

Big Four Boardwalk Replacement Project
Wildlife Specialist Report and Biological Evaluation
Phyllis Reed 06/19/17 Updated 05/07/19

Purpose and Need: Big Four Trail is one of the heaviest used trails on the Mt. Baker Snoqualmie NF. It provides 1.25 miles of barrier free trail which passes through beaver ponds and wetlands, providing visitors with views of a variety of peaks: Big Four, Stillaguamish and Dickerman, as well as bird and wildlife watching. The boardwalk trail was last updated in 1996 when the Big Four area received funding for various improvements along the Mt. Loop Scenic Highway, including construction of ~750' of boardwalk and 20' bridge. Now almost 20 years later the boardwalk is reaching the end of it's lifespan to provide a safe passage route for visitors. Therefore, there is a need to restore safe user access to the Big Four Ice Caves Trail #723 as designated in the Forest Plan. There is also a need to meet the following Aquatic Conservation Strategy objectives:

- #2. Maintain and restore spatial and temporal connectivity within and between wetlands
- #3. Maintain and restore the physical integrity of the aquatic system
- #7. Maintain and restore timing, variability and duration of floodplain inundation and water table elevation in meadows and wetlands

Proposed Action: The USFS proposes to replace the boardwalk and bridge on this trail within the footprint of the 1996 construction. New boardwalk construction would be approximately 750 feet and 8 feet wide so as to better pass hikers and wheelchair users. Materials would be consistent with ARBOII. The boardwalk would be elevated approximately 1 foot so as to better pass flows beneath the boardwalk and provide aquatic connectivity within the wetland. The elevated boardwalk would also enhance the physical integrity of the aquatic system to allow floodplain induction of the meadow and wetland. The boardwalk plans currently include use of standard boardwalk designs (STD _938-100001 to 03).

The project is located on the Darrington District, east of Granite Fall, in T30N; R10E; Sec. 22

Federally listed Threatened and Endangered Species

Northern Spotted Owl and Marbled Murrelet

The proposed boardwalk replacement is located in previously disturbed areas, and wetland with the current vegetation of shrubs and forbs. Beavers continue to live in the area and keep the wetland in a series of ponds with adjacent shrub, meadow and forest wetland. The boardwalk area does not provide suitable nesting habitat for spotted owl and marbled murrelets. Adjacent forest within 300 yards of the wetland consists of older trees and would provide foraging, and roosting habitat for owls, and potential murrelet habitat.

Spotted Owl Effect determination: Due to the lack of suitable nesting habitat and the retention of dispersal habitat conditions, the project would have no change in nesting habitat or dispersal habitat for the northern spotted owl. The boardwalk trail, picnic area and parking lot are sources of high human activity and background ambient noise levels from visitors and motorized vehicles. The proposed activity would include motorized equipment in the boardwalk replacement that would be within the background noise levels of the parking lot activities: noise disturbance activities would be greater than 120 yards from suitable nesting habitat. Due to no impacts to habitat, and no noise disturbance expected from the boardwalk replacement activities, there would be no effect to the spotted owl.

Marbled Murrelet Effect determination: Due to the lack of suitable nesting habitat in the project area, there would be no change in murrelet nesting habitat. The motorized equipment and noise generating activities that would be part of the project would be greater than 120 yards from forest with suitable murrelet nesting habitat. There would be no effect from the construction and continued use of the boardwalk to the marbled murrelet as described above in the spotted owl determination.

Spotted Owl and Marbled Murrelet Critical Habitat: The boardwalk replacement is located in critical habitat designations for spotted owl and marbled murrelet, but is located in a wetland habitat that is not suitable nesting habitat for either spotted owl or marbled murrelets. Beaver are expected to continue activities in the area and to maintain the pond complex, therefore the boardwalk replacement would not change suitability of project area critical habitat for spotted owl or marbled murrelet. The retention of the boardwalk trail would not have a measurable impact on critical habitat for spotted owl or marbled murrelet.

Gray Wolf

Currently, only dispersing animals would be expected to occur in the project area since an adequate prey base to support resident wolves is not present. There would be no change in road density and the project is not expected to affect dispersal patterns or habitat for gray wolf. As a result, there are no effects expected for gray wolf.

Grizzly Bear

The proposed sites are located in the Boulder Bear Management Unit (BMU #8). There are no known detections or sightings (30 plus years) of grizzly bear in the area. Black bear are frequently sighted in the Perry Creek drainage, and picnic sanitation is a management emphasis for the high use visitor area. Beaver are expected to continue activities in the area and to maintain the pond complex. Forage and denning habitat would be not be affected and there would be no change in vehicle access or road density, and therefore no change in core habitat. Therefore, the project is expected to have no effect on grizzly bear.

