

Sciurus carolinensis

EASTERN GREY SQUIRREL

ENGLISH NAMES	eastern grey squirrel, grey squirrel
SCIENTIFIC NAME	<i>Sciurus carolinensis</i>
FAMILY	Rodentia (Rodent)



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Eastern grey squirrels are large tree squirrels with long, bushy tails.

RANGE/KNOWN DISTRIBUTION

Eastern grey squirrels are native to central and eastern North America, from southern Canada as far west as Manitoba to the Gulf of Mexico. They have been introduced to western North America, Europe, South Africa and Australia.

Grey squirrels were first introduced to Stanley Park in Vancouver, British Columbia sometime before 1914. This population has now spread through the lower Fraser Valley and south into the United States. There are also scattered populations in British Columbia and Alberta. Grey squirrels were introduced to southern Vancouver Island in 1966 and are now found as far north as Nanaimo.

IMPACTS ON GARRY OAK AND ASSOCIATED ECOSYSTEMS

Eastern grey squirrels cache acorns in the ground and can be effective dispersers of some species of oak. However, they frequently bite out the tips of the acorns of some oaks, including Garry oaks, and may negatively affect oak regeneration. Grey squirrels also disperse the seeds of other plants.

Grey squirrels can damage and kill trees, especially young oaks, by stripping the bark. Squirrels may also eat native lily bulbs such as camas (*Camassia* spp.) in Garry oak ecosystems.

Squirrels eat birds' eggs and nestlings and compete with birds for tree cavities. Grey squirrels eat large numbers of acorns and may compete with other species that depend on this food.

In Europe, eastern grey squirrels have displaced European red squirrels (*Sciurus vulgaris*). In British Columbia, grey squirrels can reach higher densities than native red squirrels (*Tamiasciurus hudsonicus*) and may outnumber and eventually displace them, especially in highly fragmented and mixed oak/conifer forests where their habitats may overlap. Grey squirrels may be carriers of parapoxvirus, which may infect North American red squirrels.

SCIURUS CAROLINENSIS

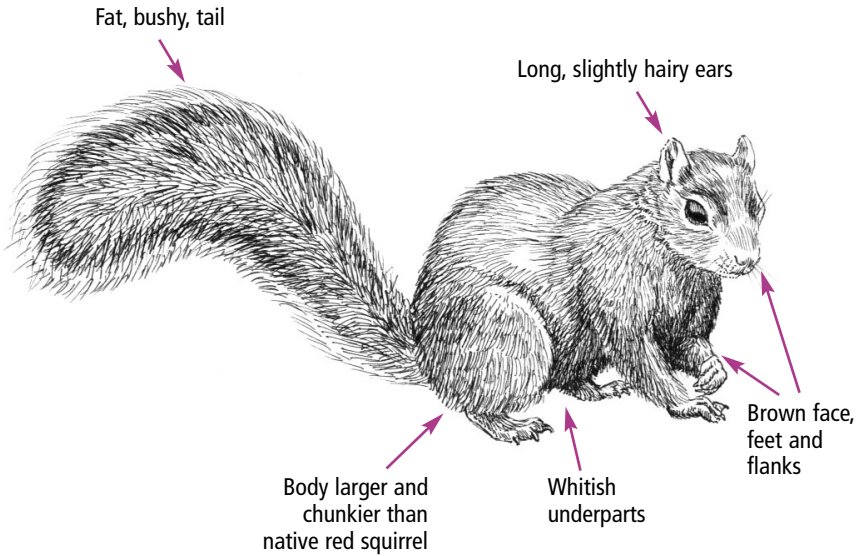


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FIELD DESCRIPTION

Most eastern grey squirrels are medium grey in colour with long, bushy tails. They can also be black, reddish-brown or black with red tails. Adult grey squirrels are bigger (average of 500 g and 480 mm long) and have fatter tails than native red squirrels (average 225 g and 318 mm long). Native red squirrels are olive brown with whitish or greyish undersides and white eyerings.

