



The Mystery & Miracle of Bird Migration



*Meanwhile, the wild geese,
high in the clean blue air
are heading home again...*
from the poem 'Wild Geese' by Mary Oliver

Our imagination soars as the autumn skies pulse with the wing beats of wild geese on their journey south. Summery warmth still lingers in the air but the southward migration of birds signals to us that winter is lurking not far away. What triggers birds to start off on their journey? How can they travel such long distances? Where are they going? How do they know where to go and how to get there?

(Koren Johnstone, Nature House Interpreter)

The seasonal movements of birds have mystified humans from the earliest times. As birds disappeared in the fall and returned in the spring, people once thought that they hibernated in caves, buried themselves in mud, or rode piggyback on the backs of larger birds. In the 18th century it was even believed that birds flew to the moon!

Today, some of the mysteries of bird migration are being unraveled through research. Bird banding, population inventories, radio tracking and radar data have added to our knowledge. We now know that of the over 650 species of birds that live in North America, 75% take part in migration. Generally, the farther north you go and the more severe the winters, the greater the numbers of



birds migrating south to warmer climes.

Some birds fly short distances and others fly very long distances sometimes reaching hundreds of thousands of miles. With regard to migration, birds can be classified into the following 4 groups:







- 1. Permanent residents are non-migrating birds such as House Sparrows that stay in our neighbourhoods all year.*
- 2. Summer residents are migratory birds such as Purple Martins that arrive in our area in the spring then fly south in the fall to their winter range.*
- 3. Winter residents are migratory birds like many waterfowl that fly south from their nesting grounds to spend the winter in our area.*

Riders Wanted! Members ride free on the Halloween Ghost Train. Our thanks for making a difference (pg 4)
Call (604) 257-6908.

CHECK IT OUT!

-  **Marvelous mushrooms** (pg 5)
-  **Get the "swoop" on bird migration** (pg 1,2)

NEED TO RECHARGE?

-  **Pull Ivy in Sep, Oct, Nov** (pg 4)
-  **Burn calories, build insights on our Sunday Discovery Walks and month-end Sunday Birding** (pg 3,4)
-  **Celebrate Women's History Month** (pg 3)
-  **Drop by the Lost Lagoon Nature House and see what's in store**
-  **Come to our entertaining Annual General Meeting October 19, 2005** (pg 5)
-  **Stop by the Kids' Korner to read "what the flap" is all about** (pg 5)

Awe of the Arctic

Each year, millions of birds migrate to the Arctic, using resting stops including Stanley Park. Follow them and acclaimed biologist / photographer, Daniel Catt, on a virtual journey to the land of the midnight sun.
(Oct 19 - See page 5 for details)

4. Transients are migratory species that nest north of our area, but spend their winter further south so that we might only see them as they are passing through.

Why Do Birds Migrate?

The slant of the sun's rays, hormonal changes, the change of the weather and other factors are thought to trigger birds' instinct to migrate. Fall migration to warmer areas allows birds to find a stable food source. So why do they return north in the spring instead of staying in balmy places like the tropics? By coming back, they escape the heavier predation and competition for tropical nest sites and food. Northern summers also have longer days, allowing more hours for gathering food, so that birds can rear their young faster, and reduce the vulnerable nesting period.

How Do Birds Find Their Way?

Research has shown that migrating birds use landmarks such as rivers, shorelines and mountain ranges for navigation, as well as the sun, patterns of stars, and lines of force in the earth's magnetic field. Some birds respond to UV and polarized light, and hear low frequency sound traveling thousands of miles.

Larger birds tend to migrate by day and fly in larger groups than night fliers. Cranes and hawks fly by day to take advantage of the rising hot air thermals. Red-winged blackbirds, geese, swans, swallows, swifts, robins, waxwings, and goldfinches navigate by landmarks and the sun's position.

Smaller land birds do most of their long-distance flying at night, when there are fewer predators, less wind, and cooler temperatures to keep them from overheating. Night migrators include sparrows, thrushes, flycatchers, vireos, kinglets, tanagers and wood warblers.

How Do They Keep Going?

