/ endangered>.

(2) You must submit an **Annual Report** of dead and injured birds, including Eagles and Threatened and Endangered Species, discovered, collected, and/or buried, *and any active nests relocated*, to your RMBPO by January 31 following each calendar year in which the permit is in effect. Your report must include at a minimum the information designated as required in condition F. For active nests, please indicate the species and date relocated. The report form 3-202-17 is available at <http://www.fws.gov/forms/3-202-17.pdf>. You may submit a Special Purpose Utility Excel Data Sheet or your own Excel spreadsheet in lieu of using form 3-202-17, but all of the information requested on the 3-202-17 form, including the signed certification statement, must be included.

A Special Purpose Utility Excel Data Sheet is available from your RMPO. To request a copy, please email PermitsR1MB@fws.gov.

J. Disposition of Carcasses and Parts.

(1) In accordance with Condition D(1) above, the Service will advise you on disposition of **Eagle and Threatened or Endangered Species** specimens. The special agent will advise if they will recover an eagle carcass or if you need to ship the carcass to the Service. With prior written authorization from an OLE special agent, you may ship carcasses directly to the NER (contact the NER at 303-287-2110 for shipping instructions). The written authorization from the special agent must accompany the **Eagle** if it is shipped to the NER. Disposition must be reported in your annual report to your RMBPO.

(2) Unless otherwise specified in this permit, carcasses and parts of **migratory birds (except Eagles and federally listed Threatened and Endangered species)** that have been reported to the Service and documented in your records may be

- (a) turned over to the State wildlife agency for official purposes, or,

(b) with additional authorization from your RMBPO, donated to a public scientific or educational institution or to an individual or entity authorized by Federal permit to acquire and possess migratory bird specimens.

All dead specimens and parts (**except Eagles and Threatened and Endangered species**) that you do not transfer to another authorized party may be left in the field, or must be disposed of by burial or incineration.

K. **Renewal.** Any renewal request for this permit must include information on any modifications made to your operations or infrastructure to avoid or minimize migratory bird mortalities, and if you have made modifications, any preliminary results of those modifications

L. **Subpermittees.** Ronald Tressler

Any person who is employed by or under contract to the permittee for the activities specified in this permit, or any person who is otherwise designated as a subpermittee in writing by the permittee may exercise the authority of this permit.

M. **Standard Conditions.** You and any subpermittees must comply with the attached **Standard Conditions for Migratory Bird Special Purpose - Utility Salvage Permits**. These standard conditions are a continuation of your permit conditions and must remain with your permit.

This permit does not, nor shall it be construed to, authorize lethal take or injury of migratory birds or limit or preclude the U.S. Fish and Wildlife Service from exercising its authority under any law, statute, or regulation, or from taking enforcement action against any individual, company, or agency. This permit is not intended to relieve any individual, company, or agency of its obligations to comply with any applicable Federal, State, Tribal, or local law, statute, or regulation.



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

16018 Mill Creek Boulevard, Mill Creek, Washington, 98012 * (425) 775-1311 * Fax (425) 338-1066

April 18, 2014

Colleen McShane
Manager Natural Resources and Environmental Planning
Seattle City Light
700 Fifth Avenue
Post Office Box 34023
Seattle, Washington 98124-4023

RE: State Take Authorization Seattle City Light Maintenance and Operations; 2014

Dear Ms. McShane,

Please use this letter as authorization for the required 2014 Washington Department of Fish and Wildlife Take Authorization Permit as requested per the Seattle City Light Avian Nest Management Authorization 2013 Annual Report Letter to WDFW; 03/12/2014 (attached).

Under statute authority of RCW 77.12.240 – Authority to Take Wildlife, Seattle City Light (SCL), within the prescribed conditions listed below, are authorized to harass or take wildlife as requested in the course of conducting maintenance and providing for safe operation of electric utility facilities. This is to avoid violation of state statute authority outlined in RCW 77.15.130 – Protected Fish and Wildlife – Unlawful Taking and RCW 77.15.120 Endangered Fish or Wildlife – Unlawful Taking. State Endangered and Protected species can be found in WAC 232-12-011 – Wildlife Classified as Protected Shall not be Hunted or Fished; and WAC 232-12-014 – Wildlife Classified as Endangered Species.

