

**FINAL LICENSE APPLICATION
EXHIBIT E**

APPENDIX U

AVIAN SPECIES PROTECTION PLAN

**AVIAN SPECIES PROTECTION PLAN
DRAFT**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

April 2023

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List of Acronyms and Abbreviations

ARU	autonomous recording unit
Avian Plan.....	Avian Species Protection Plan
BACI.....	Before and After Control Impacts
BAS.....	best available science
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
City Light.....	Seattle City Light
ESA.....	Endangered Species Act
FERC.....	Federal Energy Regulatory Commission
GIS	Geographic Information Systems
MBTA.....	Migratory Bird Treaty Act
NERC.....	North American Electric Reliability Corporation
NPS	National Park Service
O&M.....	Operations and Maintenance
PHS	Priority Habitat Species
Project	Skagit River Hydroelectric Project
RCW	Revised Code of Washington
ROW	Right-of-Way
SRCC	Skagit Resource Coordinating Committee
SWAP	State Wildlife Action Plan
USFS.....	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife

1.0 INTRODUCTION

This document describes Seattle City Light's (City Light) proposed Avian Species Protection Plan (Avian Plan) for the Skagit River Hydroelectric Project (Project or Skagit River Project), Federal Energy Regulatory Commission (FERC) No. 553. This Avian Plan will provide guidance for the management of avian species and habitats within the Project Boundary. The goal of this Avian Plan is to protect avian species and protect and enhance existing native avian habitats, restore degraded habitat, and minimize and prevent effects of Project operations and maintenance (O&M) or new construction on bird species. It is intended to complement City Light's comprehensive Avian Protection Plan that addresses operations in its service territory and generation and transmission systems (City Light 2020a), as applicable and amended. Information obtained through the implementation of the Avian Plan will be used to inform decision-making regarding wildlife and wildlife habitats at each mitigation parcel or groupings of parcels.

City Light will coordinate the efforts required under this Avian Plan with other license article obligations, including other Project resource management plans included in the new license.

2.0 PURPOSE AND SCOPE OF THE PLAN

City Light proposes this Avian Plan to provide best management practices (BMP) and procedures to guide City Light's actions related to potential effects to avian species under the new license and to meet resource management goals. This plan will be effective for the term of the new license and is subject to annual reporting and periodic five (5) year review and updates in consultation with the Skagit Resource Coordinating Committee (SRCC).¹

2.1 Goals and Objectives

This section presents goals and objectives for protecting avian species and protecting or enhancing avian habitat within the Project Boundary. The primary goals of this Avian Plan are as follows:

- Comply with the Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), and Migratory Bird Treaty Act (MBTA) regulatory requirements and U.S. Fish and Wildlife Service (USFWS) and Washington Department of Fish and Wildlife (WDFW) permits regarding avian protection.
- Support the National Park Service (NPS) in meeting avian species management goals.
- Minimize effects of Project O&M and new construction on bird species due to collisions, electrocutions, habitat modification/alteration, and disturbances (including helicopter flights) that may affect the ability of a species to breed, forage, roost, nest, migrate, or survive.
- Protect and enhance existing native bird habitats affected by Project O&M actions.

The implementation actions included in this plan are designed to meet the following objectives:

- Identify and integrate best available science (BAS) and BMPs, including nesting season restrictions, for Project O&M activities and new construction projects to avoid, minimize, or mitigate effects to birds. This includes compliance with industry standards set by the Avian Power Line Interaction Committee and other BAS for minimizing electrocution and collision risks.
- Feed avian occurrence and habitat suitability information into the Vegetation Management Plan (City Light 2023a) and Invasive Plants Management Plan (City Light 2023b) so actions increase, maintain, or rehabilitate the quantity, quality, and diversity of avian habitat. This also includes identifying bird occurrence and vegetation metrics by which to monitor efficacy of the actions and inform adaptive management.
- Communicate with the SRCC on a regular interval to provide implementation updates, share data, and collaboratively update adaptive management strategies.

2.2 Geographic Area

The geographic scope of the Avian Plan is the area within the FERC Project Boundary, which includes reservoirs, Project structures and facilities, the transmission line right-of-way (ROW),

¹ The Skagit Resource Coordinating Committee includes agency representatives that will collaborate regarding implementation and monitoring of this Avian Plan and contribute to adaptive management decisions.

and Project roads. For new construction, this may include an area up to 0.5 mile beyond the Project Boundary. Bird and bird habitat management on mitigation lands will be addressed in a separate Fish and Wildlife Mitigation Lands Management Plan (City Light 2023c).

