

**Greetings to Alberta Plantwatchers!** This spring may unfold to be one of our most interesting yet due to the very unusual weather we experienced in 2009...read on!



### **The Weather in 2009**

Winter 2009- 2010 in Canada was 4 °C above normal, the warmest and driest since records began in 1948. According to Dave Phillips of Environment Canada, the main reasons were an El Nino, which caused warming of the Pacific Ocean, and shrinking Arctic ice. Precipitation was down 60% in parts of Alberta. Phillips said 'This may be a dress rehearsal of what we'll see as normal in years to come'. The El Nino is now strengthening again: see <http://earthobservatory.nasa.gov/IOTD/view.php?id=43105&src=eo-a-iotd> , and [http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/ensodisc.html](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.html). It seems likely that central and northern Alberta will have extreme drought this coming season. This could result in water shortages, insect infestations, and wildfires this summer.

Out of the top ten weather stories in Canada in 2009, four of them featured our fair province. You probably recall the winter of 2008-2009 that never ended, the spring that never came, the rains that fell too late, and the heat wave that was September. Spring was one of the toughest on record for Alberta farmers, as they experienced persistent cold and frost combined with a strong drought. In Edmonton, the total precipitation in the year ending June 2009 was the lowest since records began in 1880. Just before the official start of summer, several districts in Alberta had declared a drought emergency or disaster. While cold lingered across the province well into June – during which significant amounts of snow fell in Calgary for the first time in 30 years, September boasted record-breaking heat. On the first day of fall Calgary experienced a record high temperature – at a whopping 33.2°C, the warmest day of the year. But winter wasn't far behind. In early October, Arctic air pushed down into Alberta leading to unusually cold Thanksgiving celebrations...and preparing us for record low temperatures in December!

### **Alberta's Trees**

The bulk of comments submitted by Plantwatch observers for the 2009 growing season reflect the on-the-ground impact of this erratic weather. One person wondered whether the lack of colour change seen in many trees last fall would have an effect on their health this spring. For an answer, I turned to Professor Janice Cooke in the Department of Biological Sciences at the University of Alberta. She explained that as the days get shorter and nights get colder towards the end of summer, the changes in light and temperature trigger trees to stop producing chlorophyll, which is the pigment that gives leaves their green colour and is essential for photosynthesis. As the amount of chlorophyll becomes less, other important pigments are revealed that give the leaf its particular fall colour. Simultaneously with the change in leaf colour, various nutrients in the leaves are transported into the main body of the tree for winter storage. These nutrients are recycled for future use.

Without the usual decrease in temperatures last September, many trees didn't receive a key signal to start changing the colour of their leaves, and stayed green as a result. With the sudden drop in temperature in early October most trees didn't have enough time to prepare for winter. Some dropped their frozen green leaves onto the ground overnight without recovering the nutrients they contain. This spring, these trees might be low on building blocks like sugars, nitrogen and phosphorus, and they will struggle to produce new leaves. To give your trees a boost, Professor Cooke recommends that you water them early and apply a nutrient source like well-composted manure to them later this spring.



Common purple lilac before bloom, by E.Beaubien

## OBSERVERS' COMMENTS ON THE 2009 SEASON

### SOUTH

**Calgary:** Late snow in April, and May cool. May 11-18: the spring explosion of 8 species (first bloom) (W. Brideaux).

**Calgary:** had the best fruit crop ever (currants, saskatoons, raspberries, apples) – unlike areas outside Calgary. I think a lot of the farms got hailed out, in the city we didn't (M. Hall-Beyer).

**Finnegan:** All plants and grasses froze nearly every night until June. Plants were very short with few blooms. Never had any rain until middle of August, then roadsides covered with lovely white/yellow/purple asters (E. Gillespie).

**Monarch:** On May 28, some poplars had leaf buds frozen, so no leaves on some by this date. June 16: leaves on the frozen poplars are almost normal size, but fewer than in previous years. (M. Hafichuk).