Native birds include all species except House Sparrows (*Passer domesticus*), European Starlings (*Sturnus vulgaris*), and Rock Pigeons (*Columba livia*). No permission is needed to remove the nests of these three non-native species. It is our understanding that federal permits will also be required for any species included under authority of the Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA).

Period of Authorization: January 1 – December 31, 2014.

General Conditions

It is recognized that electric utility infrastructure requires inspection, maintenance, retrofitting, and remedy of hazards to ensure public safety and provide for general utility needs. However, to minimize the impact on wildlife species that may inhabit those structures, we request that SCL continue to follow the least invasive methods to conduct work activities.

General guidelines are as follows:

- Specific to bird nests, please refer to the attached “Washington Dept. of Fish and Wildlife – *Bird Nest Removal and Management in Washington State – Standard Operating Procedures*. Please notify WDFW in instances involving “Category 1 - Nests of special-status species protected by regulation and Category 2 – Durable nests in natural settings”. Per the policy, this will afford WDFW to provide appropriate guidance and work collaboratively with SCL for case specific situations involving these more sensitive nests and protected bird species to avoid or authorize take appropriately.
- Conduct maintenance, inspection, and project work during a period in which wildlife is not present. Where applicable, utilize WDFW Priority Habitats and Species Recommendations (PHS) for species-specific management guidance, such as buffer zones and timing considerations, around any protected wildlife occurrences. See below website:

http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/
- If this is not possible then use methods to prevent wildlife from utilizing SCL facilities during the entire work time period, such as exclusion or hazing prior to sensitive breeding or hibernation periods.
- If exclusion, hazing, or wildlife management per PHS guidance is not possible, or fails; then SCL will contact the WDFW Region 4 representative for consultation. This is to ensure wildlife management coordination and when necessary disposition of various wildlife species, nests or eggs to the most appropriate recipients.
- Please notify the WDFW Region 4 representative immediately if any Priority Species are found within a facility or project area so that documentation of occurrence can be followed-up on; and, if appropriate, case specific management be examined for Endangered or otherwise State Protected species.

Annual Reporting Requirement

Please provide a summary of wildlife impacted by SCL wildlife management activities by January 31, 2015, on the attached WDFW Scientific Collection Permit Annual Report Form.

We appreciate SCL's efforts to coordinate consideration measures with WDFW regarding project effects to wildlife. If you have any further questions please contact me.

Sincerely,



Russell Link
Region 4 Wildlife Program Manager
16018 Mill Creek Blvd
Mill Creek, WA 98012

Office: (425) 775-1311 ext. 110
Cell: (425) 231-3988
Email: russell.link@dfw.wa.gov

Enclosures:

SCL Seattle City Light Avian Nest Management Authorization 2013 Annual Report
Letter to WDFW; 03/12/2014.
Washington Dept. of Fish and Wildlife – *Bird Nest Removal and Management in
Washington State – Standard Operating Procedures.*
WDFW Scientific Collection Permit Annual Report Form.

cc: Jennifer Miller, USFWS Migratory Bird Permit Office, Portland
Russell Link, WDFW Region 4 Wildlife Program Manager
Chris Anderson, WDFW District Biologist – King County area

Appendix E. City Light Wildlife Protection Construction Standards: Standard Number 0072.01

WILDLIFE PROTECTION, SMALL BIRDS AND ANIMALS**1. Scope**

This construction standard provides the requirements and details for the installation of wildlife protection devices on SCL structures and equipment for small birds and animals.

2. Application

This document provides direction to SCL crews about when, where and how to properly install wildlife protection devices on SCL structures and equipment.

Wildlife protection devices are intended to be used on new construction or at existing locations with repeated avian or wildlife caused outages. The devices may also be applied at the direction of engineering or management.

Wildlife protection devices are needed when structures are located in avian sensitive areas as described on the

SCL Environmental Affairs' avian protection map. This map can be found at <http://lc543WAM/AvianProtection> and contains the sensitivity zones and the location of existing avian protection equipment.