2.3 Applicable Laws and Regulations

This section describes applicable laws or regulatory requirements and agencies with jurisdictional authority over the resources addressed in this Avian Plan. There are three federal laws that protect birds in the United States: (1) the MBTA of 1918 (16 USC 703-712); (2) the BGEPA; and (3) the ESA. 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 MBTA applies to all bird species considered to be native to the United States.

2.3.1 Management Priorities

This section will list specific management priorities in addition to the MBTA, BGEPA, and ESA that apply to species occurring within the Project Boundary.

2.3.1.1 USFWS

The USFWS leads efforts to avoid take of species listed under the ESA and works with other agencies to implement conservation and recovery plans for all wildlife, including avian species. As part of administering the MBTA, the USFWS works in partnership with numerous entities to determine status of migratory bird populations and to support avian management plans. The USFWS administers regulations for permitting take of bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*) under BGEPA.² The following species protected by ESA are also protected by USFWS recovery plans.

Marbled Murrelet (*Brachyramphus marmoratus*)

The interim objective of the Marbled Murrelet Recovery Plan of September 1997 (USFWS 1997) is to stabilize marbled murrelet population sizes at or near current levels.

Northern Spotted Owl (*Strix occidentalis caurina*)

The Revised Recovery Plan for Northern Spotted Owls (USFWS 2011) supports the recovery of northern spotted owl so that: (1) populations are sufficiently large enough and distributed such that the species no longer requires listing under the ESA; (2) adequate habitat is available and will continue to exist to allow the species to persist without the protection of the ESA; and (3) the effects of threats have been reduced or eliminated such that populations are stable or increasing and northern spotted owl are unlikely to become threatened again in the foreseeable future.

2.3.1.2 USFS

The U.S. Forest Service (USFS) manages Sensitive Species, which are species recognized by the USFS Regional Forester as needing special management to prevent them from becoming threatened or endangered through actions that will contribute to a loss of viability or cause a

² In 2022, the USFWS proposed rule changes regarding the eagle incidental take permitting program aimed at improving the conservation of both bald and golden eagles.

significant trend toward listing under the ESA. Additionally, USFS has an MBTA Memorandum of Understanding with USFWS that “further clarifies the USFS commitment to bird conservation during forest and project-level planning” (Brewer et al. 2009).

2.3.1.3 NPS

The NPS prioritizes wildlife and habitat on lands managed by the NPS that may be at risk (special-status species). Special-status species include those species listed under the ESA-, state-, local-, and Indian Tribe-listed species; and other native species that are of special management concern including rare, declining, sensitive, endemic, or unique species.

2.3.1.4 WDFW

Under Washington State law (RCW 77.15.130), the nests of birds, with few exceptions,³ are protected from removal or disturbance. WDFW is responsible for enforcement of this statute. WDFW also provides management recommendations for Priority Habitats and Species (PHS) for which special conservation measures should be taken. Priority habitats include those with unique or significant value to a large number of species. Priority species include state endangered, threatened, sensitive, and candidate species, or otherwise vulnerable species.

2.3.2 Permit Compliance

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 USFWS 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 WDFW State Wildlife Permit authorizes the take or harassment of wildlife, when requested, to conduct maintenance and safely operate the Project. The permit prevents the violation of state statute authority when the permit conditions and guidelines are followed.

³ WDFW does not require permission to remove nests of house sparrows (*Passer domesticus*), European starlings (*Sturnus vulgaris*), and rock pigeons (*Columba livia*).

