



LIGHTHOUSE PARK PRESERVATION SOCIETY

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SQUIRRELS OF ALL SORTS

By Marja de Jong Westman, M.Sc.

For those of us inhabiting the coastal evergreen forests of West Vancouver, we expect to see our native squirrel – the Douglas Squirrel (*Tamiasciurus douglasii*) and if we are lucky perhaps, the Northern Flying squirrel (*Glaucomys sabrinus*) as a nighttime visitor to a bird feeder. Since the mid-seventies, however, we have been in the company of another species – the eastern grey squirrel (*Sciurus carolinensis*). A few pairs of this species were introduced into Stanley Park in the early 1900s as a gift from the mayor of New York. They likely would have remained on that side of the water had it not been for their human-supported travel to Vancouver's north shore by an animal rescue centre employee!



Top: The Eastern Grey Squirrel (EGS) is larger than our native squirrel species, their ears untufted and their tails are much bushier - about half the length of the animal. They can be buffy grey with cinnamon on some body parts or pure black overall. **Bottom Left:** The white eye ring and white belly help identify the native red squirrel.

Belonging to the same genus as the Douglas squirrel, the two species are known to hybridize. **Bottom Middle:** Like other flying squirrel species, the Humboldt prefers an arboreal lifestyle and are nocturnal. Note the skin web (patagium) and the flattened tail – features which support gliding from one tree to another. This species was thought to be conspecific with the northern flying squirrel but has now been identified as a separate species.

Bottom Right: The pale orange chest and belly help identify the Douglas squirrel. This squirrel thrives in the old-growth forests of Lighthouse Park. You know they are around when you come across a pile of bracts (scales) from the cones of Douglas fir or shore pine trees. Each is removed from the cone to gain access to the seed inside.

Photos provided by Rob Alexander

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About us:

Lighthouse Park Preservation Society is a membership based non-profit organization formed in 1998 to:

Protect the natural integrity of Lighthouse Park;

Promote public awareness of its natural features;

And support the development of biological zones near the park boundaries

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The addition of the eastern grey squirrel (EGS) to BC's squirrel list may not seem like much of an event, we see them in our backyards, at our bird feeders, and meandering about in local parks. They seem pleasant enough, don't they? But like any alien species, grey squirrels have not evolved in this place, they do not belong here and their presence has negative influences on the local ecosystems and native species. The eastern grey squirrel – which can be both black and grey - is native to the eastern part of North America and in Canada is found from Saskatchewan east to Ontario and Quebec. The only squirrels native to British Columbia are the red squirrel (*Tamiasciurus hudsonicus*) seen on Vancouver Island and the Gulf Islands, the Douglas squirrel of our southwestern coastal region and two species of flying squirrels – the northern (*Glaucomys sabrinus*) and the Humboldt's (*Glaucomys oregonensis*). They all belong in the family Sciuridae which out of interest also includes chipmunks, ground squirrels and our famous Vancouver Island marmot.

Besides being introduced into western Canada, the EGS was welcomed into Europe in the early 1900s. Its destructive tendencies quickly became well understood and received much press. The EGS has damaged extensive swaths of the UK's hardwood forests of beech, oak, sycamore and willow. It strips the bark, the stems and branches of trees to gain access to the soft tissue underneath (Lawton & Rochford, 1999). Tree health and growth is compromised, and the forest industry has lost millions of dollars. And there is more...its presence has