Criteria for avian sensitivity include areas falling within 200 feet of the following:

- parks
- Sensitive Areas Ordinance (SAO) wetlands
- riparian areas
- lakes
- coastal waters
- wildlife areas
- Priority Habitat and Species (PHS) spatial view

standards coordinator	standards manager	unit director
 Curtis Lu	 John Shipek	 Pamela S. Johnson

3. Construction Notes

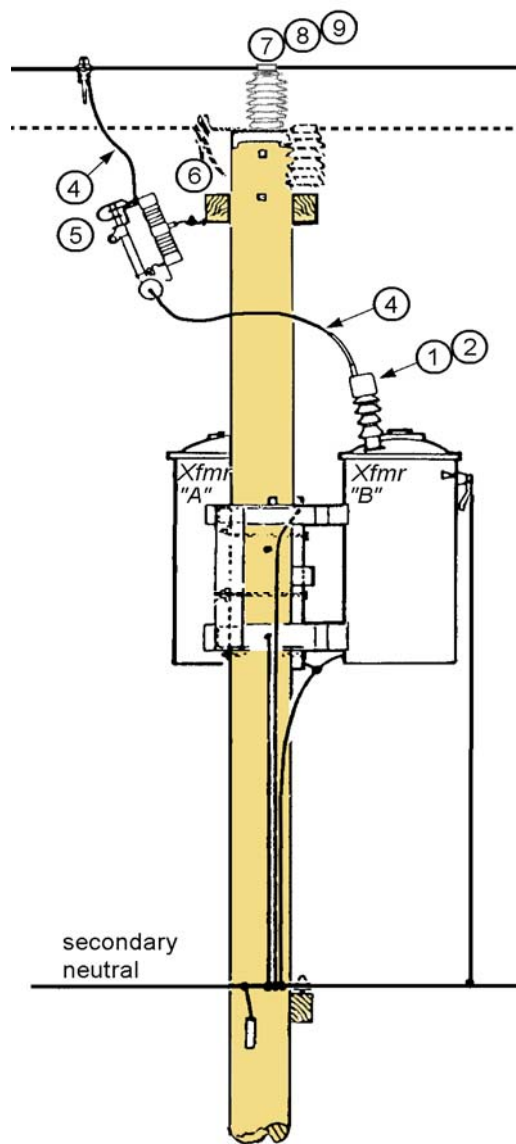
- 3.1 Install wildlife protection devices on all three phases.
- 3.2 Outage may be necessary to do installation.
- 3.3 Install wildlife guard (580776) on transformer bushing if not already installed.
- 3.4 If wildlife connector cap (013043) is damaged, replace with new.
- 3.5 Use insulating tape when wildlife protection devices cannot be installed or applied.
- 3.6 Use insulating tape on exposed connections.
- 3.7 Self amalgamating, insulating tape may only be installed on de-energized and grounded systems.

Upon application, the tape amalgamates the overlapped layers together, producing a complete seal. A single layer of tape, two-thirds overlapped, will provide an AC voltage withstand rating of 15 kV. A second layer will increase the AC voltage withstand rating to 35 kV.

Surface should be free of sharp edges or burrs and thoroughly cleaned and degreased before applying. Use sufficient tension to provide snug fit, but do not stretch more than 10 percent.

Although insulating tape will stick to itself and other insulating materials, it will not adhere to metal or porcelain allowing easy removal.

