

Status of the Cascade Red Fox in Washington



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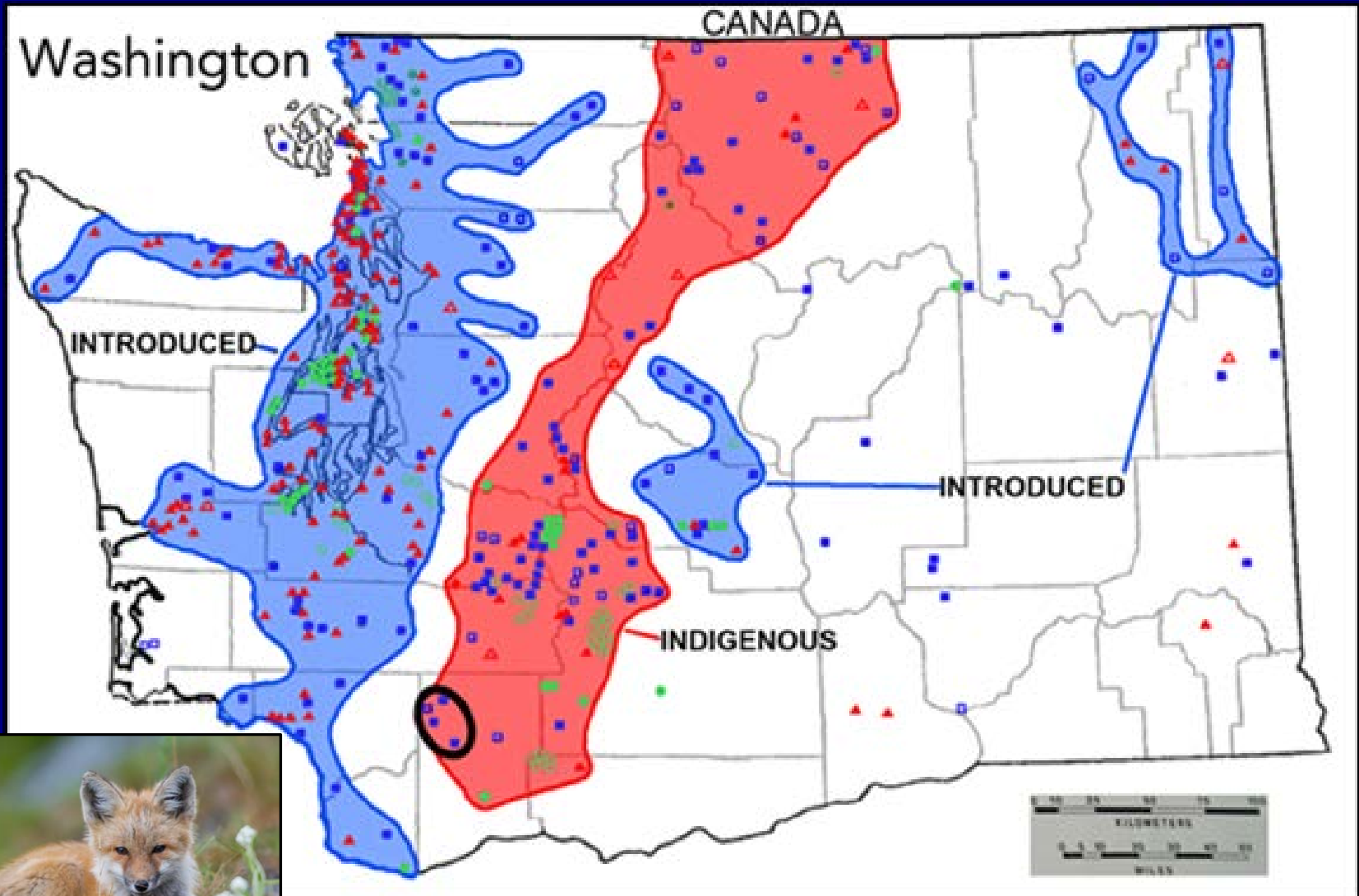
Washington Department of
FISH and WILDLIFE

Natural History of the Cascade Red Fox

- One of 3 red foxes that occur in Washington
- Now occurs only in Washington
- Exhibits the 3 common color phases: red, cross, silver/black.
- Occupies high-elevation meadows, parklands and open forests. Adapted for existence in cold, snowy, mountainous environments
- Diet: relies heavily on mammals (snowshoe hares, voles, gophers); also includes berries, insects, and birds