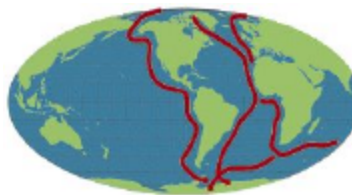
Hormonal changes triggered by shorter daylight hours in late

summer cause migrating birds to gain an extra layer of high-energy fat, which is particularly essential for those birds undertaking non-stop or very long distance flights. Birds like Yellow-rumped Warblers (which usually eat insects) may be seen gorging themselves on berries, like endurance athletes carbo-loading before an important event. Raptors soaring on thermals may not eat for several weeks as they migrate, whereas other birds make many stops, eating enough food to make it to the next leg of their journey. Some small birds may even double their body weight before migration!

Champions of Flight



- The tiny Ruby-throated Hummingbird, which weighs 2.5 g, gains 2 g of fat to fuel its 30-hour, 600-mile, nonstop flight across the Gulf of Mexico. Its heart will beat almost 1 million times and its wings at least 6 million times without a rest during that journey!
- Bar-headed geese have been recorded flying across the Himalayas at 29,000 ft. Most birds fly no higher than 500 ft, except during nocturnal migrations when altitudes of over 3000 ft. are common.
- Arctic terns set the avian record for distance travel: they migrate from the Arctic to the Antarctic and back each year, a journey of 25,000 miles, equal to the earth's circumference!



A Dangerous Time..

During migration, birds face many hazards. Spring and fall weather is unpredictable, strong winds can blow them off course, and storms

kill them in huge numbers. Nocturnal migrants may become disoriented by city lights, while floodlit buildings and towers lure millions of migrating birds to their deaths every year. Forestry, agriculture and urban expansion can fragment the forest and wetland habitats of birds, further threatening their survival.

What Can You Do To Help?

It is important to not disturb tired and hungry migrating birds as they stop to feed and rest. Be sure to keep your backyard feeders full, and plant bushes, trees and seed-bearing flowers to provide birds with cover and food. Keep your cats indoors and put your dog on a leash when visiting areas where waterfowl gather. If you find a dead bird with a band on it, send the band to the address on it, along with your name, address, date and where you found the bird (in return, you will receive information on what kind of bird it was and where it was banded).

Tips for Fall Birding in Stanley Park

- With its expanse of fresh water, Lost Lagoon is an oasis for overwintering birds and an important rest stop for thousands of birds on the Pacific Flyway, one of the 4 major North American highways of migration. Beaver Lake is another favourite spot to seek out avian visitors.
- The best time to go birding is during a cold front and when brisk northwest winds are blowing after a period of rain.
- In the fall there are more chances of an unusual sighting, mainly because of the high percentage of inexperienced juveniles who have a greater probability of flying out of range.
- Birds to see in the Park include many species of waterfowl, raptors, and songbirds. For more information, come to the Lost Lagoon Nature House, where you can see our weekly bird counts taken at Lost Lagoon and Beaver Lake.

You are also invited to report your sightings in our Observation Logbook.

MUSHROOMS – FLOWERS OF THE FUNGI

When the autumn rains arrive the Park comes alive with mushrooms. They seem to suddenly appear overnight. This suddenness is one of the intriguing features of the mushroom realm, and like so many other things in life, it is an illusion. Mushrooms do not magically materialize overnight. They develop from minute buds which have grown earlier in the season, but are hidden beneath the soil. When the rains start the buds absorb moisture and grow into mature mushrooms. This bud contains all the cells that will later form the mature structure. Because it is already pre-formed a mushroom can grow very rapidly.



But what are mushrooms? At one time they were regarded as plants without chlorophyll, but genetic research has now shown that they are actually more closely related to animals than to green plants! And other research has demonstrated they are not organisms in their own right, but reproductive structures. They are the reproductive organs of fungi, essentially microscopic flowers of microscopic organisms. The fungi grow as mold threads throughout the soil. You can see such threads by looking beneath rotting leaves.

How do mushrooms reproduce the fungus? By producing millions of invisible spores. Although only one hundredth of a millimetre in diameter, spores function as seeds. They are produced on the faces of the plates which line the underside of the cap. When mature, these spores float away on air currents. A very few of them land in a site where they can grow into a new generation of their parent fungi.