3.0 PLAN IMPLEMENTATION

Upon approval by FERC, the Avian Plan will be implemented in consultation with the SRCC. City Light will continue to implement avian protection measures for routine O&M and new construction, and will incorporate additional measures if new data indicates they are necessary. Habitat enhancement measures will largely be performed through City Light's Vegetation Management Plan (City Light 2023a) and Invasive Plants Management Plan (City Light 2023b), but avian use of managed habitats will be monitored through this Avian Plan. Review of implementation effectiveness will be communicated annually, and formal reports will be submitted to FERC every five (5) years. Implementation of this Avian Plan will include:

- Continue protective measures outlined in Sections 3.2 through 3.3 of this Avian Plan, including the implementation of BMPs.
- Install additional safety protections (e.g., flight diverters, perch or nest deterrents, reconfigure pole tops, etc.) on structures where necessary if bird use creates risk to safe operation or to bird safety.
- Inform City Light's vegetation management crew to increase, maintain, or rehabilitate the quantity, quality, and diversity of avian habitat where feasible.
- Continue annual reporting activities and consultation with SRCC, and necropsy collaboration with the NPS.

The following sections summarize elements of this Avian Plan. Generalized implementation schedules are presented in Table 4.1-1 and Table 4.2-1.

3.1 Avian Species of Management Concern Near Project Facilities

City Light will update the list of avian species of management concern every five (5) years based on review of updated agency species lists, information on species occurrence in the Project Boundary and discussions with the SRCC. Avian species of management concern include:

- **ESA Federally Listed or Proposed Species** – Species that are listed under the ESA of 1973, as endangered or threatened, or proposed for listing.
- **ESA Candidate Species** – USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation has not occurred because of other higher priority listing activities. Candidate species receive no statutory protection under the ESA. However, USFWS encourages the formation of partnerships to conserve these species.

- **WDFW PHS** – Species that are priorities for conservation and management. These include state-listed endangered, threatened, sensitive,⁴ or candidate species and species most in need of conservation action as reported in the State Wildlife Action Plans (SWAP; WDFW 2015) as Species of Greatest Conservation Need. SWAP species includes species that are experiencing threats to their life history needs or habitats; few or low in abundance or distribution; or currently not rare but showing declines in abundance or habitat.
- **USFS Sensitive Species** – Species on the Regional Forester’s List of Sensitive Species for the Mt. Baker-Snoqualmie National Forest (USFS 2004). The Regional Forester’s List does not include species already protected under the ESA. Management Indicator Species are included as Sensitive Species.
- **NPS Management Priority Species** – Species that are categorized as “species that warrant particular management attention as determined by park management staff.” Select species from this extensive list are included as species of management concern, as advised in collaboration with NPS staff.

City Light will provide protections for all avian species, with a focus on species of the highest management concern known to occur in the Project Boundary based on current information. These include bald eagle, peregrine falcon (*Falco peregrinus*), marbled murrelet, golden eagle, northern goshawk (*Accipiter gentilis*), osprey (*Pandion haliaetus*), and northern spotted owl. Barred owl (*Strix varia*) is also considered a species of management concern because of potential effects to northern spotted owl. Osprey is considered a species of management concern because NPS tracks osprey nesting in the North Cascades National Park Complex, and City Light towers are used by nesting ospreys at several locations. Marbled murrelet, golden eagle, northern goshawk, and northern spotted owl and their habitat are discussed at length in relicensing studies by City Light: TR-05 Marbled Murrelet Study (City Light 2023d), TR-06 Golden Eagle Habitat Analysis (City Light 2023e), TR-07 Northern Goshawk Habitat Analysis (City Light 2023f), and TR-10 Northern Spotted Owl Habitat Analysis (City Light 2023g).

Occupancy and productivity of bald eagle, osprey, and peregrine falcon nests will be monitored annually. A monitoring program will be developed that will utilize a combination of autonomous recording units (ARU) for owls and goshawks and protocol surveys for these species and marbled murrelets prior to construction activities in suitable habitat near Project facilities. City Light will update geographic information system (GIS) maps of suitable northern spotted owl, marbled murrelet, and goshawk habitats every fifteen (15) years (Table 4.1-1). Avian species observation databases and maps will be updated with monitoring data annually. If new evidence of occurrence of other species of management concern is documented or suspected, the species will be added to this Avian Plan. This information will be synthesized with WDFW PHS data, NPS observations,

⁴ State endangered species include “a species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state.” State threatened species include any “species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats.” State sensitive species are defined as “a species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the state without cooperative management or removal of threats” (WDFW 2021).

and modeled habitat, and shared with the SRCC and used for collaborative adaptive management decisions.

3.2 Avian Protections

3.2.1 Project Structures

This section describes measures and BMPs to maintain protections for avian species in relation to new and existing Project structures and facilities, including buildings, transmission line towers, and electric transmission lines.