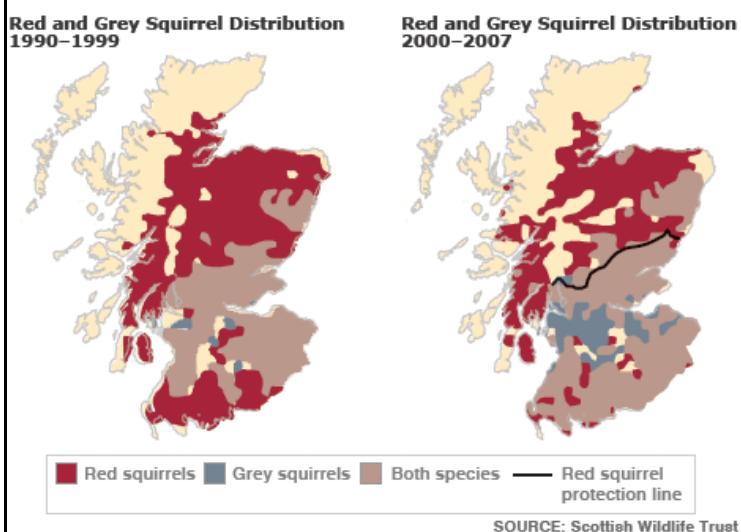
resulted in the decline of the native Eurasian red squirrel (*Sciurus vulgaris*).

The EGS is considered a pest and is now a prime target for eradication in European countries. It has even earned a spot on the list of Invasive Alien Species of European Union concern and is considered one of the 100 world's worst invasive alien species (Cruciani, 2022). The EGS cannot be imported, bred, transported, commercialized, or intentionally released into the environment anywhere in the European Union. It certainly appears to have lost its status as a "fashionable addition to an estate" which was the key reason for their introduction to Europe in the first place.

Why has this squirrel been so successful away from home? Why do introduced species tend to prosper in places where they have not evolved? Is this alien causing any troubles in BC?

In answer to the first question - overall an introduced species when plopped elsewhere may find itself in a habitat with few things to keep its population in check. For example, perhaps there is an absence of their usual predators, or perhaps food sources are more plentiful, and/or there is a lack of competition for resources from the native species in the area. Quite often an introduced species becomes invasive when all these factors are in place along with it having a high reproductive capacity and being somewhat of a generalist in its food choices. The EGS enjoys nuts and seeds as well as mosses and lichens – a varied diet indeed. It is an opportunist!

When the EGS arrived in the UK, it found vast tracts of its preferred habitat – hardwood forests comparable to those in eastern North America. And its reproductive strategies certainly helped boost their invasion. The species has two breeding seasons per year – one in January-February and then another in June and July and females will often produce their first litter prior to being one year of age. On average, three young are born per litter and mature to adult size and independence in about 12 weeks. All of this is often proceeded by promiscuous "mating chases" involving from 3-34 squirrels and lasting from $\frac{1}{2}$ hour to an entire day, all to ensure copulation (Huxley, 2003). Perhaps you have seen this behaviour in trees in your backyard. I have, but thought it was a sign of territorial aggression rather than an amorous romp.



This map from the Scottish Wildlife Trust shows the grey squirrel's progress across the UK and the compression of the range of the native Eurasian red squirrel. It took about 50 years for people to understand that the grey squirrel was having an impact on native red squirrels. (Huxley, 2003.)

In British Columbia, we know that the EGS has spread out from its original introduction site of Stanley Park and is now found throughout the lower mainland, the Fraser Valley, in the Okanagan and on Vancouver Island. But we don't hear about massive losses of trees and financial impacts on our forest industry, do we? So again the question, is this alien a real problem in BC? Yes, it is and may become more so.