Regional Forester's Sensitive Species

The species listed below are on the Regional Forester's Sensitive Animal List (updated 12/9/2011) <http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/> for the Pacific Northwest

Region, and are documented or suspected to occur on the MBS. The sections in this document addressing these species meets the requirements for Sensitive Species as described in FSM 2670.

- Bald Eagle (*Haliaeetus leucocephalus*)
- Common loon (*Gavia immer*)
- American Peregrine falcon (*Falco peregrinus anatum*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- California wolverine (*Gulo gulo*)
- Larch Mountain salamander (*Plethodon larselli*)
- Van Dyke's salamander (*Plethodon vandykei*)
- Mountain goat (*Oreamous americanus*)
- Northern Goshawk (*Accipiter gentilis*)
- Harlequin Duck (*Histrionicus histrionicus*)
- Puget Oregonian (*Cryptomastix devia*)
- Evening fieldslug (*Deroceras hesperium*)
- Warty jumping slug (*Hemphillia glandulosa*)
- Oregon megomphix (*Megomphix hemphilli*)
- Shiny tightcoil (*Pristiloma wascoense*)
- Broadwhorl tightcoil snail (*Pristiloma johnsoni*)
- Johnson's hairstreak (*Callophrys johnsoni*)
- Melissa artic butterfly (*Oeneis melissa*)
- Valley Silverspot butterfly (*Speyeria zerene bremnerii*)
- Western bumble bee (*Bombus occidentalis*)
- Little brown myotis (*Myotis lucifugus*)
- Cascade red fox (*Vulpes vulpes cascadenis*)

There is no potential habitat for common loon (large lakes), Larch Mountain and Van Dyke's salamander (range is south of US 2), peregrine (cliff areas). Harlequin ducks are associated with the river and adjacent river riparian areas, of which there would not be impacts associated with this project. Due to the lack of habitat, this project would have no impact on these species. The proposed sites is not suitable habitat for target mollusk species as described under survey and manage species. Proposed activities are not expected to affect populations of any sensitive species on the Forest, and therefore, will have no effect to the viability of these species or likely lead to federal listing.

Bald Eagle The bald eagle was delisted in 2007. The project area does not provide nesting habitat for bald eagle, and is not known to be occupied in the winter months, likely due to the Granite Falls limiting passage of anadromous fish, resulting in a lack of forage items. The project would be completed in the summer months and would not disturb wintering bald eagles if in the area. Therefore the project and have no impacts on bald eagles or bald eagle habitat and would not contribute to a trend towards federal listing.

Townsend's big-eared bat: Potential foraging habitat may occur in the project area. Roosting habitat in the form of mines, buildings, bridges or caves has been documented for Townsend's big-eared bats with none of these features found in the project area. The footbridge on the boardwalk does not have the desired structure to serve as a roosting site. Beaver are expected to continue activities in the area and to maintain the pond complex which would serve as both a water source and foraging area for bats.. Due to the absence of impacts on foraging or roosting habitat, this project would have no impact on Townsend's big-eared bat or habitat and would not contribute to a trend towards federal listing.

Little Brown Myotis Bat: Little brown myotis have been observed in the Darrington District and may occur in the project area. The project would not result in changes in features described as maternal or day/night roosts, and as described above, would not change foraging habitat for bats. Therefore the project would not impact the little brown myotis or contribute to a trend towards federal listing.

Northern Goshawk: There would be no changes in habitat for the goshawk from the proposed activities. Goshawk within the project area would continue to be exposed to the existing levels of disturbance within the analysis area, which includes recreation associated with vehicles parking and visitor use in the area for picnics, bird watching and hiking. Therefore the project would not impact the northern goshawk or contribute to a trend towards federal listing

Wolverine - While there have been no wolverine individuals confirmed to occur in the immediate area, wolverine have been detected on the District and there is the potential for wolverine movement between suitable habitat areas. As a relatively large predator, wolverines are dependent on large prey items such as deer, and covering a very larger home range to scavenge for food. Wolverine populations, as common with many large predators, have historically been low in abundance. The projects would not alter habitat suitability or result in habitat displacement. No changes to prey habitat are expected. Site maintenance by walk-in visits would be similar to the recreational use in the areas and not be a change in the current human access and presence in the areas. As a result of the low likelihood of disturbance and no change to habitat, this project is expected to have no impact to wolverine and would not contribute to a trend towards federal listing.

