



"Nature gives to every time and season some beauties of its own."  
Charles Dickens

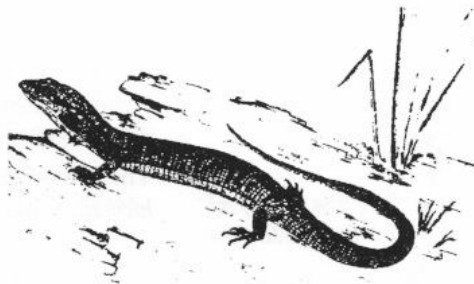
## LIGHTHOUSE PARK, FIFTY YEARS OF CHANGE

By Dr. Keith Wade, Biogeographer and Ecologist

My long association with Lighthouse Park goes back to a sunny weekend afternoon sometime in the mid-1950's, when a friend and I stumbled upon it quite by accident. We did not live on the North Shore then and had never heard of the park. We were in fact looking for habitats where we might find Northern Alligator Lizards. I recall we were quite astonished to find this beautiful place, seemingly hidden away just waiting to be discovered. Over the next four years I got to know the park well and visited it often, at first for its beauty, abundant rock-fish, and the alligator lizards and salamanders I found so fascinating. By the early 1960's I had discovered its plant life as well, and set about learning and photographing the many colourful spring-blooming species which we found in abundance on and around the edges of the park's many impressive rock outcrops.

Back then there was no parking area inside the park entrance as there is now, the trails were fewer and narrower, ivy was non-existent, deer were quite common, but human visitors to the park must have been far fewer. We seldom saw more than a handful of other visitors during the many enjoyable Sunday afternoons my fiancée and I spent exploring the park.

My recollection of the changes in Lighthouse Park over the past half century are purely anecdotal. I never made a detailed study of any kind, but what follows are a few of the highlights as I saw and remember them. The rock outcrop habitat, the Douglas fir-Shorepine-Arbutus association, was still quite pristine in the early 1960's, with luxuriant mats of deep mosses and



K.W.

Northern Alligator Lizard,  
*Gerrhonotus coeruleus principis*

*Cladina* lichens a prominent feature, unfortunately a feature highly vulnerable to human and canine traffic. Beautiful drifts of White fawn lily, *Erythronium oregonum*, characterized the wetter soil pockets on the outcrops, complemented by other geophytes such as Nodding onion, *Allium cernuum*, Death Camas, *Zygadenus venenosus*, Columbia lily, *Lilium columbianum*, and later in the spring, White brodiaea, *Brodiaea hyacinthina*.



D.P.

Columbia Lily, *Lilium columbianum*

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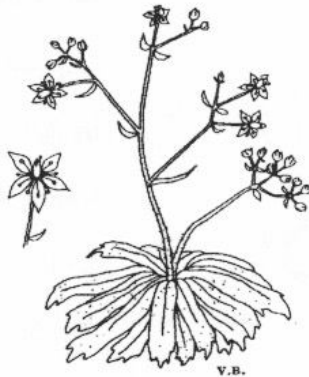
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We gratefully acknowledge

  
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Among the rock outcrops, early showy clumps of bright pink Sea Blush, *Pectritis congesta*, the tiny Blue-eyed Mary, *Collinsia grandiflora*, and Alaska saxifrage, *Saxifraga ferruginea*, were abundant, while Yellow monkey flower, *Mimulus guttatus*, grew in seepage areas closer to the shore. At the other end of the size scale, the Arbutus and Pacific dogwood trees were more luxuriant and prominent than they are today, for the diseases which have ravaged these two species in recent decades had yet to make an appearance. Common juniper, *Juniperus communis*, formed thickets at the edges of some of the outcrops, and Red-flowering currant, *Ribes sanguineum* was much more in evidence, as it was in many other suitable habitats in the Lower Mainland.



