Salt Spring Trail & Nature Club, Box 203, Ganges PO, Salt Spring Island, BC, V8K 2V9. Website: www.saltspringtnc.ca

oystercatcher

NEWSLETTER

SPRING 2008

PRESIDENT'S OUTLOOK

First of all I would like to highlight one item from the AGM. Our outgoing members of the Club's executive have given a lot of their personal time to keep the Club ticking like the well-oiled machine that it is. And it has not always been a bed of roses for them. Fred Powell (eight years), Nieke Visser (almost four years), Norah Lloyd (two years), and Paul Way (two years) deserve our thanks for their commitment, so the next time that you meet them you might make their day and say thank you.

We have four new members of the executive - John Heddle, Lise Fraser, Dulcy Wilson and Frauke Prystawick, respectively our secretary, hiker, walker and rambler coordinators. Give them your support whenever possible since without them there will be no hikes, walks and rambles.

Our partnership with Island Pathways to create the pathway from Wildwood Crescent to Blain Road will soon bear fruit. Enough money has been donated to finance the construction contract, the design has been finalized and we are coordinating with CRD to tender the contract. If you drive past the site you can see the yellow stakes that mark the centerline of the path. Before the summer heat comes we should have the pathway in place with a grand opening ceremony centered around our usual Tuesday activities.

I want your opinion about our monthly social events. Average attendance is 25 people out of a total membership of 245. Certainly those that attend do enjoy the presentations, but the amount of time, effort and money that goes into these Thursday evenings to entertain 10% of the membership doesn't make much sense to me. Would having them on a different day make a difference? What do you think?

Zeke Blazecka

House finch—photo: Nieke Visser

SPRING IS HERE

For temperate climate dwellers and especially for those living in the Pacific Northwest, the miracle of spring is an annually returning joy no matter how many times we have experience it. Having lived in a tropical climate for many years, spring was what I missed the most: its distinctive smell, the budding trees, the dazzling colours of blossoms and wild flowers. This display of nature's resilience returns year after year, but how do plants know when to spring into life? I dug up some information on this topic and I like to share the answers that I found.

Research has unravelled the physiological processes that are in involved in germination, growth, blooming, fruit setting, and dormancy. The results show that many plants actually need periodic exposure to cold temperature (vernalization) in order to break dormancy. Although the focus of this essay is breaking dormancy, to understand this process we have to take a look at the previous stage too: dormancy itself.

What makes plants to go into dormancy? Plant dormancy is an example of *phenotypic plasticity* that minimizes exposure to seasonal stresses. In other words, a plant is reacting to outside stimuli to protect itself from damage (cold, heat, or disease). As in all organisms, the main component of plants is water. In winter water freezes, so it does not move and stops transporting nutrients to the plant cells. Also, water expands when frozen, and might damage the cells just like a water pipe that bursts after being frozen.

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CLUB CHAT

This winter proved to be a difficult time for our outings and some had to be cancelled not once but twice.

Wild life viewing platform at Hemer lake provincial park—*photo: Lucille Adderley*

Bird watching at Hemer lake was rescheduled for January and as the saying goes: third time was a charm. On a cold but sunny day we finally made it to Hemer lake provincial park on Yellowpoint, armed with binoculars and a scope, to find the two lakes at the provincial park partially frozen over. Still, there was a variety of birds including quite a large flock of trumpeter swans, several hooded mergansers and a ring-necked duck.

December 11 was earmarked for our Christmas Lunch at Meaden Hall. About one hundred people got together to enjoy the food, the good company and a wonderful slide show of our 2007 expeditions skilfully presented by Arleen Sadler.

Christmas lunch st Meaden Hall
photo: Arleen Sadler

On the fourth Thursday in January, as usual, members gathered for the AGM. With 53 members, attendance was somewhat lower then the years before. Christine, again, served us a wonderful lunch which was followed by the business meeting. A resolution to pledge $1000 to the Creekside Rainforest Campaign was narrowly passed but not without a lively discussion. The new Executive was installed. At the last minute Dulcy Wilson stepped forward as the nominee for the position of walkers co-ordinator. Dulcy is fairly new to the island and needs some support from long-time members with lots of experience.