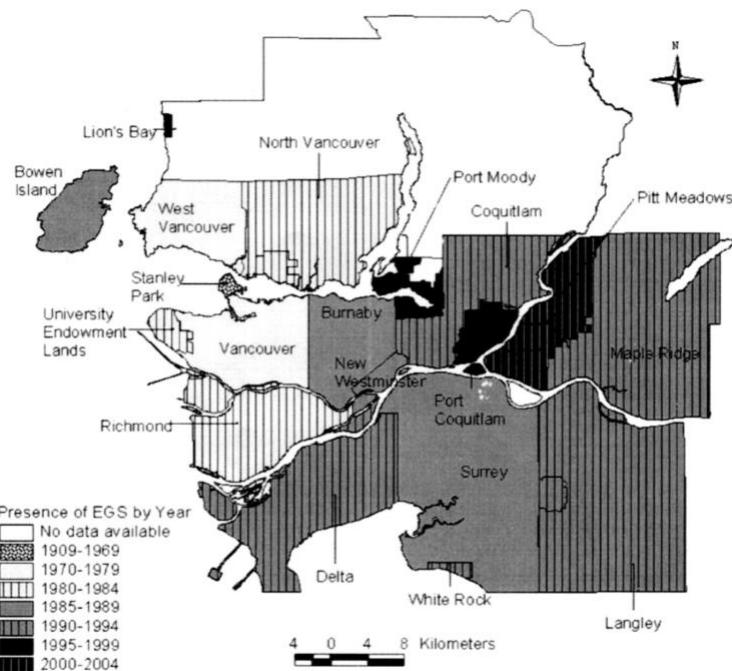


FIGURE 3. The spread of Eastern Grey Squirrels in the Lower Mainland from 1909 to 2004.

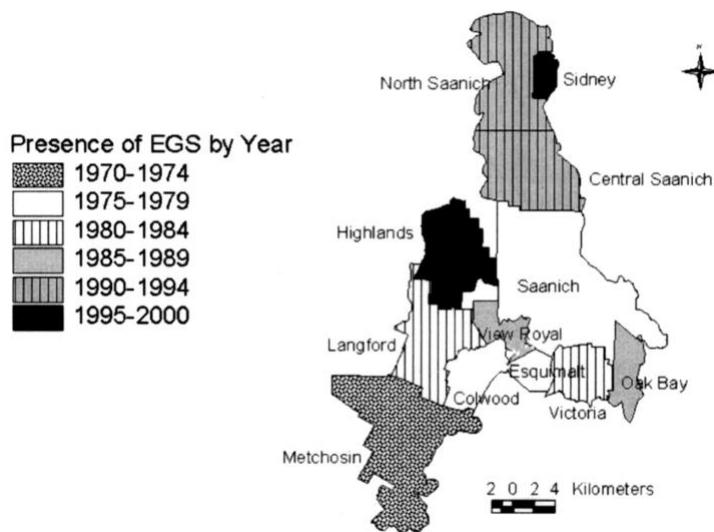


FIGURE 4. The spread of Eastern Grey Squirrels in the Victoria Region from 1970 to 2000.

Top: Map showing the spread of EGS in the lower mainland from the time of introduction to 2004 (Gonzales, 2005). **Bottom:** Map showing the spread of EGS on Vancouver Island, specifically in the Victoria region (Gonzales, 2005). Of critical importance, this same region is home to one of the rarest ecosystems in the province, the Garry oak ecosystem. The discontinuous pattern of expansion can likely be explained by the translocation of EGS by humans and pest control companies. Although not shown, the EGS also resides in the Okanagan and throughout the Fraser Valley (Gonzales, 2005).

Unfortunately, the EGS has potential to spread further and to cause more damage. Studies show that BC's coniferous forests, to date, have limited the spread of the squirrel (Bruemmer, 2000) but the disturbance of natural areas, the loss of native forests and the increase in residential areas with their plantings of deciduous tree species have and will continue to encourage its spread. This squirrel thrives in our human-modified environments.

And while its adverse impacts may be less visible than the denuded dying trees of the UK, the EGS is influencing the health and integrity of one of BC's rarest ecosystems and very likely negatively influencing populations of several native species.

Although contradictory views did exist, scientists now agree that the EGS is detrimental to the rare, provincially red-listed Garry Oak ecosystems. These squirrels remove tree bark and bite the tip of acorns cutting out the radicle of acorns, preventing their germination and the recruitment of young oak trees (Bruemmer, 2000). This diminishes the potential for regeneration and long-term survival of this rare ecosystem.

Further, while the native American red squirrel prefers conifer forests and the introduced grey squirrels are hardwood-specialists, where they overlap in mixed forests on Vancouver Island the red squirrels become outnumbered and are eventually replaced by the EGS (Bruemmer, 1999). This is likely due to exploitation competition where the presence of the EGS and its use of resources reduces resource availability for native squirrels (Wauters, 2002).