**Medicine Hat:** Snow on the 6<sup>th</sup> of June! One hot day over 30 is followed by two cool days. Kind of a nice relief. Flowers are blooming longer with the cooler weather (M. Munz Gue).

### CENTRAL

Reduced numbers of prairie crocus blooms were seen in Lacombe, Alix, and Lloydminster. Despite the drought, good production of saskatoon berries was reported by observers in areas including Peers, Drayton Valley, Ponoka, Leduc, Alix and Wainwright.

Prairie crocus by G.Hughes



**Peers:** May 8-10: received 14 inches snow. Less than half the aspen/birch were leafed out at this time. Garden was 2-3 weeks late all season. Peas finally ready mid August, beans early Sept. Picked saskatoons finally end of August. Sept 15: still picking raspberries and waiting for chokecherries to ripen (L. Ahlf).

**Sherwood Park:** End April: Distressing to see dry wetlands. Beaverhill and Lister Lakes are dry. Aspen not leafed until May 24. Due to drought, far fewer tree swallows nesting, fewer barn and cliff swallows as well. No mosquitoes for food! No wild fruit but abundant berries on tame saskatoons. (L. McDonell).

**Devon area:** crocus bloom and aspen pollen shed are usually 2-3 days apart, but cold weather seemed to delay aspen pollen by at least a week. After rain in July, twinflowers suddenly bloomed profusely (B. Janz).

**Camrose:** Pussy willows began blossoming May 5. Tree didn't leaf out fully until May 26. Very few yarrow. (L. Woods).

**Kelsey:** May 12: long cold spring, very dry. May 31: lots of saskatoon blooms. June 20: native grasses very sparse. Oct 12: early winter. Leaves didn't turn colour or fall off willows/aspens (M. Lambert).

**Lacombe:** Fewest crocuses than any previous spring (began recording 2005). Aug: timely rains resulted in green lawns and fast growing gardens and pasture. Most abundant raspberries for years (tame and wild) (J. Meeres).

**Lacombe ;** Fewer, shorter stemmed early blue violets (G.Hughes).

**Delburne:** Very few insects, bees or butterflies (J. Campbell).

**Delburne:** Many spring migrants at least two weeks late. Canada geese, common goldeneye two weeks later for nesting. No frozen eggs this year (J. Potter).

**Between Wainright/Edgerton:** A tough year for vegetable gardening. (C. Snyder).

**Wainright:** Most plants flowering 10-14 days later than usual with reduced productivity (P.Porter).

**Ponoka:** Flowers in garden at least 2 weeks behind. Very few wild strawberries, (M. Predy).

**Ranfurly:** After April 18 snowstorm, everything seemed to be put on hold. Blossoms very small or none at all. Surprisingly, lots of fruit – plums, pears, apples and cherries (C. Mock).

**Drayton Valley:** Grasshoppers population high in July. Asters beautiful and plentiful. Saskatoon berries best in the past four years (F. McKay).

**Markerville:** Top quarter to one-third of the crocus blooms going brown from frost damage (P. and C. Anderson).

**Sundre:** Frost first three nights in July. Seems the whole season shifted by two weeks (A. Bakken). Surprisingly little spring runoff. No major June rain, but enough to sustain pastures. August: hay fields down from last year, but garden did well (M. Halvorson).

## MOUNTAINS

**East Gate Jasper National Park:** Major return to snow and cold on Victoria Day weekend resulting in damage to many willow catkins and some leaf die-off on small shrubs. Hotter weather subsequently, with plants jettisoned into greenery! Even though delayed, bumper crops of Saskatoon and dogwood berries, and chokecherry. Buffaloberry berry production reduced overall (E. Slatter).

## NORTH

**Bon Accord:** Bird arrivals about 2 weeks late. Tree swallows first seen last day of April. They left 2<sup>nd</sup> week of July – earlier than usual (B. Collier).

**Athabasca:** Spring late, cold, windy. Leaves very slow to develop. Poplar leaves began emerging May 7, but did not progress for two weeks (A. Stiles).