The fungi which produce mushrooms do a number of things in ecosystems. In a broad sense they have three different kinds of life styles – decayers, parasites, and mycorrhizae. Most tiny mushrooms are produced by decay fungi, although size alone does not identify a mushroom's lifestyle. Decayers rot dead plant or animal material to acquire their food supply. The familiar button mushrooms from the supermarket are decayers, as is the oyster mushroom and shiitake which grow on wood. There are many parasitic fungi, although not many of them produce mushrooms. Parasites are organisms that live on other living things. The honey mushroom is often a parasite, for it can live on either living or dead trees, and is able to readily kill a tree. Some people consider it to be the largest living thing in the world for the honey mushroom can spread from the roots of the original infected tree to many others, and can do this for centuries, eventually covering many hectares. It is fairly common in Stanley Park, and throughout the Lower Mainland.

Possibly the most important mushrooms are the mycorrhizal ones. The majority of large mushrooms on the forest floor belong to this group of fungi. Most of the Park's trees depend on them. They are attached to tree roots, and gather water and minerals which they supply to their host trees. In return for this service, the tree gives the fungi some of the sugars which have been manufactured by its leaves. The big red fly amanitas which grow with a birch tree near the Lost Lagoon Nature House belong to this group.

As you walk the trails of the Park and see its myriads of mushrooms you are seeing the flowers of organisms which in many respects run the world, for they recycle debris and wood back into the biosphere, as well as supplying the nutrients required for the growth of trees.

(Terry Taylor)

Awe of the Arctic

Conjuring a wintery vision of cold, white and icy, the Arctic is also a realm of surprising colour and vibrancy. Polar bears roam ice floes in search of seals and young whales. Millions of birds breed on the tundra; in the Fall, they migrate as far south as the Antarctic, using resting stops such as Stanley Park. Through the years, dozens of explorers have searched for fortune and fame in the Arctic, and many died in the process. What is it that draws them? Join acclaimed biologist and photographer, Daniel Catt, on a virtual journey to the land of the midnight sun. Enjoy stunning images of Arctic landscapes and wildlife, with tall tales of adventures from the Canadian high north to the west coast of Greenland.

When: Wed. Oct 19, 6:30 – 8:30
(special AGM presentation)

Where: Stanley Park Dining Pavilion

SPES Members free
Other guests \$10 (applicable to membership)

Kids' Korner : What's All the Flap About??

Let's get our binoculars for a closer look at Hawks!



Match these silhouettes to these 3 types of Hawks:

1. Buteos: broad wings with broad, rounded tail, e.g. Red-tailed Hawk
2. Accipiters: short, rounded wings with long tail, e.g. Cooper's Hawk
3. Falcons: long, pointed wings with long tapering tail, e.g. Peregrine Falcon



Now let's think:hmmmm....

Which of these 3 types of hawks is best built for speed? Why?

Which one is best built for soaring on air currents? Why?

Which one is best built for flying in forests and open woodlands? Why?

****for the answers to these and other Nature questions, come visit us at the Lost Lagoon Nature House or at www.stanleyparkecolgy.ca ****



your guide to

fall nature programs

discovery walks **DW**

Venture into Stanley Park on a two-hour guided walking tour with a naturalist or local expert. Walk themes and leaders vary. Leave from the Lost Lagoon Nature House every Sunday at 1pm. **RAIN OR SHINE!** \$8 public, \$5 members.

nature story & craft **NSC**

Nature games, stories and crafts for 3- to 6-year-olds. A fun way to learn about local plants and animals! Last Saturday of each month at 11 am at the Nature House. \$5 per child, \$2 per member; parents no charge.

birding in stanley park **BD**

Join naturalist and bird watcher Cathy Aitchison for a 2-hour tour in Stanley Park to identify migratory and resident birds and learn bird watching skills. Meet at the Nature House. By donation. The last Sunday of every month at 9am.