Johnson's hairstreak – *Mitoura Johnsoni* - The most recent documented sighting of Johnson's hairstreak on the Darrington District was on July 19, 2008 in the S.F. Sauk River. The specimen was netted to confirm identification, and later released. Coordinates are N 48.00094, W 121.42828. Elevation was at 733 m. Sighting was in an open patch of the forest along the trail, dominate vegetation was mature Western Hemlock, Douglas-fir, with some occasional Western red cedar. For Snohomish County, historic locations include one adult found near Verlot in 1953, 1 larva found in Snohomish, and one adult and one larva found at Garland Mineral Springs near Index in 1960 and 1961, respectively. This species is associated with mistletoe that the larva uses as a forage source. Due to the location of the proposed boardwalk replacement, the project is outside of the preferred habitat with abundant live mistletoe trees. There would

be no mistletoe tree removal and therefore no impact to the Johnson's hairstreak habitat. This project would not contribute to a trend towards federal listing.

Cascade Red Fox - There are no known sightings of Cascade red fox in the project area, and while this species is most often associated with upper elevation areas they could disperse or move through lower elevations. The proposed action would make no substantial change in the current stand conditions or road density. There would be no changes in habitat conditions that would favor a prey base for the fox and there would be no changes to conditions that might limit safe passage of fox through the area. Potential human disturbance would continue with heavy recreational use of the area for picnics, bird watching and hiking. As a result of no change to habitat, this project is expected to have no impact to red fox and would not contribute to a trend towards federal listing.

Mountain Goat – Mountain goats are known to use the mountainous habitat within the Big Four Mountain area, but are not associated with the wetland and pond complex that the boardwalk crosses. The proposed trail project would not change forage or escape habitat for mountain goats. Heavy recreational use within the project area is expected to continue. The proposed sites would not change mountain goats habitat or provide an additional human presence that would alter goats' use of the areas. The proposed project would have no effect on the viability of this species and would not contribute to a trend towards federal listing.

Management Indicator Species

There would be no impact for Forest Plan Management Indicator Species (MIS) from this project. Forest Plan MIS already discussed above include: spotted owl, bald eagle, mountain goat. There would be no change in habitat conditions for pine marten and therefore no impacts to the species. The project would not impact standing trees or snags so there would be no change in woodpecker habitat, including pileated woodpecker. The proposed activities would not affect populations of any management indicator species on the Forest, and therefore, will have no effect to the viability of these species.

Neotropical Migratory Birds

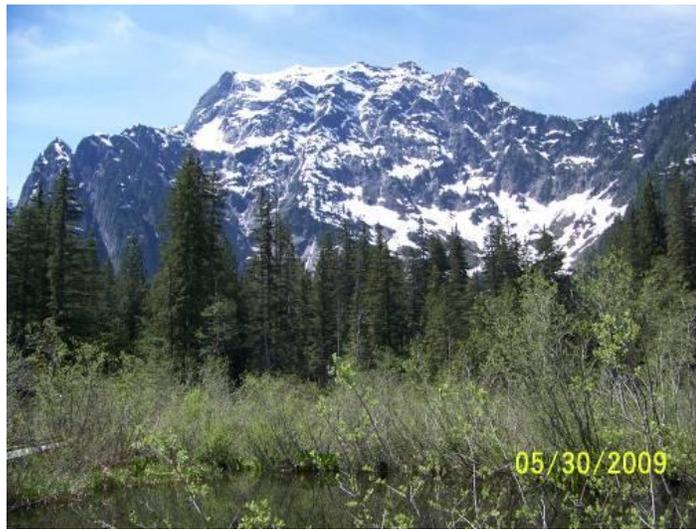
This project would affect ground vegetation with a few trees of small diameter and shrubs removed where neotropical birds may nest. Due to the limited scale and scope of the project (<0.5 ac/site), impacts to neotropical migratory birds are expected to be minimal.

Survey and Manage Species

On December 17, 2009, the U.S. District Court for the Western District of Washington issued an order in Conservation Northwest, et al. v. Sherman, et al., No. 08-1067-JCC (W.D. Wash.), granting Plaintiffs' motion for partial summary judgment and finding NEPA violations in the Final Supplemental to the 2004 Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines (USDA and USDI, June 2007). In response, parties entered into settlement negotiations in April 2010, and the Court filed approval of the resulting Settlement Agreement on July 6, 2011. Projects that are within the range of the northern

Species or Habitat	Forest Status	Preferred Habitats	Habitat Present in Analysis Area	Effects Determination proposed Action
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spotted owl are the survey and management and guidelines in ROD, as modified Settlement Agreement.