Historical Range of the Cascade Red Fox in Washington



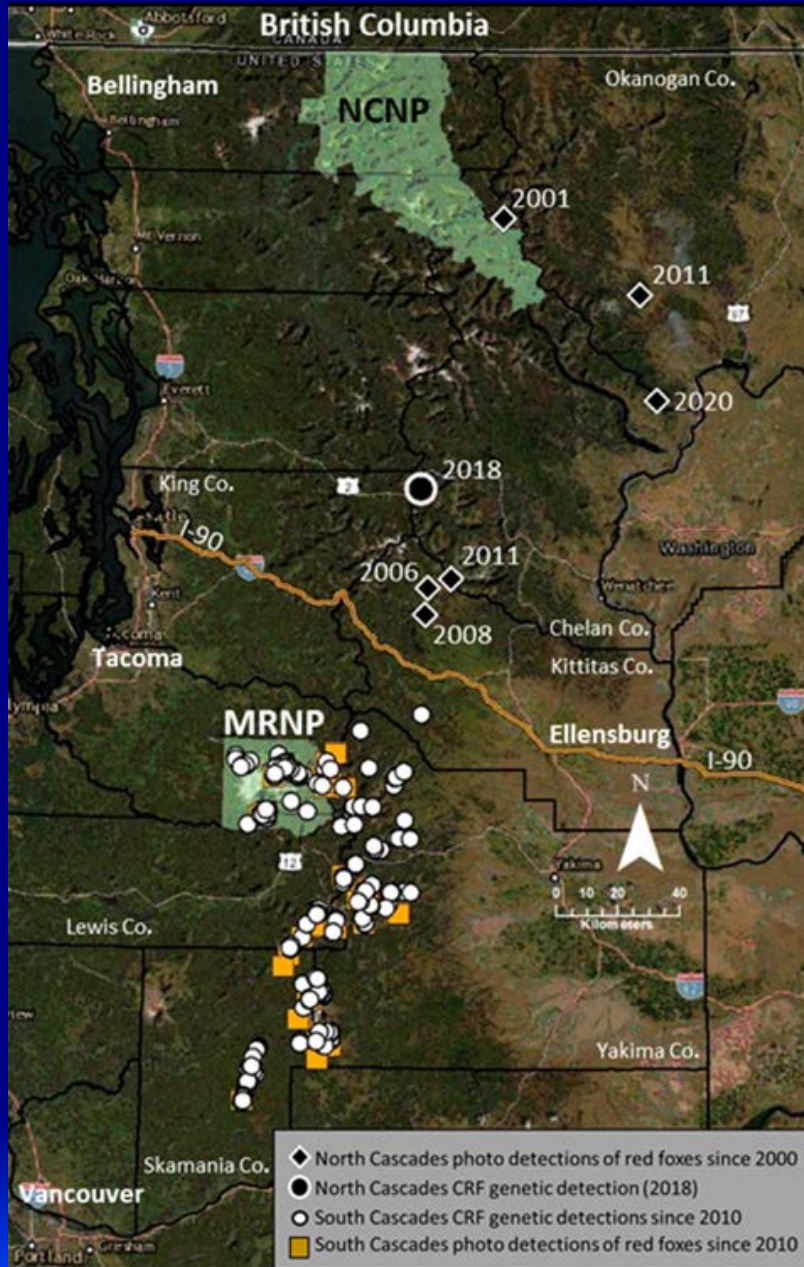
Conservation Status of Cascade Red Fox in Washington

Currently the Cascade red fox is:

- A furbearer that is unlikely to be harmed by trapping activities
- A game species, but the red fox hunting season is closed where most CRFs occur: in National Forests and National Parks in the Cascade Range
- A Species of Greatest Conservation Concern (SGCCN; 2015 SWAP); highly vulnerable to climate change
- Classified as an S1 species by NatureServe/WNHP
- A candidate for listing within Washington