Christmas lunch st Meaden Hall
photo: Arleen Sadler

Lost on Channel Ridge

The membership voted to increase the annual membership dues from $17 to $20, effective immediately. Late payments (after Dec. 31) will be fined $5.

Under normal circumstances, we are a cohesive bunch that sticks together during our Tuesday outings. But in January, Fred and 22 fellow hikers managed to out-walk six hikers on Channel ridge (see picture above). Being skilled outdoors men and women, though, they had no problem finding their way back to the parking lot!

Nieke Visser

VICE PRESIDENT'S REPORT

As your newly installed Vice President, I am just starting to learn all the things Zeke used to do. The entire month of February I was away from Salt Spring Island, so I missed the presentation by Sheila and Barry Spence on their hikes in Italy. They were mainly in Liguria, on the northwest coast and in Tuscany; they walked in Cinqueterra and visited beautiful towns such as Lucca. I regret not having seen their slides.

For our March social we invited Wayne Campbell, a renowned ornithologist. We are co-sponsoring his visit with the Salt Spring Island Conservancy. On March 14 there will be a presentation in the Community Gospel Hall at 7:00 pm. Subject: Everything you want to know about local birds. On Saturday March 15, Wayne will give a workshop and fieldtrip from 9 am to 3 pm for a limited number of people. To register for the Saturday event, please call the Conservancy office at 538-0318. There is still room for more participants. A fee of $20 is required payable at the time of registration. This event has been advertised in the Driftwood and Deborah Miller has placed posters around town and other places announcing this event. In addition, you should have received a Google-group email as well. For the months of April and May we hope to organize talks on nature areas in the Netherlands, and on hiking in Iceland.

On a different note, I have been elected to join the Board of the Friends of Salt Spring Parks, which meets regularly with BC Parks and CRD to discuss Park issues. In that capacity I like to address the concerns of the Trail and Nature Club.

Kees Visser

GENERAL INFORMATION

The Salt Spring Trail & Nature Club features Tuesday outings September through June at three levels of ability. The monthly schedule of outings and events is published in the Driftwood on the last Wednesday of the month and on our website at **www.saltspringtnc.ca**. On the fourth Thursday in October, November and February through May, the Club meets at 7:30 pm at the lower hall of the United Church. The Club is affiliated with BC Nature and Nature Canada.

Ramblers enjoy walking without pressure with frequent "time-outs" to take pictures, to examine plants, flowers, rocks, fossils, and from time to time sample local restaurants. Members of any level of fitness are welcome. Ramblers start at 10:00 am and usually end by 1:30 pm.

Walkers move at a more relaxed pace. They usually try to avoid long steep climbs and will stop to catch their breath along the way. Outings generally cover 8 km or less and end by 2:00 pm.

Hikers like long, adventurous and occasionally quite strenuous hikes, and like to gain a bit of altitude. They need strong boots and a good but not excessive level of fitness. Hikes usually start at about 10:00 am and end between 2:30 to 3:30 pm.

Nature excursions are normally organized every third Tuesday of the month except December led by an expert naturalist and are open to all levels.

Membership: Annual dues are $20 per person. All members must sign a waiver annually. Send completed membership and waiver forms with your cheque to the Membership Secretary, PO Box 203, Salt Spring Island, BC, V8K 2V9, or drop them off at the Cobbler's box, attention Barry Spence.

Taxi fare: Members are encouraged to carpool during outings and reimburse the driver as follows:
On-island trips: North of Duke Road: $2 per passenger; South of Duke Road: $3 per passenger; Ruckle Park and non-paved roads: $4 per passenger.
Off Island trips: $0.30 per km per vehicle plus ferry costs.
Spring/Fall trips: No club policy.

