

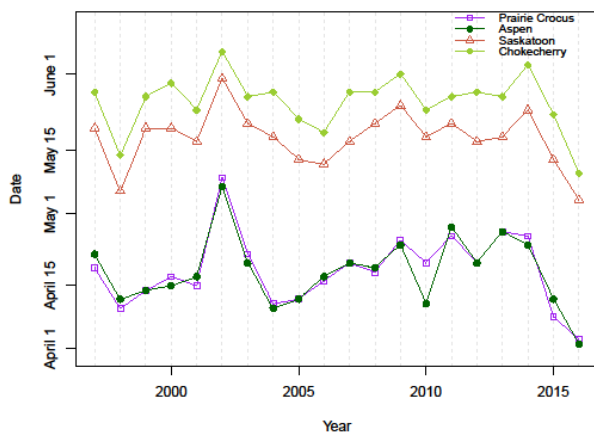
March 2018: Alberta PlantWatch Annual Newsletter

Many thanks to PlantWatch Observers, who watch selected plant species in their part of Alberta, and report when they bloom and leaf. This citizen science contributes to knowledge of how our changing climate affects plants and wildlife, and can help decision-making in Alberta in many ways. Spring bloom dates are valuable to predict the timing of: spring allergies, fly fishing season, garden planting, the end of spring fire danger, etc. For info on exciting citizen science projects worldwide: <http://crowdandcloud.org/about-the-series>.

Summary of 2017

After 2 years with early bloom dates, 2017 was more 'back to normal'. April was cool, with some snowstorms. The summer featured windy weather, and the south had a lot of heat. Tomatoes had a great summer, even in Banff! Berry production was excellent over much of Alberta. For information on native Alberta berries or fruits (edible? poisonous?) www.ealt.ca/news-blog/fun-facts-fantastic-fruits.

Alberta Central Parkland: First Bloom Dates
1997-2016



PlantWatch News

In 2017, I worked with Dr. Hamann's graduate students on two projects: testing ways to check the quality of our data (Jennifer Li) and comparing our 'ground based' phenology data to remote sensing data on spring timing (Logan Purdy). Kyle Taylor digitized PlantWatch data for 2013-2016 so now the 1987-2016 data is in the computer. Next I need to find funds to digitize my field notes and the 2017 data. Also, I must soon start serious fundraising to



ensure the continuation of PlantWatch, now in its 32nd year!

I presented a poster at the IPCC CITIES conference in March 2018 (with the help of student Zihaoan Sang) and at a major forest ecology workshop in the summer of 2017.

Interested in Alberta Bees?

Check out the new Alberta Native Bee Council page on Facebook. Insecticides called neonicotinoids, are added as seed coatings of many Alberta crops, including canola. They harm bees and many of the insects that birds and bats feed on. Google Dr. Christy Morrissey in Saskatchewan to learn more about the impact of neonics on birds. See also: <http://sro.sussex.ac.uk/57496/>: "Neonicotinoid residues in wildflowers, a potential route of chronic exposure for bees". Here is one way to help bees: <https://action2.davidsuzuki.org/neonics>. Learn more about the campaign to protect pollinators at <https://davidsuzuki.org/project/pesticides/>.



Bees are among our most important pollinators (Photo: Reese Halter)

2017 PlantWatch Records

Southern Alberta:

Calgary NW. W. Brideaux. Good snow cover over winter and normal April rainfall, but May-mid-August less than 40% normal rainfall, mostly as one-day thunderstorm downpours. Wild strawberry and early blue violet especially abundant. Unlike 2015 and 2016, most flowering times were within the usual range. Mosquitoes hardly noticeable.

Calgary: E edge of Glenmore Reservoir. D. Darnell and neighbour **L. Sudrich**. Spring had large temperature swings. There was a 'lake effect', with bloom dates later near the water than a km away.

SW of Calgary. D. Ramsay. 25 cm (10") of snow on Apr 24. What a trying year for plants. The hot dry days of summer were too hot and dry. Saskatoons and chokecherries were wonderful, and the moose didn't eat them this year, so I got a few.



Moose browsing local shrubs. It pays to be tall! (Photo: Pixabay)

Millarville. P. Kroeker. What a hot summer! Vegetables ready earlier, and mock oranges, which always bloom for Stampede week, were about a week early.

Finnegan (SE of Drumheller). L. Gillespie, First robin Mar 26; first meadowlark Mar 29; first bloom crocus Apr 12. **E. Gillespie.** May 16, saskatoon bushes were white to the ground by a spring that runs along the road for 3 miles. Never seen so many blossoms in 60 years. Its all native pasture ranching, no spraying ever.

Medicine Hat. Thanks to **M. Munz Gue** for her PlantWatch dates plus checklist showing 32 plant species observed near the Medicine Hat College Campus May 29th.

Mountains and Foothills

Wood Buffalo National Park. K. Hartery. Near Ft. Smith, prairie crocus appeared in late April and were at mid bloom by May 3.