3.2.1.1 Nest Management

When compatible with operations, City Light will allow bird nesting on structures (e.g., osprey nests on transmission towers). When bird use is incompatible with operations, City Light will use humane BMPs to remove nests and exclude birds (e.g., netting in boathouses, perch or nest deterrents on poles). City Light's State Wildlife Permit, issued by the WDFW, includes the following nest management requirements:

- All nests are to be left in place if they do not represent a threat to reliable operations or to the nesting birds themselves, prevent or impede safe access for equipment maintenance, 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 nests⁵ will be removed only when the nesting season is complete, and the nest is inactive; and
- If it is necessary to remove a nest with eggs or young, WDFW will be contacted to ensure the disposition of nests, eggs, offspring to the most appropriate recipients.

3.2.1.2 Transmission and Distribution Line Safety

City Light will maintain and periodically inspect the existing bird flight diverters on transmission line wires near river crossings and bald eagle winter roost areas.⁶ If avian mortalities are documented or areas of high use are noted near the transmission lines representing high collision risk, City Light will evaluate the need for additional avian protection equipment and follow industry standards.

Future collision (transmission and distribution lines) and electrocution (distribution lines) risks will be addressed on a site-specific basis through a structured process to determine if new or additional BMPs or other protections are necessary. These assessments will be performed whenever City Light learns of avian risk issues and will include:

⁵ Nuisance nests are those that do not pose a clear threat/risk.

⁶ Several bald eagle communal winter roosts were documented in the Illabot Creek and Bacon Creek vicinities during the studies conducted in support of relicensing in the 1980s (City Light 2020b).

- Step 1: Identify zones where risk assessments will be performed in areas that have increased probability of collisions or electrocutions using incidental observations from City Light staff and reports from the public;
- Step 2: Conduct risk assessments at zones identified in Step 1, performed by a biologist with input from engineers, if warranted;
- Step 3: Implement avian safety measures (avian-safe configuration, flight diverters, nest or perch deterrents, etc.), as warranted based on risk assessment analysis; and
- Step 4: Document risk assessment, safety measures, and effectiveness monitoring results in scheduled reporting and integrate results into adaptive management decisions.

3.2.1.3 Building Safety

If a Project building is found to be a source of collision mortalities, BMPs for reducing collisions will be implemented (e.g., window treatments, etc.). To prevent entrapment in Project buildings, bird netting will be used to block access to interior perch and nesting locations.

Where lights are required for safety, and where possible, install and/or replace light fixtures at Project facilities that include or can accommodate timers, motion detectors, hue adaptors, and dimmers with lowest lumens possible, as described in the Lighting Management Plan (City Light 2023h).

3.2.2 Operations and Maintenance

This section includes BMPs specific to normal Project O&M and compliance with City Light's existing programs and USFWS and WDFW permits to minimize risk of environmental contamination and disturbance to avian habitats. These BMPs include, but not be limited to, the following:

- Avoid disturbing active bird nests.
- Continue to implement City Light's existing Pesticide Reduction Program for the selection and minimization of herbicide application for invasive plant management and use of rodenticides, spill prevention, and other environmental compliance and management programs that prevent releases of hazardous materials and minimize environmental contamination risks.
- Follow nesting season restrictions and for O&M activities located within or near suitable habitat for northern spotted owls, marbled murrelets, and northern goshawks.
- Apply nesting season restrictions when working in proximity for an extended period to raptor nests, scheduling noisy tasks outside of the nesting period, and following appropriate management guidelines (e.g., National Bald Eagle Management Guidelines [USFWS 2007]) or BAS. Protect all current and future known hunting areas⁷ of overwintering bald eagles from disturbance by avoiding construction or other noisy activities during seasonal hunting periods near foraging and roosting areas.

⁷ Groups of wintering eagles regularly hunt for salmon at the Newhalem Ponds, County Line Ponds, and Illabot Creek areas (City Light 2023e).