Moving? Change of email address? Please let your Membership Director know a.s.a.p. Email: sspence@telus.net; tel: 537-2332.
Your comments or contributions are welcome. Please email them to Nieke Visser: niekevisser@shaw.ca or leave them in the cobbler's box.

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Environmental stimuli such as colder temperatures and shorter days trigger the plant to prepare for winter: it sets next year's buds, it stops growing, it drops its leaves, it moves most water from its cells to the intercellular spaces leaving sugars and other substances in the cells. Because of its high sugar contents, water that is left in the cell will not freeze, thus avoiding, to a certain degree, cell damage. This build-up of sugars also explains why some fruits and vegetables taste better after exposure to cold temperatures or even some frost! That's why sugar maples are tapped just after the leaves have dropped. Another good example is the harvesting of grapes during period of a good frost in the Okanagan. Due to the cold spell, these grapes have stored lots of sugar and can only then be used for the production of ice wine. For the same token, berries (e.g. mountain ash, or rosehips) left on the tree are an excellent food source for all kind of birds in the winter because of their high sugar content.

Dogwood ***Photo: Lynn Thompson***

The chemical substance that triggers this reaction is a hormone called *abscisic acid* or ABA. It functions in many plant processes, including abscission (shedding of plant leaves) and bud dormancy. ABA is produced in several places:
1) In the terminal buds to slow plant growth as described above.
2) In the roots in response to decreased soil water potential and other situations in which the plant may be under stress. ABA is then transported to the leaves, where it rapidly alters the osmotic potential of the stomata guard cells, causing them to shrink and the stomata (kind of pores) to close. The ABA-induced closure of the stomata reduces transpiration thus preventing water loss from the leaves in times of low water availability. In short, the plant shuts down its systems: it is now dormant.

Do evergreens go dormant? Yes they do, and the fact that they are evergreen makes dormancy even more complicated. Deciduous trees and plants drop their leaves and allow their sugars to be stored. Evergreens, to the contrary, do not get the winter off entirely. They keep on respiring and continue the process of photosynthesis, but on a scaled-down level. Their water requirement also slows down. So they do need that rest in winter for a healthy growing season.

What makes a plant to come out of dormancy? Genetic make-up and environmental stimuli. The process of going into dormancy is reversed with the arrival of warmer weather and the increase in hours of daylight. The breakdown of the growth-inhibiting ABA and the increase in growth promoters such as gibberellines are the physiological processes at play here. Slowly, water starts to flow again, the energy in the form of sugars is gradually put to use for the development of blossom and leaves. This knowledge is widely applied in agriculture and horticulture.

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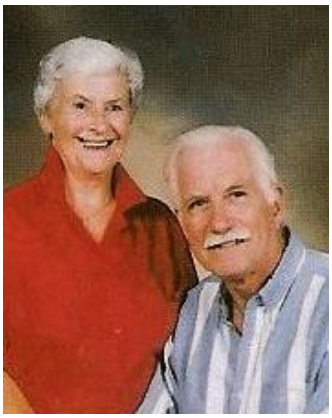
TRAIL BLAZERS: ALAN AND RITA ROBERTSON



Alan and Rita came to Salt Spring with a flurry of West Vancouverites in 1990. They settled into their home on Wildwood Drive into a life which can only be described as one of community involvement and volunteerism. The Trail and Nature Club was at the forefront of their activities and membership as full participants now stands at 17 years. For many years Rita and Alan were keen hikers, Alan taking his turn at leading. Then Alan coordinated the walks for three years and he and Rita assisted in planning the first trip to Strathcona. When Alan's knees started to give trouble, he persevered as a walker until recently, so now Rita is a regular walker while Alan joins and leads the ramblers. The knee has also caused Alan to drop out of Scottish Country Dancing, but Rita dances on and serves on the club's executive.