Jasper National Park east gate. E. Slatter. April-May. Fewer bees on willow catkins; more as season progressed, but numbers were down overall. Very large hatch of mayflies in May-June. Mosquitoes in tremendous numbers mid June-August, related to high water levels in the marsh and Athabasca River, but Jasper town site immune. Long, slow slide into spring conditions. A late spring (cold and wet) turned into a very productive

summer. Bears arrived later in the valley bottom: first observed Apr 1 (Mar 23 in 2016). May 3: Ground already dry. Small grassfire under powerline 1 km E of warden station. June rains and the reserve moisture made for lush, green summer foliage and plant growth. Excellent growing season; abundant saskatoon, buffaloberry, chokecherry, red osier dogwood berries, and still much fruit available early September (lots of bear activity). August: unusual to have so many hot days and warm evenings. A season of extreme fire danger in the park but very low fire activity. Little brown bats; abundant activity starting mid August into September. No white nose syndrome as yet detected in bats.

Cardinal Divide, S of Hinton. H. Anderson has visited many times in each of 10 summers to track bloom stages of alpine plants. Unlike the unusually warm weather of April 2016, which resulted in the earliest flowering in the decade, 2017 had cold wet April conditions that resulted in deep snow packs. This resulted in a substantial delay in flowering times for the early-blooming alpine flowers.

Banff. L. Dowling. June weather was normal but it was an unusual summer. Too hot, too smoky, and too many people. Everything in the wild seemed early this summer. Sub-alpine flowers in their prime in mid-July. A banner year for tomatoes, with more ripened on the vine than ever before.

Canmore. L. Frost. The hot, dry spring changed to cooler, wetter conditions in June. Everything was early and there were many more species than usual for the May species count. *Townsendia hookeri* was abundant at the Banff Hoodoos, and there were a few *Calypso bulbosa* at Johnson Lake (Apr 21). The Incised puccoon looked desiccated on the Douglas Fir Bench in Canmore (May 22). These are my 3 favorite spring species to watch for. **J. Buchanan-Mappin.** Flowering dates were more 'normal' this year (whatever that means!). Numbers of flowers were incredible, especially bunchberry and twinflower. May 17: 5 cm snow and May 24: 15 cm.

East Crowsnest Pass. D. McIntyre. Apr 7: first blooming prairie crocus beside the Frank Slide (18 days later than 2016); farther east 100s of prairie crocuses in bloom, plus a few three-flowered avens. Apr 24: Rock Creek valley, kinnikinnick started blooming and prairie crocuses were bit past peak bloom in the valley bottom. May 31: Bruce spanworm (*Operophtera bruceata*) is back for the 3rd year running - entire aspen stands have lost their

leaves to hungry caterpillars. Last year spanworm also ate spruce and pine needles and saskatoon and chokecherry. Jul 18: On tall saskatoon bushes (those the moose haven't browsed) the crop was so heavy the branches were bowed down. Nov 6: the saskatoons continue to serve as a significant food source for wildlife.



Delicious, ripe saskatoons! (photo: EALT)

Sundre. M. Halvorson. The wettest, muddiest, most miserable April I can recall, but it was our salvation. The hay and pasture grass got off to a great start. May and June were about average, but in the 2nd week in July it heated up and stayed hot. Very little rain all summer. Late July, 3.8 cm (1.5") rain plus hail wrecked the garden but provided needed moisture. Only small showers thru August and unusually hot for this area (25-31°C most days). Lots of birds at the feeders and an amazing apple crop, despite hail pocks on most.

Caroline. K. Edwards. May 28-29: clouds of pollen (editor's note: from lodgepole pine?). Jun 4: most aspen leaves eaten and/or curled, leaving many stands leafless/brownish. Probably aspen tortrix., but not as many webs as in 2016. Some trees re-leafed but leaves were often very small. August-September very dry & warm (hot according to some!). Some saskatoons; lots of blueberry bushes loaded with fruit but dried up in early September, so few pickable. Fewer mosquitoes than usual. Much more rain fell farther north: Hinton, Drayton valley, etc. in August!

Central Alberta

Barrhead. H. Zieger. Lots of wild rose this year.

Darwell. G. Richardson. Abundant crop of tame and wild saskatoons and tame strawberries. The most wild rose flowers we've seen in many years. From May 1 to end July, 27 cm (10¾") rain.

Bon Accord. B. Collier. Apr 9: First frogs heard. Apr 13: Purple finches arrived in our yard just in time for the snow to start falling. A small flock of swans flew over, wasting no time heading north! Apr 19: frogs singing again after snow and cold weather. Apr 22: Snow almost gone after 2 days normal temps. Apr 29: 12°C and sunny; 1000s of sandhill cranes flying over in waves most of the day! Jun 30: tree swallows fledged from several nests.