**LacLabiche:** Cloudberry had lots of leaves, but no flowers (R. Creelman).

**Elk Point:** Very good saskatoons, poor to moderate pin cherries, good chokecherries, moderate blueberries (C. Lumley).

Ripening saskatoons by E. Beaubien



**Dapp:** May 24: female poplar catkins are stretching, Swallows returned. June 21: grass in pasture very poor, one inch, never seen it so short. No flies this year, very few bees or bumblebees. No swallows. No food for them! (F. de Jong).

**Clive:** May 15: first bumblebee. Lack of bees all spring (B. Walters).

**High Level:** Cold, late spring, then hot. Planted garden much later than usual, but grew well. Dandelions abundant, blooming still until end of August. Strawberry lots of blossoms, little fruit. Saskatoons very patchy. (W. Askin).

**NW of Manning:** May 17-18 snowstorm and freezing temps. Aspen leafout delayed (R. Cowie).

**Wembley:** Snow May 24. Crops responded to the moisture. No more moisture until July 5 – early crops suffered. Saskatoon berries, red currants and chokecherries excellent (M. Dommer).

**Ft McMurray:** Poplar did not bloom due to tent caterpillar stress (R. Grey).

## NEWS:

The Canada Plantwatch booklet has been revised to add more species and extra information on each species. This enlarged national booklet is available this spring in English and French. As well, the Plantwatch teacher guide, with cross-Canada curriculum links for mathematics and science for grades 6-8 is posted under 'Educator Materials' at [www.plantwatch.ca](http://www.plantwatch.ca). This federal website is getting some improvements so if links do not work, please be patient and try again later.

## WELCOME to new Plantwatchers!

Join us for the magic of citizen science, where by contributing your observations you have the opportunity to provide essential information to this 23-year old province-wide scientific study. The goal? By charting the dates at which various plants flower each spring, we're hoping to see how climate change affects important elements of our local ecology. Knowing flowering times can also help us predict allergy season, and provide valuable tips to gardeners and farmers.

To begin your Plantwatch experience, choose one or more of the 25 monitored plant species that you'd like to get familiar with and that are accessible to you. To catch bloom dates, it's important to visit the plant at least every two days. Record the date your plant first blooms, then when it reaches mid-bloom. For some woody plants note down a leafing date as well. You can report these dates several different ways. Choose one that suits you!

To report electronically, choose one of these options:

Report at the Alberta Plantwatch site ([www.plantwatch.fanweb.ca](http://www.plantwatch.fanweb.ca)) where you'll find many program details.

Report on the Federal website ([www.plantwatch.ca](http://www.plantwatch.ca)) which has been updated with information on our four new Alberta Plantwatch species: white birch, starflower, cloudberry and lingonberry.

Send the Alberta data sheet by email (download from [www.plantwatch.fanweb.ca](http://www.plantwatch.fanweb.ca)).

Or you can use Canada Post and mail in the data sheet, as most observers currently do, once your observations are done.

You may wish keep a copy for future comparisons. Remember, any contribution of data is greatly appreciated! If your time is limited, just report on one type of plant.

Birch leaves and catkins by E.Beaubien

Do you have neighbours who don't appreciate dandelions? This link has great information on non-toxic ways to deal with excessive plants:

<http://www.pesticide.org/dandelions.html>

**Many thanks** to Tara Narwani, who wrote much of this newsletter as part of her volunteer hours for Edmonton's 'Master Naturalist' program, and to Linda Seale and Mryka Hall-Beyer for edits. Thanks also to Nature Alberta for hosting our webpage, the University of Alberta's Department of Renewable Resources and Dr. Andreas Hamann, my PhD supervisor, for providing space and time for this program. Environment Canada coordinates Canada Plantwatch and kindly assists with mailing expenses and promotion. Most important, thanks to all the Alberta "eyes of science", Plantwatch volunteers who observe and then report their dates!



Happy flower tracking this spring!

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