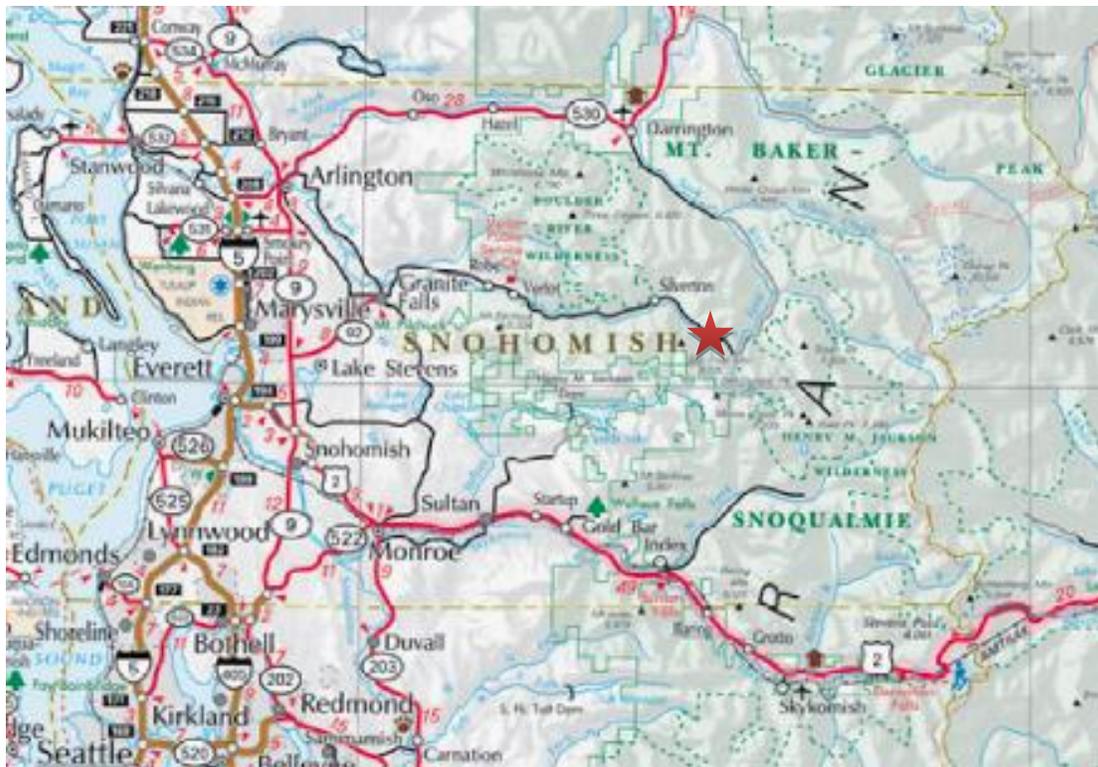


subject to standards the 2001 by the 2011

The Boardwalk replacement project is not associated with suitable habitat for the target mollusks. *Cryptomastix devia* is a snail species reported to use old forest habitat < 1500 ft. above sea level and therefore the sites are outside of suitable habitat. Due to the lack of suitable habitat, no mollusk survey and manage surveys were conducted. The project would be consistent with the Mt. Baker-Snoqualmie Forest Land and Resource Management Plan as amended by the 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (2001 ROD), as modified by the 2011 Settlement Agreement.

