

September Webinar – Understanding Distribution and Selection

Speaker Abstracts

Effects of Forest Fire on the Bat Community in Waterton Lakes National Park

Erin Low – University of Alberta

The Kenow Wildfire occurred in Waterton Lakes National Park (WLNP) in southwestern Alberta in September 2017. The wildfire started by lightning and burned 38% of WLNP, resulting in a predominantly ‘very high’ burn severity throughout the park. As the wildfire occurred at the end of summer after bats had dispersed to their wintering grounds, there was likely no direct mortality. Therefore, any changes to bat diversity and relative abundance can be attributed to the wildfire’s impact on the environment. Past studies have suggested that bats respond positively to fires, by increasing the roosting and foraging opportunities for most species. From 2015 – 2017 bat acoustic surveys were conducted by Parks Canada staff from late June to early August. Acoustic monitoring was continued after the Kenow Wildfire (2018 – 2019), providing the opportunity to compare bat diversity from before the fire to levels after the natural disturbance. During the summer of 2019 (June – August), bats were captured using mist nets, and body and reproductive conditions were assessed. Capture data from 2019 was compared to data from trapping surveys in 2011 and 2012. Little brown Myotis reproductive females were radio-tagged and tracked to their maternity roosts in 2019. Preliminary results of capture data show a strong preference for anthropogenic roosting structures with reproductive females traveling much further distances than expected between roosting and foraging sites. Little brown Myotis body and reproductive condition appear to be similar between pre- and post-fire years, and the analysis of acoustic results is still in progress.

Biosketch: Erin Low is the Edmonton Regional Coordinator for the Alberta Community Bat Program. She has been involved in bat research and outreach throughout Alberta as well as in other provinces and internationally. She is pursuing her Master of Science degree with Dr. Robert Barclay at the University of Calgary.

Characteristics of Wolverine Dens in the Lowland Boreal Forest of North-Central Alberta

Robert Anderson (Alberta Conservation Association), Mike Jokinen, Doug Manzer, and Shevenell Webb

Denning habitat requirements have been identified as a potential limiting factor for wolverine (*Gulo gulo*) populations under climate change predictions. Industrial companies in Alberta are required to protect wolverine dens but very little is known about where these occur or whether they share the same characteristics that have been reported in other jurisdictions. We investigated the denning

ecology of wolverines in the boreal forest of northern Alberta. During winters 2015/16 and 2016/17, we used live traps to capture four female wolverines and fitted them with GPS collars. We determined reproductive status at capture and GPS location data were used to identify den sites. We found wolverine den sites ($n = 8$) to be very different than what has been reported elsewhere. Dens were located in lowland habitat, with little to no snow, under hollow moss-covered mounds. Other studies have found wolverine dens to be associated with high elevation areas, deep snow, persistent spring snow cover, or large boulders. Wolverines in Alberta's Boreal natural region may be using the landscape differently to meet their basic needs. Further investigation is required to determine if this will influence their resiliency to climate change.

Biosketch: Robert lives with his family in Crowsnest Pass, where they enjoy a variety of outdoor pursuits in the mountains. During his time with Alberta Conservation Association, he has enjoyed working on a variety of ungulate and furbearer-related projects. He attended his first ACTWS conference 25 years ago.

Year-Round Northern Saw-Whet Owl Movements Through a Banding Station in Central Alberta, Canada

Lisa Takats-Priestley (STRIX Environmental Consulting), and Chuck Priestley

Year-round movements of Northern Saw-whet Owls (*Aegolius acadicus*) were investigated at a banding station in central Alberta, Canada. Mist nets with audio-lures have been set in the fall (September to early December) since 2014 near Ministik, Alberta (53°22.78'N, 112°55.47'W). We have captured between 85 and 273 Saw-whet Owls each fall. Nets have not been run at other times of the year however, spring migration has been found in the Great Lakes region in May and June, and juvenile dispersal has been observed in eastern parts of their range. In fall 2015, we began netting in September and continued to run through one full year to determine if a spring migration of returning owls or a summer movement of young was occurring. Through the winter only a couple of owls were captured however, in spring, 2016 we captured 38 Saw-whets between 25 February and 4 May. We found summer movements of 32 hatch-year owls still in juvenal plumage from 4 July to 11 August 2016. In 2017, we captured 10 Saw-whet Owls between 13 February and 27 March; in 2019, we captured 14 between 15 February and 02 April. We will also present results collected in summer and fall 2019. The evidence found to date suggests that Saw-whet Owls in Alberta are partial migrants, showing some true migration, some nomadism, and some year-round residency.

Biosketch: Lisa has been involved in wildlife research and monitoring for over 20 years. Lisa and her husband own STRIX Ecological Consulting and work (with staff) on various monitoring, inventory and assessment studies on birds, mammals, bats, and amphibians. She also coordinates the Alberta Nocturnal Owl Survey.