Whatever these two take on, they tackle with enthusiasm. The Ometepe coffee group benefits from the Robertsons' devotion to duty, as they regularly man the stall at the market, whatever the weather. They have also been involved with "Meals on Wheels" for all their years on the island. It seems that whenever and wherever there is a need for a helping hand Alan and Rita are right there. Lady Minto sees Rita wheeling the tea trolley round the wards on a Wednesday morning while Alan is keeping score for the "Choices" gang at the bowling alley.

What else can there be? The Robertsons' major interest is of course their membership and support of the Anglican Church, where they both participate fully in a wide range of activities: building and grounds, outreach and missions, rebuilding the organ and the Music Makers. Alan is the main bass voice and soloist in the choir, he also sings in the Salt Spring Singers, and is a member of the nameless quartet who performs at Music and Munch.

This appears to be a full enough schedule – but there's more! Absolute priority is given to family affairs, especially when the grandchildren are performing or singing.

Ann King and Marjie Radford

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For example, wine and fruit growers prune their vines or trees in late winter, just before the "sap starts to flow". Earlier pruning would increase the chance of infections and later pruning would reduce the energy trees or shrubs need to blossom and set fruit. Certain plants need certain times of "sleep" before waking up for another fruitful year. That explains why a warm spell in late winter or early spring does not trigger the plants to come out of dormancy: they just have not had enough rest to start up, and their energy is still stored in the roots. Ever wondered why cutting forsythia twigs in the dead of winter and bringing them inside does not cue them to flower? But picked in late winter or very early spring, those same twigs will fill your living room with a shower of yellow blossoms. However, once plants have come out of dormancy, they are more susceptible to spells of cold weather. A late frost period will damage growing plants, but most plants will recuperate as they usually have a second set of buds stored for such calamities.

The examples I gave mainly referred to shrubs or trees. But the same processes take place in perennials. They go into dormancy by dying down, but the energy in the form of sugars is stored in the roots, corms, or bulbs. When the weather warms up this energy is released and the plant starts to grow. Again, the length of dormancy is dependent on the genetic make-up of the species as well as exterior stimuli, such as increased daylight and warmer temperatures.

So when you walk, hike or ramble in the woods (or even in your garden) at this time of year, take a closer look at the plants waking up and doing what they are supposed to do: making sure the species continues to exist.

Nieke Visser

CALENDAR

March 14 and 15

Everything you want to know about local birds
Speaker: Wayne Campbell
Date: Friday March 14:
Time : 7 pm
Where: Community Gospel Hall

Date: Saturday, March 15:
Workshop and field trip to three locations.
Fee: $20 payable at time of registration.
Time: 9am—3 pm
Phone 538-0318 to register.
See details on page 2
Co-sponsored by the SSI Conservancy

March 18

Nature outing
Wildflowers with Nancy Braithwaite, nature and weather permitting.
See Driftwood or website for details

April 15

Nature outing
Tree identification with Bill Earl at a location to be determined later.

April 24

Social Evening at the United Church; 7:30 pm.
Nature conservation and restoration in the Netherlands
Slide show by Nieke Visser

May 20

Nature outing
To be announced later

May 22

Social Evening at the United Church; 7:30 pm.
Hiking in Iceland
Slideshow by Andrea Rankin

May 29-June 1

BC Nature Annual Conference and General Meeting
Hosted by the South Okanagan Naturalists' Club at the Penticton Lakeside Resort
Theme: A Century of Change Celebrating Penticton's Centennial
Details in the MC Naturalist or at http://bcnature.ca.

June 2-5, 2008
Spring trip to Naramata.
For more information, call Fred Powell at 537-4739

Salt Spring Geology - part 5

TIME IN GEOLOGY

In the previous editions of "Salt Spring Geology" I highlighted features observable on Salt Spring. This time I like to discuss a topic that is fundamental to geology. During hikes many people ask me questions about geology and one of them is related to geological time and ages. So that will be the topic today.