Gray Wolf (<i>Canis lupus</i>)	Federally Endangered WA	Security habitat > 300 m from road, ungulate prey base	Y	No effect, no hab. change
Marbled Murrelet (<i>Brachyramphus marmoratus m.</i>)	Federally Threatened	Mature, old-growth forests (nesting, roosting)	N	No effect, no hab. change
Critical Habitat, Marbled Murrelet	Federally Designated	Mature, old-growth forests (nesting, roosting)	Y	No effect, no hab. change
Northern Spotted Owl (<i>Strix occidentalis caurina</i>)	Federally Threatened/MIS	Mature, old forest (nesting, roosting, foraging); second-growth - dispersal	Dispersal	No effect, no hab. change
Critical Habitat, Northern Spotted Owl	Federally Designated	Mature, old-growth forests (nesting)	Y	No effect, no hab. change
Grizzly Bear (<i>Ursus arctos horribilis</i>)	Federally Threatened/MIS	Security habitat > 300 m from road	CHUs #8, #10 & #11	No effect, no hab. change
California Wolverine (<i>Gulo gulo luscus</i>)	R6 –Sensitive	Large expanse of minimally disturbed forest Avalanche chute, snow - dens	Y	No impacts, no hab. change
Harlequin Duck (<i>Histrionicus histrionicus</i>)	R6 -Sensitive	Swift moving streams (rivers or creeks) for nesting and brooding young	N	NA
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	R6 –Sensitive	Abandoned mine & human-made structures for roosting and hibernacula; Foraging in forest edges & riparian areas	Y foraging	No impacts, no hab. change
Johnson's hairstreak butterfly (<i>Callophrys johnsoni</i>)	R6 –Sensitive	Old-growth coniferous forests; associated with conifer mistletoe (genus <i>Arceuthobium</i>)	N	No impacts, no hab. change
Melissa arctic butterfly (<i>Oeneis melissa</i>)	R6 –Sensitive	Sedges in talus slopes, rocky summits and saddles and frost-heaved clear-cuts	Unk, 2012 Okanogan	NA
Valley Silverspot butterfly (<i>Speyeria zerene bremnerii</i>)	R6 –Sensitive	Open prairies and grasslands	No	NA
Shiny tightcoil snail (<i>Pristiloma wascoense</i>)	R6 -Sensitive	Mid to high elev. D-fir and ponderosa pine, ecological associations not well known	no historic detection	NA
Broadwhorl tightcoil snail (<i>Pristiloma johnsoni</i>)	Sensitive/survey and manage	Leaf litter deciduous- coniferous forests below 1300 m elevation	no historic detections	NA
Bald Eagle ² (<i>Haliaeetus leucocephalus</i>)	Sensitive/ MIS	Roost, nest & forage near lakes, rivers with available food source (fish & carrion)	No	No impacts, no hab. change
Mountain goat (<i>Oreamous americanus</i>)	Sensitive/ MIS	Cliff and alpine habitat	Y	No impacts, no hab. change
Peregrine Falcon (<i>Falco peregrinus</i>)	R6 –Sensitive	Cliff nest sites, hunts open areas	No	NA
Common Loon (<i>Gavia immer</i>)	R6 –Sensitive	Nests on banks of lakes/ponds	No	NA
Northern Goshawk (<i>Accipiter gentilis</i>)	R6-Sensitive/WA	Associated with mature to old forest stands, but found in 2 nd growth stands	Y	No impacts, no hab. change
Western bumble bee (<i>Bombus occidentalis</i>)	R6 –Sensitive	Early seral vegetation - pollinator	Y	Retain habitat
Little brown myotis (<i>Myotis lucifugus</i>)	R6-Sensitive/WA	Caves, mine tunnels, hollow trees, bridges or buildings as roost sites. Forest foraging	Y	No impacts, no hab. change
Cascade red fox (<i>Vulpes vulpes cascadenis</i>)	R6-Sensitive/WA	Mixture of forest and open country	N	No impacts, no hab. change
Pileated Woodpecker (<i>Dryocopus pileatus</i>)	MIS	Old-Growth and Mature Forest, Puget Sound to mountains	N	NA
Primary Cavity Excavators	MIS	Snags and Downed Logs	Y	No impacts, no hab. change
Pine marten (<i>Martes americana</i>)	MIS	Downed Logs, mature and old growth forests. Silver-fir zone	y	No impacts, no hab. change

Puget Oregonian snail <i>(Cryptomastix devia)</i>	Survey & Manage	Associated with hardwood logs, leaf litter, moist rocks and talus.	N	NA
Migratory Birds/Golden eagle	Species of Concern	Vegetation of all successional stages. Golden eagle- cliffs, open area foraging	Y	No impacts, no hab. change
Deer and Elk	Species of Concern	Vegetation providing both cover and forage Forage in early seral vegetation	Y	No impacts, no hab. change



Location

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USFWS Website for spotted owl and marbled murrelet information

USFWS. 2004. Skagit Eagle Web site. <http://www.skagiteagle.org/>

USFS/BLM Interagency Special Status/Sensitive Species Program (ISSSSP) web site. <http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>

USFS/BLM A spreadsheet titled *Survey and Manage Species List: Categories from 2001 ROD, 2001-2003 ASR, and 2011 Settlement Agreement* is available at: <http://www.blm.gov/or/plans/surveyandmanage/gg.htm>.

WDFW Web site. Species of Concern List including species listed as State endangered, State threatened, State sensitive, or State candidate, as well as species listed or proposed for listing by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service <http://wdfw.wa.gov/wlm/diversty/soc/concern.htm>