As far as the Douglas squirrel, interactions between this native squirrel and the EGS are not well studied. We do know, however, that Douglas squirrel prefer old-growth coniferous forests (Hwang, 2006) and their habitat preference may keep the two species apart. However, where the two species overlap in mixed forests, research indicates presence of the EGS lowered the breeding propensity of the Douglas squirrel. This is predicted to lead to the slow decline of the Douglas squirrel as they would have lower reproductive success (Bruemmer, 2000). Unfortunately, I think we are seeing this on the North Shore.

Continued on page 5

VOLUNTEER OPPORTUNITIES

For all volunteer events please wear old clothes, sturdy shoes and work gloves.

SATURDAY, FEBRUARY 7, 9.00 a.m. – noon

WEED PULL, LIGHTHOUSE PARK

Meet at the Juniper Trail entrance in Lighthouse Park.

SATURDAY, FEBRUARY 28, 9.00 a.m. – noon

WEED PULL, CAULFEILD PARK

Meet at the Anchor on Pilot House Road. This event will be led by West Vancouver Parks.

SATURDAY, MARCH 14, 9.00 a.m. – noon

WEED PULL, THE DALE PARK

Meet at the corner of Water Lane and the Dale.

SATURDAY IN MAY, 9.00 a.m. – noon

Volunteers will receive the date by email closer to the time. **BROOM REMOVAL, LIGHTHOUSE PARK**

Meet at the upper kiosk in the parking lot.

SATURDAY, JUNE 13, **ANNUAL GENERAL**

MEETING. Everyone welcome and details will follow.

MONTHLY BIRD COUNT

The first Sunday in the month we meet in the parking lot at the entrance to Birdsong Path. All are welcome, and you do not have to be an experienced birder, for extra eyes and ears are very helpful. For more information call or text Suann 604-240-2452.

February 1	8.30 a.m.	June 7	7:00 a.m.
March 1	8.30 a.m.	July 5	7:00 a.m.
April 5	8.00 a.m.	August 2	7:00 a.m.
May 3	7:00 a.m.	September 6	7:00 a.m.



The highlight of our November count was watching a mature Bald Eagle defending his territory from a younger bird.

Photo credit Paola Merkins

EDUCATIONAL TALK



Raven or Crow

By June Hunter

Saturday, April 18, 2:00 pm – 3:30 pm

A big black bird flies over your head. Was that a crow or a raven? Both are intelligent, engaging and often hilarious birds; their many similarities making them hard to tell apart at a glance. This talk and audio-visual presentation by Vancouver photographer June Hunter will provide the toolkit you need to confidently distinguish one from the other, touching on appearance, location, behaviour and calls. The main message of this talk is that both crows and ravens are infinitely fascinating and can teach us a lot about our own place in the world.

Register for this event at

<https://westvanlibrary.ca/event/raven-or-crow-whos-who-with-june-hunter/>

SQUIRRELS OF ALL SORTS, CONT'D

As far as having the capacity to carry and transfer diseases, the confident behaviour of EGS supports disease transfer both to humans and other squirrel species.

Cruciani (2022) noted that the EGS while appearing healthy, can carry various fungal types and the squirrelpox virus. The EGS appear immune to this poxvirus while it is fatal to the Eurasian red squirrels and may be to our native red squirrels (Himsworth, 2009). It is transmissible to humans.

And in the case of our beloved birds, squirrels impact birds in many ways – predation, competition for breeding holes and competition for food (Hewson, 2004). EGS are known to dominate bird feeders and reduce the number of bird visits (Bonnington, 2014). While all squirrel species can raid bird nests and prey on eggs and young, the high density of EGS in our residential areas likely contributes to songbird predation (Bruemmer, 2000).

It is predicted that the number of EGS will increase and their range will expand in southern BC as human development and the loss of coniferous forests continues. Their negative impacts will be widespread and there is particular concern for the Garry oak ecosystem and

native red squirrels of Vancouver Island. So yes, indeed they are a problem.