Edmonton. A. Mioduchowska. Temperatures in the mid 20's when saskatoon started blooming. Bloomed very fast in the heat. Berries were red by Jul 5. Very abundant fruit! **J. McGregor.** Apr 4 first pollen from early trees along Saskatchewan Drive, Belgravia. **E. Beaubien.** Apr 12: aspen poplar hit 90% pollen shed in warm sites (city centre). Then cold weather stalled progress. Apr 24: about 5% of pollen sacs on many trees appear to be killed by frost; some male catkins started falling last week. Summer fruit: chokecherries almost as abundant as last year; added their juice to applesauce: really adds flavor and color. Overall, a 'goldilocks' summer in Edmonton - not too cold, not too hot, and rain at regular intervals.

Tofield. C. Pattenden. Good berry production for all types of fruit-bearing shrubs. Saskatoons were the fattest and juiciest we've ever had. Birds made good use of all the berries.

Leduc. T. Abbott. Snow storms Apr 14 (5 days before the aspen bloomed) and May 24 (strong winds + 50 mm rain when the lilac was coming into bloom). The berry crop was enormous, both in the size and number of berries for saskatoons, cherries, mountain-ash, currants and raspberries. The apples were disappointing, with lots and lots of small, hard, hail-pitted fruit on branches bent nearly to the ground. August was very dry.

Wainwright. P. Porter. April: colder than normal, with ample snow and rain. May: first half seasonal, with a couple of 26-30°C days and low moisture; fairly moist for the last half and seasonal to cool temperatures. June to August good moisture spaced rather evenly. Good pasture conditions.

Camrose. R. Ernst. In 2016, the saskatoon and chokecherry crops failed. This year they're great. I've been eating so many saskatoons I'm probably turning purple.

Ponoka. M.A. Predy. Lots of moisture this year. Plentiful apple and saskatoon blooms and fruit. July hot and dry; thunderstorm Jul 23.

Erskine. C.Bird. Apr 3: aspen ready to start pollen shed (great photos!); Apr 19th same aspen catkins at 50%. Apr 20: balsam poplar with big red pollen sacs; ready to start shed. May 17: Butterflies were slow to appear this year and, when they did, their numbers were very low; the odd anglewing and cabbage white but little else so far. Hopefully things will improve over the summer.

SW of Red Deer. T. Krause. 2016 Fall was the wettest in 9 years on the our property. 2016-17 Winter was colder than average with decent winter-long snow cover. Spring had incredible bloom followed by great saskatoon, chokecherry, sour cherry and raspberry crops. **D. Murray.** Many snowy days in April. Apr 29: willows in full bloom, yellow with pollen. May 11: first yellow warblers, chipping sparrows, and mountain bluebirds. May 19-22: spruce pollen over everything! May 24: 12-15 large white spruce blew down in rain/windstorm. Jun 20: another huge windstorm (110 km gusts) felled dozens of white spruce and aspens on our acreage.

Innisfail. J.Henderson. Colder than normal to start, then very hot and dry with wind storms followed by hail and rain. Lots of fruit this year.

Carstairs. M.J. Davies, Z. Kondra. Apr 25: 6 cm wet heavy snow. May 25: 42 mm rain, winds to 60 km! Spectacular blooming red-osier dogwood. A windy year again, with more bumblebees and lots of leaf cutter bees (judging from leaf damage on pea plants). Phenomenal rose bloom (*woodsii* and *acicularis*). Golden bean and northern bedstraw were abundant and bloomed for a long time. No ground squirrels this year! Only saw 3, near Airdrie. A long time famer said he did not remember such constant winds in his youth. Could it have anything to do with deforestation on the eastern slopes?

Northern Alberta

Bluesky (E of Fairview) T. Hrab. Spring started slowly; very warm early in May, then heavy rain and snow in late May slowed down seeding and planting the garden. Summer was nice overall, but some hot days and no rain for about 4 weeks. A great year for tomatoes, some ripening on the vines in July and this continued into the fall. A very good yield of wild saskatoons this summer, even though it was a bit drier than usual.

Athabasca. J. and N. Fuller. Dandelions and wood lilies 2 weeks later than normal. An incredible

year for violets and twinflower, but in contrast to last year, very few berries. A very poor crop of pin cherries and choke cherries, poor saskatoons, and reduced blueberries and bunchberries. A very wet year; cool and wet in May, and near record rainfall for July. A bountiful tomato crop!



Bunchberry is very common in the Boreal Forest (Photo: E. Beaubien)

St. Paul. V. Hudson. Aspen poplar didn't appear to flower (no blooms, no fluff from seeds). Perhaps trees were weakened by tent caterpillar infestations in 2016. Saskatoon, pin cherry and chokecherry crops poor, but low bush-cranberry had the best crop ever (maybe due to reduced tree canopy after caterpillars and lots of rain).

Lac LaBiche. E. Creelman. Good year for plant growth, with good rains. Very few bumblebees until mid August, when populations started to build.

Acknowledgements

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Here's to more flower-finding fun in 2018!

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