Sept 11

DW *Discover Bird Migration with Robyn Worcerster. Learn to identify many species of overwintering waterfowl and other birds. Explore Stanley Park's role as a major migratory stopover point and destination.*

Sept 18

DW *A Stroll Through 20 million Years of Geological Time. Biologist and geologist David Cook reveals how and when the sedimentary rocks of Stanley Park were formed and how subsequent injection of volcanic rocks and the effects of glaciation resulted in the peninsula that is Stanley Park. From the Nature House, we will take the free shuttle to Prospect Point to walk along 2km of the sea-wall.*

Sept 24

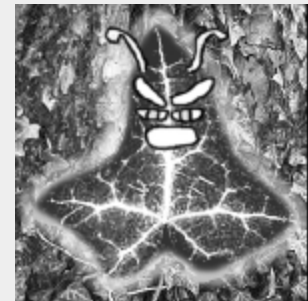
NSC *Children's Nature Story and Craft.*

Sept 25

DW *Discover Bird Migration with Robyn Worcerster. Learn to identify many species of overwintering birds. Explore Stanley Park's role as a major migratory "hotel, home and restaurant".*

Sept 25

BD *Birding in Stanley Park with birder Cathy Aitchison.*



STANLEY PARK IVY BUSTERS

Join our Fine De-Vine team on this stewardship project to control the expansion of invasive English Ivy in Stanley Park. Come for a morning of physical exercise, mental relaxation and spiritual healing (don't you think when we are doing something good with nature and for nature we are healing ourselves?). Programs go rain or shine. Bring a bottle of water and wear appropriate clothing in particular, boots!

Meet at the Dining Pavilion.

Next Ivy Pulls:

Sept 17, Oct 15, Nov 19

For more information check our website at

www.stanleyparkecology.ca

Drop in Tours

The Women of Stanley Park : 1850-1914

Oct 1 Saturday at 1-3pm

(Daylight saving time starts)

Meet at the Dining Pavilion

In this 2-hour tour Leader Jolene Cumming explores the lives of the famous and the forgotten women of Stanley Park who either lived in or visited the park in this time period including women of diverse heritage. Meet at the Nature House.

\$10 public, \$8 members/seniors/students

fall nature programs



Oct 2

DW *Art & Nature Fall Walk* During this autumn walk naturalist Kirsty Robyn explores different artistic approaches and responses to nature in addition to learning about various aspects of Stanley Park's unique natural environment.

Oct 9

DW *Arrivals & Departures* October is a transition time in the Park as our last summer birds leave for the south and winter birds arrive from the interior and north. Join birder Cathy Aitchison to look for late warblers, early ducks and year-round residents around Lost Lagoon.

Oct 16

DW *Annual Mushroom Walk* Don't miss this one-time event with renowned botanist Terry Taylor. What are mushrooms doing and why are they so important? Learn their names and their vital role in the forest.

Oct 23

DW *Sleeping with Giants* Join Andrew Scott for a unique look at some of the smallest inhabitants of the temperate rainforest and how the forest's giants provide them with protection during the cold months.

Oct 29

NSC *Children's Nature Story and Craft.*

Oct 30

DW *In Celebration of Women's Month – Women and Water: a Historical Perspective* Stroll along the shores of Lost Lagoon, Coal Harbour and Second Beach and hear fascinating stories about remarkable women of our past with leader Jolene Cumming. Examine women's relationships to the local waters: recreational, sporting, boating, harvesting, fishing, working in near by canneries, traveling and more.

Oct 30

BD *Birding in Stanley Park with Cathy Aitchison.*

Nov 6

DW *Feathers, Forests and Foreshores* Curious about swan songs and Harlequin romances? Want to dabble in ducks or dive right in? Wade into the waterfowl of Stanley Park's freshwater and marine environment with naturalist Murray Lashmar.

Nov 13

DW *Overwintering Waterfowl with Robyn Worcerster.* Learn to identify the many species of overwintering waterfowl and other birds. Discover Stanley Park's role as a major migratory stop over point and destination.

Nov 20

DW *Spring Feathers in Winter* Did you know that ducks wear their breeding plumage in the winter? Unlike most bird species, ducks start their courtship now, so they're all looking their best. This makes it easy to identify the many species that are winter residents of Lost Lagoon and English Bay. Join birder Cathy Aitchison on an easy walk to practice your I.D. skills on ducks and other waterfowl.