Current Range of the Cascade Red Fox in Washington



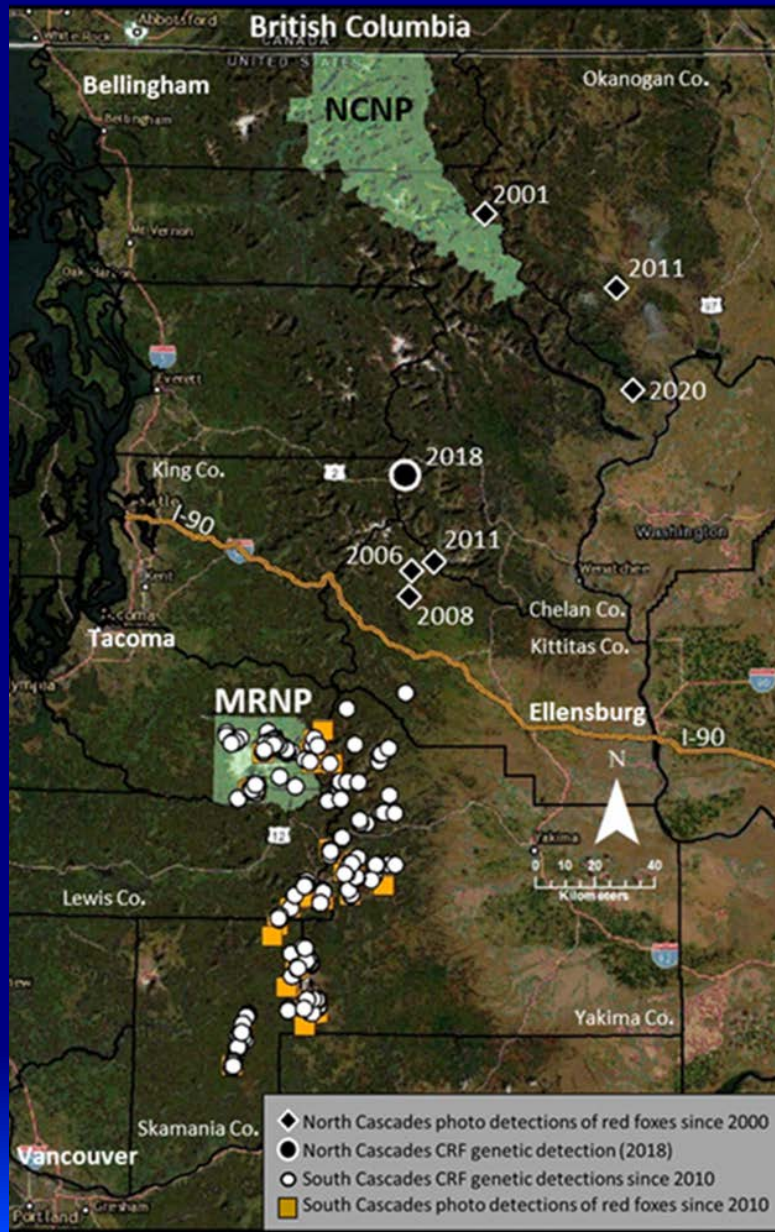
Currently the Cascade red fox:

- South Cascades – Since 2010:
 - Occupies the high elevation parklands, subalpine meadows and open forests south of I-90
- North Cascades- Since 2000:
 - 7 verifiable detections of red foxes,
 - Only 1 confirmed CRF
 - No known CRF population
 - >50% of the historical range may be unoccupied

Figure 4. The recent distribution of verifiable detections of Cascade red foxes (via genetic analysis) and verifiable red fox detections (via photos) in the vicinity of the historical range of the Cascade red fox in Washington (Akins and others 2017; WDFW, unpubl. data; Cascade Carnivore Project, unpubl. data). NCNP = North Cascades National Park, and MRNP = Mount Rainier National Park.