- Increase transmission line ROW habitat quality and diversity for birds through City Light's Vegetation Management Plan (City Light 2023a) and Invasive Plants Management Plan (City Light 2023b) by maximizing woody vegetation in riparian zones to extent possible; limiting tree removal along transmission line ROW edges and Project roads to hazard trees; retaining native plant species; reducing invasive plants; using native plant species for restoration; and retaining snag, tall stump, and log habitat features to the extent possible.
- Inform the reservoir shoreline and littoral zone management with sensitive location information and avian habitat and other reservoir management plans.
- Maintain clean work sites and do not provide food for birds in townsites or at Project facilities.
- Coordinate with NPS on specific BMPs for reservoir shoreline work.

3.2.3 City Light Helicopter Flights

This section describes procedures and BMPs collaboratively developed with NPS for City Light helicopter flights in Ross Lake National Recreation Area. These will include but not be limited to the following BMPs:

- Avoid operating helicopters within disturbance threshold distance of species of management concern nests during the nesting season, or near bald eagle wintering habitat during November through February.
- Minimizing low-altitude flights over suitable marbled murrelet and northern spotted owl habitat during nesting season.
- Additional BMPs as determined to protect birds.

3.2.4 New Construction

City Light's BAS for new construction includes standard BMPs and the process for determining the need for additional habitat assessment and protocol surveys to comply with federal and state regulations. New construction involves substantial work (e.g., new structures, relocating a tower or section of Project road, significant construction of shoreline habitat treatments, bridges, or major culvert replacements, etc.) that will directly affect avian habitat or generate substantial noise for a significant period. All new construction projects will be assessed for regulatory compliance and will follow conditions of any acquired permits to avoid or minimize effects. Potentially suitable nesting habitat for species of management concern will be considered occupied unless ground-based habitat suitability assessment or protocol-level nesting surveys confirm the Action Area⁸ lacks suitable habitat. Updates to BAS and BMPs will be made during adaptive management reviews every five (5) years over the life of the license. For each project, procedures and BMPs include, but are not limited to the following:

- Implement nesting season restrictions to avoid or minimize disturbance, when possible.
- Minimize vegetation modification and revegetate disturbed areas using native plant species beneficial to wildlife.

⁸ Action area means all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR § 402.02).

- Minimize affects to wildlife corridors using BAS to inform siting of new facilities. Site-specific habitat and noise effects assessments will be conducted, as appropriate.
- Assess habitat suitability using BAS, mapped habitat, and siting locations in the proposed Action Area and, if appropriate, conduct pre-construction surveys endorsed by USFWS, WDFW, or NPS to inform BMPs and determine regulatory requirements for additional survey or reporting.
- Collaborate with SRCC on proposed BMPs at proposed sites to minimize disturbance or effects to wildlife habitats or species of management concern.
- Minimize vegetation modification and ground disturbance.

3.2.5 Emergency Situations

Emergency situations are instances where there is imminent risk to human life, including a threat of fire hazard, mechanical failure, or power outage. In the event of an emergency situation, City Light will make efforts to avoid direct effects and will communicate with appropriate agencies if these situations arise.

3.2.6 Training and Visitor Education

City Light will provide employee training and outreach to inform visitors to City Light facilities, City Light employees, and contractors on nest protection and conflict minimization (food and garbage management) and providing information on sightings of uncommon species and reporting dead, injured, or sick birds so NPS or WDFW can be notified, and carcasses transferred for necropsy. Observations of species of management concern or dead or sick birds will be added to a database maintained by City Light. Training and outreach will include:

- Conduct annual trainings for employees and contractors on avian conflict reduction and other protection BMPs.
- Coordinate with NPS and USFS to use signage and informational brochures at City Light facilities and recreation sites to educate visitors on practices to minimize effects to birds and avian habitat (e.g., trash, feeding wildlife, fishing lures, reporting observations).
- Disseminate information to staff and visitors for reporting sick or dead birds observed in the Project Boundary to appropriate agencies.

3.3 Avian Habitat Enhancement

City Light will implement avian habitat enhancements to increase the quantity, quality, and diversity of habitat for birds within the transmission line ROW and other areas within the Project Boundary where City Light manages vegetation. Targets for vegetation to create enhanced avian habitat will incorporate natural limitations of the landscape and power line or roadway safety requirements. These targets are anticipated to align with the specific land ownership and associated management goals and may be focused on habitats specific to avian species of management concern. In areas not specifically identified to meet specific target habitat enhancements, City

Light will apply the “modified wire-border zone” approach⁹ to increase shrub habitat and stratify the trimmed edges (e.g., along Project roadways) of vegetation to increase habitat transitions.