Nov 26

NSC *Children's Nature Story and Craft.*

Nov 27

DW *Overwintering Waterfowl with Robyn Worcerster.* Learn to identify the many species of overwintering waterfowl and other birds. Discover Stanley Park's role as a major migratory stop over point and destination.

Nov 27

BD *Birding in Stanley Park with Cathy Aitchison.*

Dec 4

DW *The Edge of Winter* Looking for ideas on how to get through the winter? Join naturalist Murray Lashmar and find out how other animals and plants do it.

Creatures of the Night:

What wonders wander the Park after dark? Grab a lantern and join naturalists on a "who's whooo" tour.

Every Friday and Saturday at Halloween Ghost Train

Oct 6, 7, 8: every hour: 7, 8, and 9 pm

Oct 14, 15, 21, 22, 28, 29: every half hour: 7, 7:30, 8, 8:30, 9 and 9:30 pm

ghost train members night

SPES members and their immediate family (max 4) ride free on Preview Night (Oct 6) of the Ghost Train Miniature Railway Halloween Event at Stanley Park.

When: Thursday Oct 6, 6:30-9:00 pm

Bring membership card

For more information call 604.257.6908 or email at info@stanleyparkecology.ca

our purpose

The Stanley Park Ecology Society (SPES) is a community-based, not for profit organization dedicated to encouraging stewardship of our natural world through environmental education and action.

as a member, you enjoy

- Discounts on all Discovery Walks, Family Programs and Events.
- Our quarterly newsletter with nature updates and our seasonal activities calendar.
- Voting privileges to help SPES plan for the ecological stewardship of Stanley Park.
- Special promotions to help lighten your ecological footprint and connect to Stanley Park.
- Member Perks from Community Partners.
- Complimentary access to preview nights for the Halloween Ghost Train and Christmas Bright Nights

as a member, you make possible

- School and Public Programs that enable more than 12,000 children and adults a year to discover nature through hands-on stewardship adventures.
- The operation of Vancouver's only ecological interpretive centre, the Lost Lagoon Nature House with more than 15,000 visitors per year.
- The monitoring of wildlife at risk, the restoration of habitat, and the conservation of biodiversity in Stanley Park.

contact us

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f 604 257 8378
Nature House: 604 257 8544
info@stanleyparkecology.ca
www.stanleyparkecology.ca

thanks to our recent donors and sponsors



keith lord sport foundation



Nature's Path Organic Foods
Judith Macpherson
Joyce Prior

Fall Member Perks!

Become a member and enjoy one of our many perks! This season as a SPES member you receive complimentary access to the preview night of Halloween Ghost Train and Christmas Bright Nights Train! Call 604-257-6908.

We would love you to GET INVOLVED

Everyone has something special to offer from creative ideas, time to financial support. This fall SPES invites you to rethink all the fun and amazing ways you can get involved in the Stanley Park Ecology Society Community. Become a member! Bring a friend to a Discovery Walk! Join the Ivy Busters! Or if your time is unavailable, a financial contribution is always valued and will go directly towards environmental education, stewardship and enhancing the connection between people and nature. This fall let's all get involved!

yes, i want to become a friend of the park!

enclosed is my gift of:

- \$20 \$50 \$100 Other \$_____

i want to become a member

- Family \$30 Individual \$15 Senior/Vol \$10 Junior (<19) \$7.50

i want to become a monthly donor

I authorize the Stanley Park Ecology Society to receive the following monthly donation:

- \$10 \$15 \$25 Other \$_____

Payment Method

- Cheque Visa Master Card

card number _____ name _____

expiry date _____ address _____

signature _____ city _____ postal code _____

I understand that I can change or cancel my pledge at any time

phone _____

email _____

Please make cheques payable to:

Stanley Park Ecology Society, PO Box 5167 Vancouver BC Canada V6B 4B2

Charitable Tax Receipts issued for donations of \$30 or more

SPES is a registered charity: # 11916 6890 RR0001

All information will be kept confidential according to the Personal Information Protection Act.