Rust Coloured Saxifrage, *Saxifraga ferruginea*

Over the intervening decades, the changes in the park have been considerable, especially to the once-diverse rock outcrops. The thick mats of mosses and lichens are mostly gone, their tenuous hold on the rocks the victims of the enthusiastic scrambling feet of humans and dogs. The great diversity and abundance of early spring flowering plants is also for the most part a thing of the past, although here and

there remnant groups of fawn lilies survive on hard-to-reach ledges, and occasional Columbia lilies and others are seen well off beaten paths. No doubt soil compaction and other damage resulting from human activities have played a major role in the gradual decline, but I am more and more inclined to think that introduced alien plant species have also played a major role. Today, the moist soil pockets in the rock outcrop depressions and along the fissures in the rocks are dominated not by native species, but by several widespread European weed species. Hairy cat's ear, *Hypochaeris radicata*, an extremely invasive rosette-forming dandelion relative, is perhaps the most abundant of these, although several European plantains, *Plantago*, and a variety of small densely growing European grasses are also abundant. In combination they cover every available scrap of soil, quite possibly excluding our much less adaptable native species in the process. A similar scenario, with the same small cadre of European weed species, appear to be gradually replacing the much less adaptable natives in many parts of the world.

The introduced non-native blackberries, *Rubus procerus* and *R. laciniatus*, have so far not made major inroads in the park, but they are present and their potential for invasive displacement of native vegetation is familiar to all. It is, predictably, English ivy, *Hedera helix*, that in the long run will prove to be the major threat to the forest associations in the park. Shade tolerant, unlike many other European alien species, and capable of extraordinarily rapid vegetative reproduction, this species, so benign in its native habitat, seems almost unstoppable as a forest invader here. I applaud the efforts of the ivy-pullers and hope that means will be found to counter the effects of other invading non-native plant species.

Our long term aim should, I strongly feel, be that of restoring as much as possible of the lost diversity of this most beautiful and nationally significant park.

*Drawings for this article are taken from "Nature West Coast as seen in Lighthouse Park"*

## IVY PULL November 27, 2004

English ivy is a highly invasive plant threatening the native ecology in forested areas throughout the Lower Mainland. We have been clearing it from the park on a regular basis and, on November 27, 2004, held our best-attended ivy pull to date. Our goal was to clear the areas bordering Beacon Trail in preparation for restoration work there. We identified the "hot spots" in advance, and with more than thirty energetic volunteers, worked on all of them. With time and energy to spare, we even tackled a large area beside the car park entrance. At the end of the morning we held a useful brain-storming session accompanied by snacks and a prize draw. One result of our discussion was that several volunteers signed up to adopt-a-trail after the initial clearances have been made.

## ADOPT-A-TRAIL VOLUNTEERS

Juniper Loop	Terry Collins & Judy Musson
Caulfeild Cove Trail	Colleen MacDonald
Beacon Trail	Elaine Graham & Elspeth Bradbury
Valley Trail	Ray Rogers & Katie Loftus

Our thanks to Elaine Graham for the ivy leaflets, to Lyn Noble for the prizes as well as the splendid "Ivy Pull in Progress" signs, and to all the other cheerful and hardworking ivy leaguers especially students, Alicia, Bjorn, Arina, Rojina and Petra, and the air cadets Sgt. Fassitt, Gareth, Dmitri, Andrew, Andre, Robert, Jamie and Glenn.

Our next ivy pull will be on **FEBRUARY 26, 2005**. We shall meet at the top of the parking lot at **9:00 a.m.** and target the area around the lighthouse.

## SOCIETY NEWS

By Marja de Jong Westman, M. Sc.

With the continued dedication of the Society Board Members, Special Project Coordinators and the support of the membership, a few new endeavours have been launched and many projects on the Society's wish list are closer to being realized. Read on to see where your expertise or interest might be directed.

Firstly, just a bit of news. The Lighthouse Park Preservation Society was honoured for its commitment and input into the development of the Lighthouse Park Management Plan at a Civic dinner with the Mayor, Ron Wood and several councillors. As President of our Society, I was invited to attend the evening which recognizes volunteer efforts in the community of West Vancouver.

We are grateful to the **West Vancouver Community**

**Foundation** for its support with a generous grant which will help us to continue publishing the Society's newsletter. This important document keeps us in touch with our membership and helps to inform the public about the biological heritage of Lighthouse Park. It advertises events such as lectures and park walks, and contains educational articles. We make it available to the public through schools and libraries and are planning a bulk mailing to park neighbours. The Municipality has also supported us by putting this newsletter on-line. Anyone interested in Lighthouse Park can now access it through the West Vancouver Parks and Recreation site.

A travelling portable display is also in the works. This project is being made possible by a grant received from the **Toronto**

**Dominion Green Fund.** Via text, drawings and photographs, the animals and plants of the wetlands, coastal bluffs and old forest ecosystems in the park will be brought to life and introduced to the public.