To the extent possible, Before-After-Control-Impact (BACI)¹⁰ design will be used to assess avian habitat changes and use as a component of this Avian Plan. City Light will execute vegetation management strategies to progress the avian habitat enhancement targets through City Light’s Vegetation Management Plan (City Light 2023a) and Invasive Plant Management Plan (City Light 2023b). Avian use will be monitored at selected treatment sites representative of habitat enhancements sharing similar enhancement targets using photo points and habitat characterization.

⁹ The wire zone is the section of the transmission line ROW directly under the wires and extending outward a short distance and is managed to promote a low-growing plant community dominated by graminoids, herbs and small shrubs. The border zone is the remainder of the transmission line ROW, managed to establish tall shrubs. When properly managed, diverse, tree-resistant plant communities develop, which protect powerlines, reduce long-term maintenance, and enhance wildlife habitat, forest ecology and aesthetic values (NERC 2011).

¹⁰ BACI is used to evaluate environmental responses by comparing changes in response before and after treatments, with the disparity interpreted as evidence of and effect of the treatment. In this application, the treatment will be specific vegetation management strategies and the response will be changes in quantity and diversity of avian use.

4.0 MONITORING, REPORTING, AND COMMUNICATIONS

This section describes the monitoring efforts that will document progress towards Avian Plan goals and objectives. Monitoring is an extension of City Light's protection and enhancement implementation and will use baseline information from City Light relicensing study efforts. The goals of monitoring are to determine the effectiveness of protection measures and avian habitat enhancement, and to inform adaptive management updates to this Avian Plan.

4.1 Monitoring Protective Measures

City Light will include the following protection monitoring elements (see Table 4.1-1 for schedule):

- Record avian mortalities within the Project Boundary compiled from staff observations and synthesis with NPS mortality information, including necropsy results that could inform potential Project effects and need for modifying BMPs;
- Inspect installed avian protection equipment and maintain GIS database of installed equipment and mortality incidents;
- Monitor of bald eagle, osprey, and peregrine falcon nest sites to report occupancy, productivity, and document any potential human-caused issues;
- Document all City Light helicopter flights in Project Boundary; and
- Perform auditory monitoring surveys for northern spotted owls and northern goshawks and auditory/visual surveys for murrelets in suitable habitat near Project facilities.

Table 4.1-1. Timeline of protective measure activities.

Timeline	Protection Activity
Annual activities	Conduct annual trainings for employees and contractors on avian protection BMPs.
	Conduct annual monitoring of bald eagle, osprey, and peregrine falcon nest sites within the Project Boundary in coordination with NPS to document occupancy and productivity and identify potential Project conflicts.
	Timely documentation and reporting to USFWS and WDFW of avian collisions or mortalities near Project facilities and carcasses transferred to NPS for necropsy.
	Update GIS database of avian protection measures (e.g., treatment on transmission lines) and sensitive areas (e.g., known nests, suitable habitat) and analyses for effectiveness.
	Update database of priority avian species to complement agency data for peregrine falcon, osprey, and bald eagle nest site locations and productivity and management issues and observations of other species of management focus.
	Update and synthesis confidential database of species of management concern species observations and other available information within the Project Boundary.
Within two (2) years of license issuance	Develop methods and locations to monitor avian habitat enhancements within the transmission line ROW.
	Coordinate with NPS and USFS to use signage and informational brochures at City Light facilities and recreation sites to educate visitors on practices to minimize effects to birds and avian habitat (e.g., trash, feeding wildlife, fishing lures, reporting observations).
	Disseminate information to staff and visitors for reporting sick or dead birds observed in the Project Boundary to appropriate agencies.
Every five (5) years following license issuance	Conduct surveys for northern spotted owl, marbled murrelet, and northern goshawk for habitat and species presence at select sites within the Project Boundary between Ross Dam and the Bacon Creek confluence with the Skagit River. These surveys may include use of ARUs for northern spotted owl and northern goshawk, ground-based auditory/visual surveys, and/or habitat assessments using accepted methods in prioritized areas.
Every fifteen (15) years following license issuance	Update GIS maps of potentially suitable habitat for northern spotted owl, marbled murrelet, and northern goshawk within the Project Boundary and 0.5-mile buffer and near ancillary facilities plus a 0.5-mile buffer within five (5) years after license issuance for the first fifteen (15) years.
As needed	Evaluate habitat suitability for species of management concern within the Project Boundary near select Project activity sites, ancillary City Light facilities, or near planned major construction sites.