Generally, geologists do not like to refer to time in numbers of years. For example, 62 million years ago, or 450 millions years ago are large numbers with too many zeros that make it difficult to comprehend. In addition, they are tongue-breaking when repeated many times. Instead we like to use era, periods, and smaller units. Let's take the Permian period as an example: when a geologist mentions the Permian (that is the last period of the Palaeozoic era), his colleagues can exactly place that period and know its characteristics: the climate on earth was generally dry and hot, almost desert like, the continents were spread over the earth in a certain way, there were glaciations (ice ages) over certain areas, the first small reptiles and amphibians roamed the land, vegetation was minor, and most life proliferated in the sea. Mammals had not evolved yet. They also know which period preceded the Permian (Carboniferous or Pennsylvanian, wetter and warmer) and which period followed (Triassic, still dry, but less so and a bit warmer). As a point of interest, at the Permian-Triassic boundary the largest mass extinction in the earth history occurred: almost 90% of all living species died off! But that's stuff for another geology lesson. Most time periods are named after a geographical area where sediments (now rocks) that were deposited during that period are abundant and often have been described for the first time. Looking at Figure 1 below we can see from old to young:

Precambrian or Proterozoic (very early life, from 4.5 billion to 600 million years ago);

Palaeozoic or age of ancient life, 600 million to 245 million years ago;

Mesozoic or age of middle life, from 245 million to 66 million years ago);

Cainozoic or age of new life, from 66 million years ago to the present.

Each era is subsequently divided in periods. Note that Pennsylvanian and Mississippian are North American terms for what the rest of the world calls Carboniferous ("coal bearing", since most mined coal comes from plant material from that time period).

All these periods are divided again in smaller units, but I will not bother you naming those. I will only mention the last Tertiary subdivision Pliocene (when Homo sapiens appears), as well as the Quaternary subdivisions Pleistocene (time of the last few ice ages) and Holocene (the warmer inter glacial period we are living in now).

I found the following analogy very clarifying. Just imagine that the earth was formed at midnight and that we are at present 24 hours later (see Figure 2 on page 6). The small red coloured circle in the right top quadrant indicates the Precambrian time period in which to date not many fossils have been identified. Figure 2 shows, that the first fossils appeared in the late Precambrian or Proterozoic era, around "8:00 pm".

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CENOZOIC ERA (Age of Recent Life)	Quaternary Period	The several geologic eras were originally named Primary, Secondary, Tertiary, and Quaternary. The first two names are no longer used. Tertiary and Quaternary have been retained but used as period designations.
	Tertiary Period	
MESOZOIC ERA (Age of Medieval Life)	Cretaceous Period	Derived from Latin word for chalk (creta) and first applied to extensive deposits that form white cliffs along the English Channel.
	Jurassic Period	Named for the Jura Mountains, located between France and Switzerland, where rocks of this age were first studied.
	Triassic Period	Taken from the word "trias" in recognition of the threefold character of these rocks in Europe.
PALEOZOIC ERA (Age of Ancient Life)	Permian Period	Named after the province of Perm, U.S.S.R., where these rocks were first studied.
	Pennsylvanian Period	Named for the State of Pennsylvania where these rocks have produced much coal.
	Mississippian Period	Named for the Mississippi River Valley where these rocks are well exposed.
	Devonian Period	Named after Devonshire, England, where these rocks were first studied.
	Silurian Period	Named after Celtic tribes, the Silures and the Ordovices, that lived in Wales during the Roman Conquest.
	Ordovician Period	
	Cambrian Period	Taken from the Roman name for Wales (Cambria) where rocks containing the earliest evidence of complex forms of life were first studied.
PRECAMBRIAN	----------	The time between the birth of the planet and the appearance of complex forms of life. More than 80 percent of the Earth's estimated 4-1/2 billion years falls within this era.