Perhaps the Society's most ambitious project, and the one of greatest benefit to the biological health of the park, is a restoration program which will see the worn-out patches of Beacon Lane trail reborn. We plan to replenish soil, replant, block a few unnecessary offshoot trails, and eventually add a few identification signs for native plant species. We are also planning to replace the Orenda log display—the cross section of an old-growth tree. This tree "cookie" has much to tell, but is decaying and is no longer clearly labelled.

The restoration work is supported by the Jenny Anglin Fund and the District of West Vancouver, and it is hoped that student crews from Capilano College's horticulture department and students interested in environmental issues might lend a hand. Jenny Anglin, a friend of Lighthouse Park, requested that donations in her name be made to the Society. After consultation with friends and family, it was decided that monies received for Jenny would go toward the greening of the trail which serves as the entrance "hall" to the park.

Hope to see you at the exciting upcoming speaker series, or pulling ivy, or early morning bird-watching.



Redbreasted Nuthatch, *Sitta canadensis* e.g.

## THE SILENT INVASION (Part Two)

by David Cook, P. Eng.

Lighthouse Park has many invaders, but one of note is English ivy, *Hedera helix*. The dark evergreen, thick leaves of ivy are rich in chloroplasts, the seat of photosynthesis and food production. This efficiency in catching light allows ivy to penetrate deep into the dark forest where the canopy is closed. The fact that the leaves can photosynthesize all year long gives ivy a head start over most of the native shrubs. The leathery, wax coated leaves help with drought tolerance.



Mature climbing & fruiting phase of ivy e.g.

Ivy is dimorphic, having a juvenile, vegetative form and an adult, sexual form, each very different in leaf shape and habit. In its juvenile form, ivy ranges rapidly over the ground, smothering smaller native plants and moss/lichen ground cover. After about a decade of carpeting the forest floor, the juvenile stage probably senses that it is running out of space and undergoes a hormone change. This prompts the plant to begin its slower growing, climbing and fruiting adult phase, which can engulf both the trunk and canopy of trees, thus affecting the evapo-transpiration and stability of the trees and reducing light to their canopy, where 90% of the trees' nutrients are produced by its leaves. Smaller or poorly rooted trees can be toppled with the weight of ivy and even large trees can have increased vulnerability to wind-throw due to the sail effect of the dense curtain of ivy. For one tree in Olympic National Park, Washington State, the weight of ivy measured was 945 kg (2100 lbs) or over one ton. By engulfing the tree trunk, ivy also blocks the growth of native epiphytes such as the licorice fern, *Polypodium glycyrrhiza*.

Because of its popularity as both a hardy ground cover and a decorative plant, ivy has gained a major foothold in the gardens of North America. As a garden escape it has likewise gained a major foothold as an invasive into the fringes of our natural ecosystems. The earliest record for ivy's appearance in North America is 1727 and for the Pacific North West, the 1890s. Plants are known to live to at least 400 years and can develop stems up to 30 cm diameter. Ivy can survive at elevations up to 1000 metres.

The stems of the adult form of ivy have adhesive pads that attach so strongly to the trees bark that attempts to remove it can result in damage to the bark. Removal from the tree trunks should therefore be by cutting the main stems of the ivy at the base of the tree and leaving what is attached to the tree to die and rot over time. Of the two forms of ivy, the climbing or adult form should be killed first as it is the stage that produces a carbohydrate-rich black berry, which is eaten, scarified (hard coat removed in the gut of the bird) and distributed by birds such as American robin, English house sparrow, Steller's jay,

cedar waxwing and European starling. The juvenile ground cover should then be completely removed as it very efficiently smothers all native ground cover plants in its path. Fortunately the roots of the juvenile form are shallow and easily pulled.

Paralleling any attempts to remove ivy from a park or natural area there should be an active program of educating the surrounding residential owners who may allow ivy to spread into the park. Local horticultural suppliers and landscape companies should be encouraged to sell and use alternative plants.

When embarking upon a removal program, it is important to complete the process by attending to the space left after the removal, as natural processes will tend to fill that space with other invasives which usually have the competitive edge. The recovery process must be guided by choosing appropriate native species for the habitat and replanting the area immediately. Because not all replants will survive, the location should be continually monitored and replacements made.



Immature ground cover ivy e.g.