Current range vs recent surveys in the North Cascades

Current Range



Recent survey effort in the North Cascades

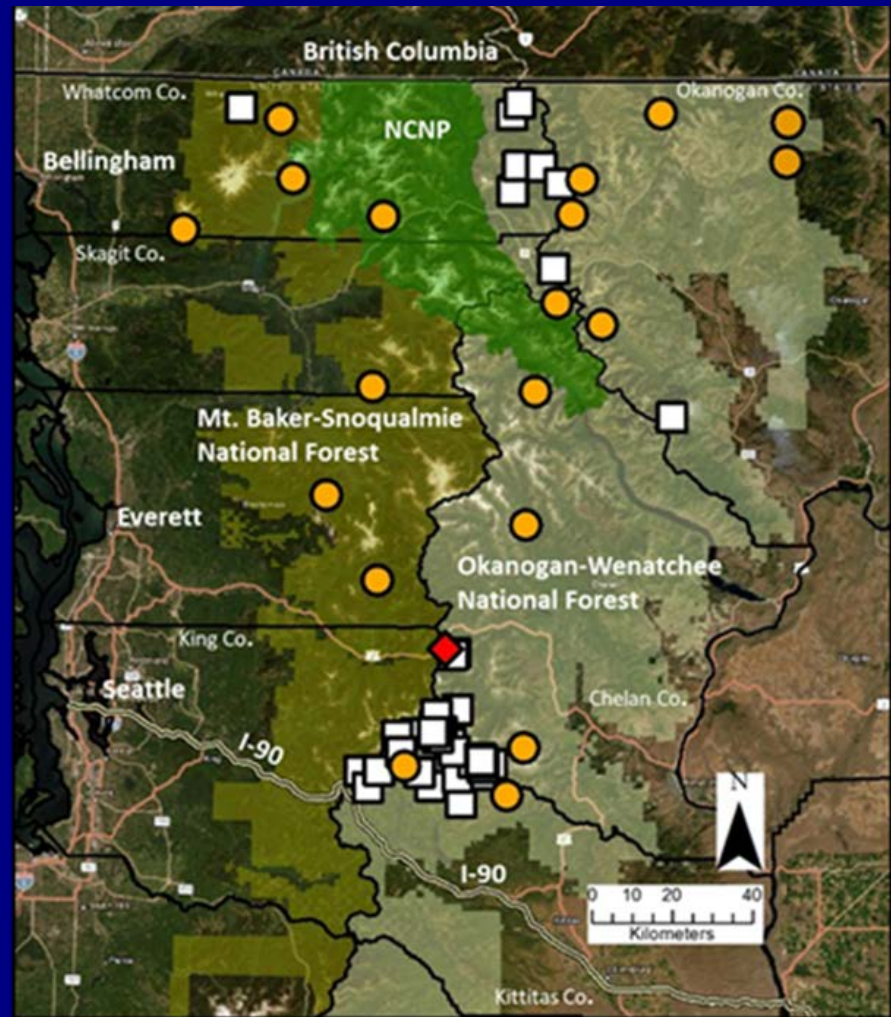


Figure 5. Locations of remote camera stations deployed in the North Cascades Ecosystem by the Cascades Carnivore Project and cooperators from 2013 to 2019 (white squares; $n = 46$) and in winter of 2016-2017 by the Washington Wolverine Survey (orange circles; $n = 19$). No Cascades red foxes were detected at these stations. The red diamond indicates a Cascade red fox detection that was determined via DNA analysis of a scat collected near Steven's Pass by J. Akins in August of 2018.

Surveys and Detections of Cascade Red Foxes

Scat/urine/hair collection: for DNA detections to species and individual (Akins 2017, Akins et al. 2018)



Detections (of red foxes) at baited camera-stations set deployed for CRF or other species



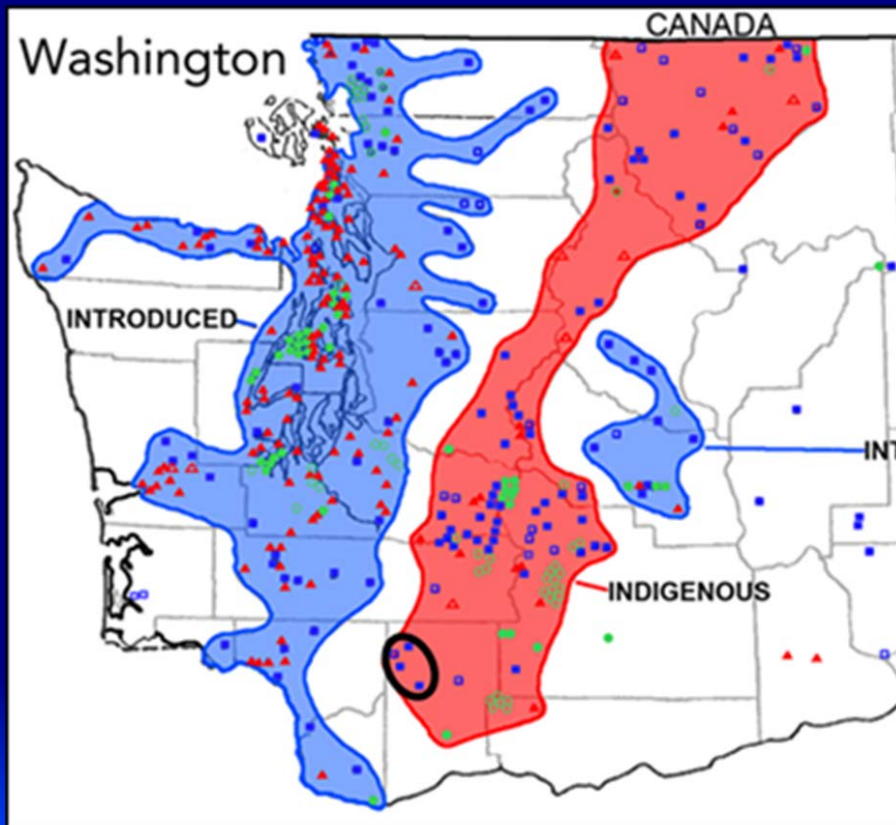
Detections at passive camera stations placed on roads and trails; often deployed to detect multiple species and to target lynx in the North Cascades