Figure 1: Geological time table and explanation of nomenclature

Source: US Geological Survey

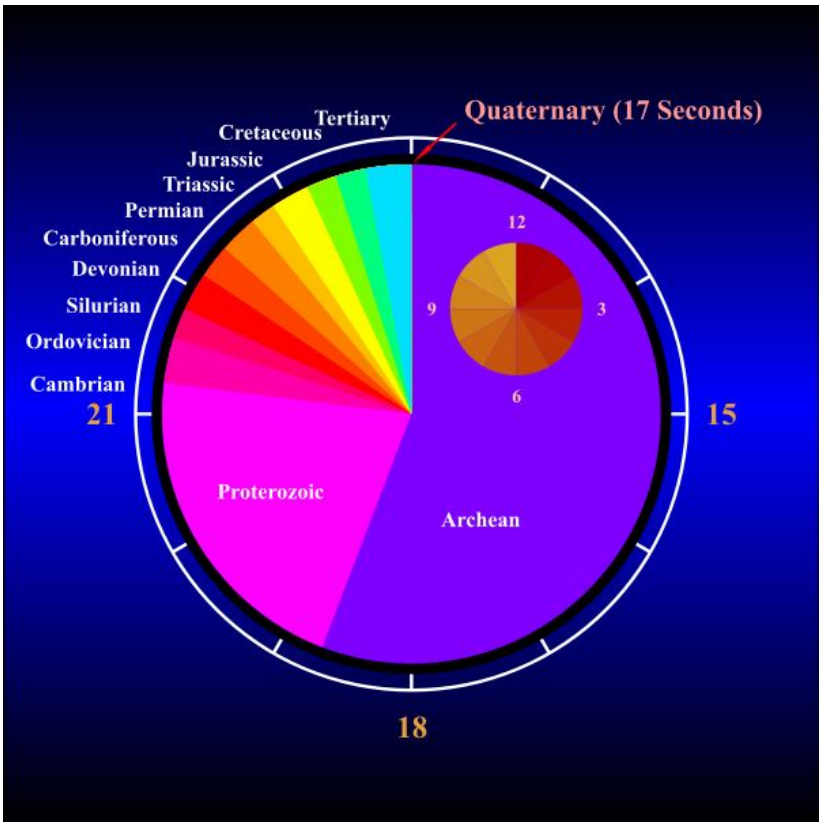

Figure 2: Geological Time Scale transcribed into a 24 hour clock
Source: derived from original raster image by Hannes Grobe

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(that is 20 hours after the origin of the Earth) They were a kind of blue algae. In the Cambrian, a sudden explosion of fossils occured (around 9:00 pm"). These species were still living in the ocean, but many had evolved for the first time to have hard external skeletons (such as trilobites, a kind of lobster), increasing their chance of survival as a fossil. Large reptiles such as dinosaurs ruled the world from the Jurassic to the Cretaceous (from "11:00 to 11:20 pm"). At about "11:57 pm", the first human ancestors, Australopithecus for example, appeared and Homo sapiens (us) only made their entrée at about 25 seconds before midnight.

Applying this analogy to Salt Spring Island, we find rocks from the Devonian period only in the southern part of the island. These were deposited it about "10:00 pm", when the first amphibians venture at water's edge. There were very few plants but only close to water. The remainder of the island consists mainly of Cretaceous rocks, deposited around "11:00 pm". These are the times of dinosaurs and very small mammals. And last but not least, there are some Pleistocene glacial deposits and also recent Holocene creek and beach deposits.

Kees Visser, P.Geol.