What can you do to help? Simply do not encourage them. Do not feed them. Use squirrel-proof bird feeders. Do not provide them with their own feeders full of peanuts. Bring this to the attention of your local bird or pet food store. You can also prevent EGS invasion into your residential area by live trapping and humanely euthanizing the animals. The EGS are listed under Schedule C of the Wildlife Act and permits are not required to kill EGS. Trapping is best in winter periods when food is scarce. It is critical to ensure you have not trapped a native squirrel. To ensure you are making the correct decision, consider these resources.

Invasive Species Council of BC

<https://bcinvasives.ca/invasives/eastern-grey-squirrel/>

Invasive Species Council of Metro Vancouver

<https://iscmv.ca/take-action/report/>

<https://iscmv.ca/invasive-species/faq/>

References mentioned in this article are available on a supplemental page of the digital copy of this newsletter available at lpps.ca.

PRESIDENT'S MESSAGE

By Alexandra Mancini

Lots of good news to report! Starting January 1st, 2026, Lighthouse Park (LP) will have a full-time park ranger! This is made possible by using some of the proceeds from paid parking and is a huge improvement from 3 days a week.

It has been 46 years since we had this level of ranger support. According to Elaine Graham, a former LP attendant and wife of the assistant lighthouse keeper, Don Graham, LP had a full-time park warden from 1937 – 1980, plus a full-time naturalist from 1975 – 1980. By 1981, the park attendant role (replacing the warden) had been reduced to 23 hours per week. And that is how it has stayed until now, despite the increase in the local population and tax base. We appreciate this increased ranger support.

As some of you may know, LP is federal land that has been leased to the District of West Vancouver (DWV) by the Department of Fisheries and Oceans (DFO). That lease will expire April 30th, 2026. We understand that the DWV is in discussions with DFO to extend the lease, although we do not know when that will be enacted or for how long. We have been told to assume business as usual for our role as volunteer environmental stewards.

New improvements include one parking space realigned to protect tree roots and two new benches were added (Salmonberry Meadow and Arbutus Trail), made from fallen trees by the DWV Parks department carpenter, with funding from member donations and the West Vancouver Foundation (WVF).

PRESIDENT'S MESSAGE, CONT'D

The south side of the lower kiosk is now our display area. We welcome having this space to promote our Society's work and attract new members and volunteers. Take a look and let us know if you have any suggestions for improvement of our messaging.



The entry to Birdsong Path, the park's only accessible trail, was half hidden behind a row of portable toilets and a plethora of small signs. Funded by a generous grant from the WVF and previous donations from our members, significant improvements were made by the DWV to create a welcoming entrance to Birdsong Path.

The DWV Parks carpentry team used a radial cross-section of a fallen tree to create a beautiful new Birdsong Path sign. Staff also designed simplified signage to describe the features of the path. Along with large boulders, these features emphasise the special nature of this path. Out of the many trails in the park, this one, with its smooth surface and gentle grade, welcomes those who can't cope with steep, rocky, uneven surfaces.



Top: LPPS display on Lower Kiosk. **Left Middle and Left Bottom:** New signs, January 2026. Photo Credits A. Mancini. **Right Middle:** New entrance to Birdsong Path. Daphne Hales.

Despite the revised bylaw requiring dogs to be leashed for the short distance of Birdsong Path, many visitors are still allowing their dogs to run loose. Some claim they did not know; they had not seen the previous small sign. This larger, clear sign should help make this path safer for all. Several claim they had never seen people with disabilities on the path; we remind our readers that many disabilities are invisible.

Rest assured that even with all this work on infrastructure improvements and the kiosk displays, we did not neglect our focus on invasive plant removal. We did 7 events in the fall. Many thanks to all our volunteers, generous donors, the WVF, and the DWV for this impressive progress!

SQUIRRELS OF ALL SORTS, CONT'D

SUPPLEMENTAL PAGE

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