Factors Affecting Cascade Red Foxes

Range Contraction/Small Population Size

- Range Contraction: the known population occupies < 50% of the historical range
- Linear shape of currently occupied range
- Small effective population size: $N_e = 16$
- Current population size and structure is unknown



Factors Affecting Cascade Red Foxes

Interspecific interactions

Coyotes: greater competition/predation from coyotes via range expansion into occupied fox habitats



Humans and their dogs: People feeding foxes could impose a dependency on unnatural foods and an unpredictable food source. Dogs present a disease threat via defecation within national parks, especially where foxes are being fed by people.



Nonnative red foxes: if these foxes become established within the CRF range, they could negatively impact the CRF through disease transmission, competition and hybridization



Factors Affecting Cascade Red Foxes

Habitat loss/fragmentation and Climate change

Fire: Loss and fragmentation of habitat (even if temporarily), and increased frequency, extent, intensity due to climate change

Mt Adams - Cougar Cr fire



Mt Adams/Mt Rainier



Barriers or Impediments to movements: I-90, Hwy 2, Hwy 12?

I-90



Hwy 2



Climate change: upslope expansion of dense subalpine forests, loss of snowpack, loss of competitive advantage over coyotes, and further range contractions

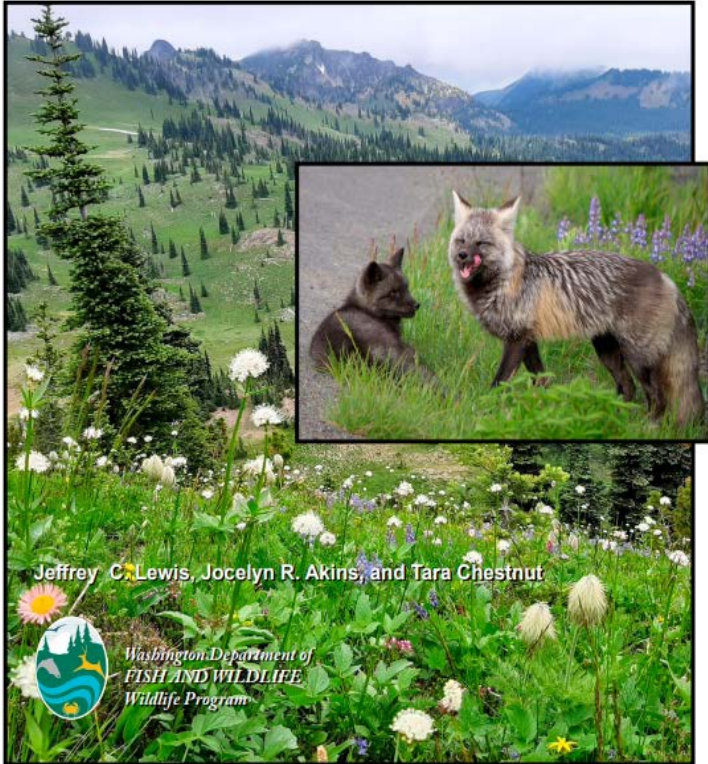
Mt Adams



Recommendation

STATE OF WASHINGTON DRAFT

Status Report for the Cascade Red Fox



Because of the following threats to the population of Cascade Red Foxes in Washington from:

- 1) $\geq 50\%$ range contraction
- 2) Small population size
- 3) Anticipated increase in predation and competition from coyotes due to CC
- 4) Climate Change: Increased habitat loss via greater fire frequency, and the anticipated expansion of dense forest cover into occupied fox habitat.
- 5) Threats of disease transmission, competition, and hybridization if non-native red foxes invade CRF range.

We recommend that the Cascade Red Fox be listed as a Threatened Species in Washington

Public Comments

- 9 email messages were received from members of the public in response to the status review for the Cascade Red Fox
 - 3 individuals indicated strong support for listing as threatened.
 - 3 individuals indicated support for protection of Cascade red foxes via greater predator control efforts.
 - 1 individual reported that they obtained a photo detection of a red fox. No mention of support for or against listing.
 - 1 individual noted that they would regularly see red foxes many years ago but have not seen one in a very long time. No mention of support for or against listing.
 - 1 individual expressed doubt about the status review findings because of an abundance of red foxes observed in northwestern Oregon (not Washington). No mention of support for or against listing.

Questions?