NEW MEMBERS

Gary Adams
Linda Storr
Carol Brown
Dan Callahan
Wendy Ehlers
Vanessa Gray
Patricia Hewett
Bob Morrisette
Charles Hingston
Gale Hingston
Rineke Jonker
Yumie Kono
Sharone Maldaver
Joyce Maxted
Donald Mclennan
Judy Mclennan
Debra Olson
Hans Stoffelsma
Jim Stubbs
Laurie Stubbs
Hans Van De Sande
Jane Woodland
April Wright

HONORARY MEMBERS

Bob Ball
Loes Holland
Tony Pederson
Jean King
Joan Lott
Eleanor Lloyd
Jean Holmes

PAST TRAIL BLAZERS

Lynn Thompson
Bill Harrington
Paul and Beth Ranney
Owen Benwell and George Hignell
John Myers
Ian Fraser
Bob and Betty Ball
Dick and Chris Pattinson
Betty Kirk
Brian Radford
Charles Kahn
Simon Rook
Jim Barber

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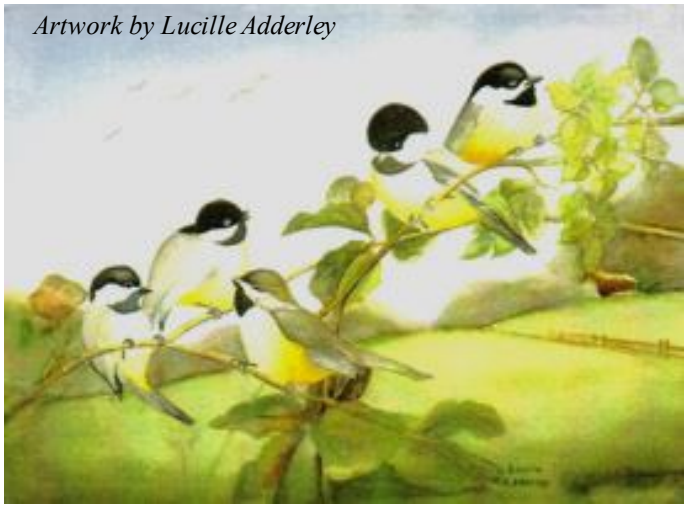
HIGHEST SSI CHRISTMAS BIRD COUNT IN SIX

The 2007 Christmas Bird Count on Salt Spring Island took place on a cool and overcast day on December 29, 2007 with temperatures hovering in the 2˚ to 4˚ C range. Despite these conditions, 93 counters covered the 12 SSI zones and recorded 16,745 birds spread over 88 species. Unexpectedly, the total count was the highest in six years and was the third highest in the last 10 years, although the total number of species observed was a little lower than the usual range of 94 to 99.

The most frequently observed birds were dark-eyed juncos (2905), pine siskins (2267), American robins (1171), Canada geese (916), starlings (854) and golden-crowned kinglets (835). Almost everyone has seen large bunches of juncos at their feeders and large flocks of pine siskins moving about so the list of abundant birds will not be a surprise to those who have been keeping an eye out for our feathery friends. There also have been abundant kinglets on roadways and shrub rows. Anna Hummingbirds continued to be on the rise with 15 sightings during the count this past Christmas, a number that has been growing steadily each year for the last four years (see the graph graciously provided by Jean Brouard). Some other notable sightings this year included an American dipper in zone 2 (Ruckle Park, Fulford East) and a greater white- fronted goose in zone 9 (Vesuvius). A couple of hard copies of the count results are available in the Cobbler's box for anyone who would like to look at them.

The Salt Spring Island bird count was coordinated with Galiano Island (North Circle) and Sydney and the Saanich Peninsula (South Circle) for the national Bird Studies Canada Christmas bird count. Results of the national count are published in a special issue of Bird Watch Canada about June of each year and it will be interesting to see what outcomes will be shown in the nationwide tally. Besides providing a good excuse for friends to get together for some winter bird watching, the



Artwork by Lucille Adderley

national Christmas Bird Count, which has been running for over a hundred years, provides interesting data on population trends across the North American continent as a whole. Anyone interested in becoming involved and participating in our local count next year should keep an eye out for announcements next November/December in the Oystercatcher and the Driftwood and to contact Gil Schultz so that arrangements to help count in one of the zones can be made.

Gil Schultz