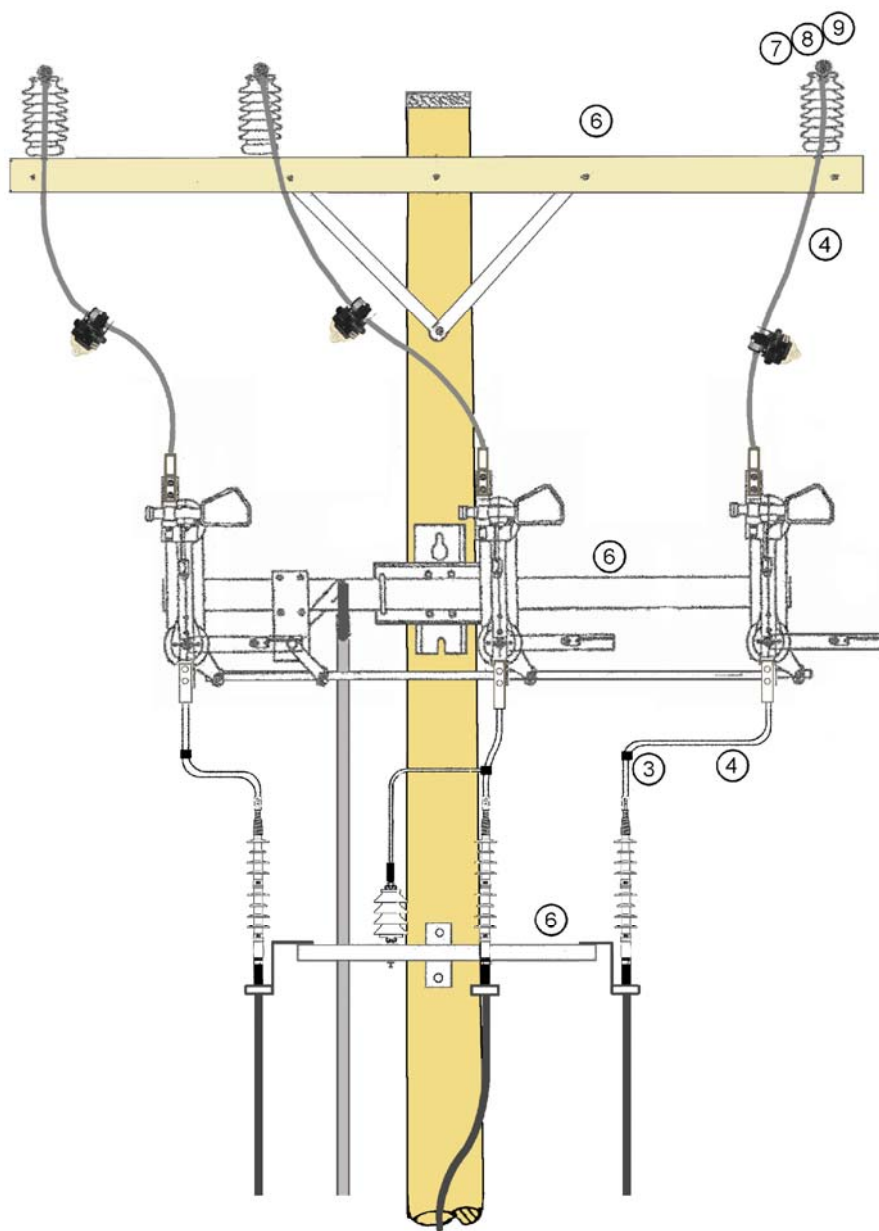
- 3.8 Plastic bird spikes may be glued, nailed, screwed, or tied down. One standard tube of outdoor rated adhesive (not silicone based) will secure approximately 24 feet of spike sections to steel, brick, stone, or concrete. Use rust-proof, #8 wood screws for mounting to wood, ten screws per two-foot section. Use UV protected tie-wraps for mounting to curved surfaces.

4. Figures, Location of Wildlife Protection Devices**Figure 4.1, Pole Top Transformer**

near transformer "C" not shown

**4. Figures, Location of Wildlife
Protection Devices, continued**

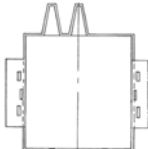





Figure 4.2, Terminal Pole



CONSTRUCTION STANDARD

Wildlife Protection, Small Birds and Animals

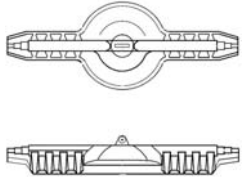
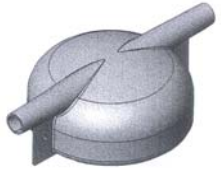

standard number: **0072.01**superseding: new
effective date: April 21, 2010
page: 4 of 5**5. Material List**