LIFE HISTORY

Eastern grey squirrels descend from trees only to find food, cache food or move from tree to tree.

In spring, grey squirrels feed on the buds of trees, including oaks, and in summer, they eat fruits, nuts and mushrooms. In the fall, they harvest hard nuts, including acorns, many of which they bury for winter food at scattered locations in the ground. They also eat food from bird feeders, bulbs, insects, birds' eggs and nestlings, and rarely other small vertebrates.

Eastern grey squirrels nest in tree cavities or build open nests. In suburban areas they nest in roofs, attics and chimneys. They breed in December-February and May-June, producing 2 litters of 2-4 young per year. Most females begin to breed at 1.25 years.

Grey squirrels are preyed on by various species of hawks and owls.

HABITAT

Eastern grey squirrels prefer hardwood and mixed-hardwood stands with trees such as oaks that produce seeds that can be cached. They tolerate highly fragmented landscapes and generally avoid dense coniferous forests. In the Victoria area, they are largely associated with Garry oak ecosystems and urban and suburban habitats.

MANAGEMENT

Historically, there have been time lags between the introductions of grey squirrels to specific areas and their spread. Management can be most effective if applied during such periods.

Develop a long-term, realistic program for invasive species removal before undertaking any work. Before taking action, expert advice should be obtained. Please refer to the introductory section of this manual.

PHYSICAL CONTROL: Live box trapping or shooting can reduce local squirrel populations in the short term. Trapping is most effective in winter when food is scarce. Live traps are available at hardware stores. Trapped grey squirrels should be humanely euthanised and not moved to other areas.

Refer to the introductory pages for information on hunting and trapping invasive species and for humane euthanasia guidelines.

BIOLOGICAL CONTROL: More research is needed on biological control techniques. Potential control agents include oral immuno-contraceptives to sterilise squirrels with sperm-specific antigens, and predator odours applied as squirrel repellents.

Maintaining habitat for hawks and owls and installing raptor perches can support predator populations that may help control eastern grey squirrels.

CHEMICAL CONTROL: Rodenticides should only be used in lockable, tamper-proof bait stations that are secured to the ground and as a last resort since they are highly toxic to native red squirrels and other animals. For more information on tamper-proof bait stations, refer to the provincial Integrated Pest Management Manual for Structural Pests in British Columbia, available online at: wlapwww.gov.bc.ca/epd/ipm/docs/chap8.html

Pesticides should only be used with extreme caution, and under expert advice, in sensitive Garry oak ecosystems.

PREVENTATIVE MEASURES: Do not move eastern grey squirrels, especially into natural areas, and do not feed them. Prevent squirrel access to garbage, compost and bird feeders and, if possible, limit access to flower bulbs, fruit trees and nut trees.

Preventing and reducing fragmentation of conifer and mixed-hardwood forests will help limit the spread of grey squirrels and help maintain populations of red squirrels.

PERSISTENCE: Removing grey squirrels from specific sites once they are established in a region is a short-term solution. Squirrels are efficient dispersers and can quickly re-populate an area.

GENERAL COMMENTS

Grey squirrels are listed as “Schedule C” animals under the Wildlife Act, which means they can be captured or killed anywhere in the province and at any time.

REFERENCES

Brueummer, C., P. Lurz, K. Larsen and J. Gurnell, 2000. Impacts and Management of the Alien Eastern Gray Squirrel in Great Britain and Italy: Lessons for British Columbia. Pp. 341-349 in: *Proceedings of a Conference on the Biology and Management of Species and Habitats at Risk, Kamloops, BC, 15-19 Feb., 1999* (L. Darling, ed). Ministry of Environment, Lands and Parks, Victoria, BC.

Nagorsen, D.W., 2002. *An Identification Manual to the Small Mammals of British Columbia*. Ministry of Sustainable Resource Management, Ministry of Water, Land and Air Protection, Royal British Columbia Museum, Victoria, BC. wlapwww.gov.bc.ca/wld/pub/pub.htm

For more information contact the Garry Oak Ecosystems Recovery Team, or see the website at www.goert.ca