4.2 Monitoring Enhancement Measures

City Light will monitor the progress of habitat enhancements by measuring changes in avian use through this Avian Plan, in conjunction with changes in vegetative habitat through City Light's Vegetation Management Plan (City Light 2023a). Per the schedule for specific treatment sites, survey breeding birds using point count or transect surveys of breeding birds at locations within habitat enhancement areas and measure vegetation variables associated with habitat quality for avian indicator species selected with the SRCC to document changes in habitat suitability for avian species (Table 4.2-1).

Table 4.2-1. Timeline of enhancement measure activities.

Timeline	Enhancement Activity
Within three (3) years of license issuance	Initiate vegetation management activities for habitat enhancement, including minimizing non-native invasive species or non-compatible species, and encouraging or planting species compatible with both the wire-border zone method and avian habitat enhancement goals.
Years 2-4 of license issuance	Determine locations and target vegetation to enhance avian habitat through vegetation management actions. Survey avian use at target locations for two (2) years prior to treatment through vegetation management once locations are established. Surveys may begin earlier if appropriate locations are identified.
Within five (5) years of license issuance	Monitor habitat enhancement locations for changes in avian use concurrent with changes in vegetation composition and structure (i.e., habitat enhancement). Monitoring will begin within one (1) year of treatment, and following intervals will be based on the treatment action and the habitat (i.e., grasslands may be monitored years 1, 2, 3, and 5, while shrub habitats may be monitored years 1, 5, and 10).
Every ten (10) years	Monitor habitat enhancement locations for changes in avian use concurrent with changes in vegetation composition and structure (i.e., habitat enhancement) every ten (10) years following treatment.

4.3 Adaptive Management

This section describes the application of adaptive management by which City Light will gather information, synthesize new and existing information, and assess the need to update management decisions outlined in this Avian Plan. Adaptive management will be applied to each implementation activity through monitoring using information gathered during City Light's relicensing study data as baseline. At five (5) year intervals, City Light will collaborate with the SRCC to evaluate monitoring information to determine if new BAS, BMPs, or changes in other management decisions will increase the success of the protection and enhancement measures included in this Avian Plan.

4.4 Reporting Schedule

City Light will engage in regular communications with the SRCC and scheduled submittals to FERC. City Light will report annually to the SRCC on avian use locations, avian protection equipment, and documented Project-related avian mortalities, number of avian protection measures implemented, monitoring results during years when data is collected, and other pertinent issues. Every five (5) years, City Light will file a report with FERC describing implementation and any proposed modifications to the Avian Plan based upon the results of monitoring and consultation with the SRCC.

Annual reporting will include compliance with USFWS and WDFW permits:

- City Light's annual reports to the USFWS will include a summary of all activities conducted the previous year that include all birds collected and any active nests relocated or destroyed, as well as all eagle or threatened or endangered species discovered. Additional information to be recorded, which may not be included in annual reporting but available upon request,

includes the relocation of inactive nests, migratory birds obtained by donation, and mortality events involving unexpectedly high numbers of birds.

- Annual reporting to the WDFW will include a summary of any avian wildlife effected by City Light management activities, including nest removals.

4.5 Communications

City Light will communicate regularly with the SRCC in order to make coordinated, timely, and informed decisions while implementing the Avian Plan. Because of simultaneous implementation of multiple resource management plans (i.e., cultural, wildlife, fish and aquatics, etc.), cross-resource communication will be necessary. An important goal of this communication will be to achieve a balanced integration of resource goals in the Project Boundary. Coordination processes may include:

- Clarifying resource goals, objectives, and priorities;
- Ongoing consultation with relevant resource groups and other entities;
- Sharing information used to make resource decisions; and
- Solving problems and resolving issues.

If City Light and WFWS, NPS, or USFWS collaboratively determine that revisions to this Avian Plan should be made, City Light will make any revisions in coordination and consultation with the SRCC and shall be filed with FERC for approval prior to implementation.

5.0 REFERENCES

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