

## Avian Protection

### Packwood Lake Hydroelectric Project

## Avian Protection

- Transmission line associated with the project is short (~1.5 miles)
- Line is located in 3 areas (powerhouse area, along tailrace canal, along highway US12)
- Maintenance work performed by others (Lewis County PUD)
- PUD has upgraded the US12 section of the lines

# Avian Protection

- Compared to EEI / USFWS guidance
- Poles often near taller trees / perches making them less attractive
- Conductor configuration favorable to avoid electrocution (conductors not in close proximity)
  - Vertical (near powerhouse, corners, along US12)
  - Wishbone (along tailrace canal)
- PUD does not experience bird problems with these two line configurations
- No known avian problems reported by operators
- If necessary, trigger requirements on upgrade (build to standard when upgraded)

## USFWS Guidance Used (Cover Page)

AVIAN PROTECTION PLAN (APP)  
GUIDELINES



*A Joint Document Prepared By*

The Edison Electric Institute's Avian Power Line  
Interaction Committee (APLIC)

*and*

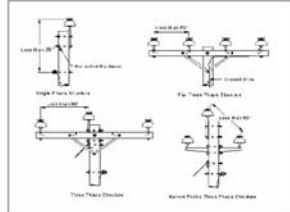
U.S. Fish and Wildlife Service (USFWS)

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# USFWS Guidance Avian Risk Structures

AVP Guidelines

1. The distance between conductors is less than the wingspan or height of a landing or perching bird (see Figure 3).
2. Hardware or equipment cases are grounded and are in close proximity to energized conductors, energized parts or jumper wires (see Figure 4).



31

## Pole near Powerhouse Substation (Vertical Configuration)



## Poles Along Tailrace Canal (Wishbone Configuration)



## Poles Along Tailrace Canal (Looking Upstream)



Poles Along Tailrace Canal  
to US 12 Line (Looking Downstream)

