

Focus:

Alberta's Species-at-Risk

By Nigel Douglas



Pikas: Rock Rabbits in a Changing World

There is nothing quite like the unmistakable “eek!” of a pika calling from a Rocky Mountain scree slope. Anyone who has spent time in the mountains will be familiar with the sound of these squat, tailless relatives of rabbits and hares. Though they can be hard to see, their distinctive yell follows you as you pick your way across the scree, or scramble down a jumble of boulders. It would be as hard to imagine the mountains without their ubiquitous pikas as it would be to picture them without snow.

As with Alberta's mountain goats (WLA October 2014), pikas are not officially a “species at risk” in the province, at least not yet. But as another mountain specialist, reliant on high alpine conditions, pikas nevertheless face an extremely uncertain future

in a habitat highly susceptible to the vagaries of a changing climate.

Although there are 30 members of the pika family spread throughout the northern hemisphere, in Canada we have just two species. The collared pika is restricted to northern British Columbia, Yukon, and western parts of the Northwest Territories. The more familiar American pika occurs throughout the mountains of Alberta and BC, and down through the mountainous states of the western U.S. Their favoured habitat is scree and rock slopes edged by alpine meadows.

Pikas, affectionately if inaccurately known as *rock rabbits*, are small, brown, slightly dumpy looking animals with short, rounded ears, short legs, and no visible tail. Though that description may sound slightly unflattering, there is an undeni-

able charm to pikas. For me it comes from their alert, upright manner and their brazen, chiding call. One of the most striking things about pikas is that, despite living in high altitude habitats throughout the year, they do not hibernate in the winter. Instead, they literally make hay while the sun shines throughout the summer, collecting mouthfuls of grasses and plants, and leaving them out to dry on a nearby warm rock. When the “hay” is sufficiently dry, they remove it to their underground burrows, where it is stored, to be eaten at leisure throughout the cold winter months. Living under the winter snow, they remain relatively insulated from the worst of the cold and the wind raging outside.

In fact, this selection of a high mountain home is more than a lifestyle choice for pikas; so well are they adapted to their cold homes that they can rapidly overheat if temperatures warm. They may die from overheating if exposed to temperatures of as low as 78 degrees Fahrenheit for just a few hours. To some extent, they can respond to warmer temperatures by moving to higher altitudes but eventually, of course, they simply run out of mountain.

Pikas in Alberta are listed as *secure*. In fact they are officially “non-licence animals” which means they can be hunted or trapped throughout the year without a licence (why anybody in their right mind would want to hunt a pika is unclear). But with a dramatically changing climate, it is hard to see that this security will persist for long. Climate change is now an undeniable scientific fact. According to the US Environmental Protection Agency the average temperature in the



PHOTO: © D. VONESCH

U.S. could increase by between 4 and 11 degrees Fahrenheit by 2100, depending on emissions scenarios and climate models. Even the Alberta government recognizes that “our planet is warming at a rate unprecedented in our recorded history,” but there are no current plans to re-evaluate the status of pikas or that of other species likely to be affected by climate change.

While some more mobile species such as birds or butterflies can respond to a changing climate by expanding their range north over time, pikas are more restricted to pockets of mountain habitat which are not necessarily connected. Therefore, their

populations are likely to become smaller and smaller, and more and more isolated, until eventually they will wink out. The significance of the need to protect interconnected landscapes across an enormous range becomes apparent when we look at pikas. The inspiring vision of the Yellowstone to Yukon initiative, for example, is one that would allow animals such as pikas the maximum opportunity to react to warming climatic conditions by gradually moving northwards and upwards. In a changing world, pikas are going to need all of the help they can get. 🐾

Quick Facts:

- American pika, *Ochotona princeps*
- Federal status: No status
- Provincial status: Secure
- Weight: about from 120 to 170g (4 to 6 oz)
- Length: 162 to 216 mm (6–8 in)
- Surprising fact: Pikas cannot tolerate high temperatures; they may die from overheating when exposed to temperatures of as low as 78 degrees Fahrenheit for just a few hours.

Vagrant shrew

One of Alberta’s rarest residents, the vagrant shrew, is also one of its tiniest. About the weight of a quarter, vagrant shrews grow up to 10 centimetres (4 inches) long, though a third of this is made up of the tail. In Alberta they are restricted to the very far southwestern corner of the province, in the western Castle and Waterton Lakes National Park.

Vagrant shrews are typically shrew-shaped, with pointed snout and the sharp teeth of a carnivore. They are red brown with paler underparts, though they are usually darker in the winter. They have a long tail often two-toned, with a paler underside. This is especially the case in juveniles. It can be difficult to tell apart from other montane shrews, though it is generally smaller, with a shorter tail. Scientists with a good eye and a hand lens will tell you that it is distinguished by the number of friction pads on the hind feet, and the fine details of its skull.

Like most shrews, they are largely carnivorous, eating worms, spiders, insects, and other small invertebrates, though they also eat some plant material including fungi, roots, and seeds. Shrews generally have a very high metabolic rate, and vagrant shrews are no exception; they can eat more than 160 percent of their own body weight in food every day. They can be active during the day or night and tend to be highly active in short bursts of as little as ten minutes, interspersed with periods of rest.



Photo of a vagrant shrew from the Ridgefield National Wildlife Refuge located just north of Vancouver, Washington. PHOTO: © L. TOPINKA

Their main predators are owls and mammals such as coyotes and bobcats.

The shrew family is one of the most widely distributed mammal families with several hundred species worldwide. In Canada, the vagrant shrew is found only in southern British Columbia (including Vancouver Island), and as far east as the extreme southwest of Alberta. Their range extends south into the U.S. through the Rocky Mountain states as far south as California.

Generally, their habitat is wet grassland and meadows. In Alberta there are very few confirmed records of vagrant shrews at all; they seem to prefer the wetter coniferous forest of the Lower Subalpine Subregion, though they are also present in the Foothills Parkland and Upper Subalpine Subregions. They seem to prefer wet conditions and, though they don’t dig tunnels, they favour the cover provided by thick mats of vegetation and dead wood.

The Alberta government lists the status of vagrant shrews as “May be at Risk” and notes on its website that they are “extremely rare,” with population size “unknown but

estimated at fewer than 100 breeding individuals.” Although the suggestion that it is “(k)nown from only seven verified records in West Castle area” may be slightly out of date, the warning that “(t)imber harvest, petroleum exploration, and recreational development threaten the population” is unfortunately all too current. The vagrant shrew is another in a long line of wildlife in the Castle threatened by poorly-managed resource extraction and motorized recreation. What the management implications are for a species right at the edge of its range are not clear and there are still considerable gaps in what we know about its habitat requirements. But we hope that the creation of a new 54,588-hectare Wildland Provincial Park in the Castle, proposed in the new South Saskatchewan Regional Plan, may go some of the way towards redressing the balance. 🐾

Quick Facts:

- Vagrant shrew, *Sorex vagrans*
- Federal status: No status
- Provincial status: May be at Risk
- Weight: 4 to 8 grams (0.14 to 0.28 oz)
- Length: 10 cm (3.9 in) in total, including a 4 cm (1.6 in) tail
- Surprising fact: The vagrant shrew is one of the few land mammals which can use echolocation (in a similar way to bats) to orient themselves.