Item No	Item	Description	Application	Stock No	Image
1	Wildlife Guard	—	Installed on top of wildlife connector cap on pole top transformer's primary bushing (see note 3.3)	580776	
2	Wildlife Connector Cap	—	Installed on pole top transformer's primary bushing (see note 3.4)	013043	
3	Self Amalgamating Silicone Rubber, Insulating Tape	2-inch wide by 36-foot long roll	Installed on any exposed connections or exposed equipment (see notes 3.5, 3.6 and 3.7)	013048	
4	Split Silicone Rubber Insulating Hose	up to 1.20-inch	Installed on exposed jumper wire	013044 013045 013046 013047	
5	Cutout Cover	—	Installed on the line side of a cutout	013042	
6	Plastic Bird Spikes	7-inch coverage by 2-foot section	Installed on any equipment or structure (see note 3.8)	013049	

CONSTRUCTION STANDARD

Wildlife Protection, Small Birds and Animals

standard number: **0072.01**superseding: new
effective date: April 21, 2010
page: 5 of 5**5. Material List, continued**

Item No	Item	Description	Application	Stock No	Image
7	Line Protector	single arm/pin	Installed on primary insulator and wire	013040	
8	Pin Insulator Cover	—	Installed on primary insulator	013041	
9	Raptor Protection Cover	single arm/pin or double arm/pin	Installed on primary insulator and wire	013038 013039	

6. References**6910.10;** "Wildlife Protection Products, Assorted;" Material Standard; SCL**6910.30;** "Split, Silicone Rubber, Insulating Hose;" Material Standard; SCL**6910.40;** "Self Amalgamating, Silicone Rubber, Insulating Tape;" Material Standard; SCL**6910.07;** "Plastic Bird Spikes;" Material Standard; SCL**<http://lc543WAM/AvianProtection>;** avian protection map; SCL**Lu, Curtis;** SCL Standards Engineer, originator of 0072.01 (curtis.lu@seattle.gov)**Nobles, Larry;** SCL IT, subject matter expert of avian protection map (larry.nobles@seattle.gov)**Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006;** Avian Power Line Interaction Committee (APLIC), Edison Electric Institute, APLIC, and the California Energy Commission; Washington, D.C and Sacramento, CA; 2006**Tressler, Ron;** SCL DEA, subject matter expert of 0072.01 (Ron.Tressler@seattle.gov)

Appendix F. Example of a Site – Specific Plan



BEACON COAL MINE RD S

BAKER COMMODITIES
5795 S 130TH PL
(RENDERING PLANT)

OH-E

- 1 ON TOP OF POLE 171: INST. 3 BIRD GUARDS ON EACH PHASE. INST INSULATED COVER ON BARE JUMPER WIRES.
- 2 INST. 8 TRIANGLES ON TOP OF POLE 150. INST INSULATED COVER ON BARE JUMPER WIRES.
- 3 ON TOP OF POLE 148: INST. 3 BIRD GUARDS ONE EACH PHASE.
- 4 ON TOP OF POLE 147: INST. 3 BIRD GUARDS ONE EACH PHASE.
- 5 FROM POLES 171 TO 150, & 150 TO 148: INST. BIRD FLAPPERS EVERY 15' ON PHASE 1, 2, AND 3 OF THE PRIMARY WIRES ALTERNATELY ALTERNATING THE THREE COLORS (RED, WHITE, & BLACK).

AT THE DIRECTION OF THE POWER DISPATCHER:
REMOVE JUMPERS.
INST. MECHANICAL WORKING GROUNDS CONNECTING PRIMARY LINES TO THE NEUT.
AFTER THE JOB IS COMPLETED, REMOVE GROUNDS AND RESTORE JUMPERS.

RENDERING PLANT CONTACT:
BEN CARMERON @ (425)226-3695
(CELL) OR @ (206) 243-7387 (O).
BNSF CONTACT: ENDT SANDIVAL
@ (206)625-6462 (O) OR
@ (206)396-2261 (CELL)

SEATTLE CITY LIGHT DEPARTMENT

DW L. Zhuang	SCALE: 1"=100'	DATE 7/29/03
CK	APP <i>[Signature]</i>	
DATE ISSUED	10/21/03	14807