

# PlantWatch and Climate Change

## Deanna Trowsdale-Mutafov, Saskatchewan PlantWatch Coordinator

PlantWatch is a citizen based monitoring program with strong climate change links, ie plants bloom in response to increased warmth. Climate change is truly the “hot” topic of the day, as we feel its effects. It is accepted science that our world is warming due to a dramatic increase in greenhouse gases related to human activities, such as the burning of fossil fuel. Greenhouse gas accumulation is causing weather patterns to change, more intense storms, icebergs to shrink, wilderness to be threatened, and plant and animal species put in increased danger of disappearing.

Canada is the largest consumer of energy in the world and the second largest producer of greenhouse gases. With a population of around 30 million, we use as much energy as the entire continent of Africa – over 700 million people! Experts warn that humans everywhere must change their wasteful ways and practice conservation of energy and resources now.

So how do each of us make a difference? Sometimes it is hard to know where to start. Fortunately even a few simple lifestyle changes will save energy, release fewer greenhouse gases, and as an added bonus save you money! In the process you will become educated on climate change and energy conservation. I have provided some good ways below to help out the environment:

Reduce your home energy usage – everyone can make some changes:

1. Turn down your water heater a little – heating it 24/7 most of the time is not necessary.
2. Turn down your thermostat, especially when you are away, and at night when you are sleeping.
3. Turn off computers at home and office when not being used. It takes more energy to run them continuously then to turn off and on.
4. Wash clothes in cold water – they come out just as clean.
5. Try hanging clothes sometimes instead of using the dryer.
6. Turn off lights when you leave the room.
7. Use fluorescent bulbs in the home and office whenever possible.

Water Conservation – unnecessarily running water uses energy and wastes a precious resource:

1. Cut back on the length of showers, and have showers instead of baths, as they use much less water.
2. Keep cold drinking water in the fridge, so you don't run the tap.
3. Try to do only full loads of dishes in the dishwasher and full loads of clothes in the washing machine.
4. Try to use less water in your daily activities, including outside watering.

Transportation – this is the biggest source of greenhouse gas emissions and air pollution in Canada:

1. Don't idle your vehicle – it only needs 10 seconds to warm up. And if stopped by a long train, turn your vehicle off.
2. Reduce the amount that you drive – try to combine errands to reduce the gas used.
3. Reduce speeds, and avoid “jackrabbit” starts and stops on the road – they use more gas.
4. Keep your vehicle tuned up properly, and tires properly inflated.

PlantWatch Saskatchewan is a program of Nature Saskatchewan

206-1860 Lorne Street, Regina, SK S4P 2L7

Phone: 800-667-4668 or (306) 780-9273

email: [info@naturesask.ca](mailto:info@naturesask.ca)

Web: [www.naturesask.ca](http://www.naturesask.ca)

PlantWatch Saskatchewan Coordinator:

Deanna Trowsdale-Mutafov

PlantWatch Coordinator

Ph: 800-667-4668 or (306) 780-9273

Email: [deanna.mutafov@accesscomm.ca](mailto:deanna.mutafov@accesscomm.ca)

We thank the following sponsors. Their support has made PlantWatch Saskatchewan program possible!



Nature Saskatchewan  
Receives Funding From:



## Spring Newsletter

March 2007

## PlantWatch Highlights!

### Deanna Trowsdale-Mutafov, Saskatchewan PlantWatch Coordinator

Hello PlantWatchers! Welcome to returning members and to new members, including over a dozen schools and youth groups! Thank-you for your interest in Saskatchewan PlantWatch, and I look forward to your participation this spring in this very important climate change-monitoring program. 2006 was another good year for PlantWatch - I would like to share a few of the main highlights.

A Wall Chart was produced in June for the purpose of recording and graphing the blooming dates of PlantWatch indicator species over several years. The wall chart is perfect for school classrooms, youth groups and community groups, but individuals may find it of interest as well for long-term data recording. Contact us if you know of a school or youth group who would be interested in participating in the PlantWatch program.

Ten more PlantWatch presentations were given to schools, of which eight were part of the Urban Prairie Restoration and Climate Change Monitoring Project - Season 2, with partners Saskatchewan Watershed Authority and the Native Plant Society of Saskatchewan. The growing season ended with a fun media event at Grant Road School in Regina (see picture), where students “buffalo-stomped” prairie seeds into their garden. Two PlantWatch species (Prairie Crocus and Northern Bedstraw) – were included in the seed mix used at every prairie restoration project. PlantWatch invites all participating schools to monitor the blooming of these species and report the results to us on the data sheet provided in this newsletter, or on [www.plantwatch.ca](http://www.plantwatch.ca).

In November, I attended the National Ecological Monitoring and Assessment Network (EMAN) Conference along with seven other PlantWatch Coordinators from across Canada. The Saskatchewan PlantWatch poster and wall chart were on display, and I gave a presentation on the Saskatchewan program to a large audience. All of the PlantWatch Coordinators were honoured to accept the Thomas G. Brydges Award, which is presented to a program with outstanding contributions to ecological monitoring research in Canada. So, all PlantWatch volunteers should be proud of their award winning work!

Thank-you to all who submitted results to the program over the last year. I received 13 data sheets with over 90 blooming records. In 2006, PlantWatch membership more than doubled! Saskatchewan participation now stands at close to 100 individuals, schools, youth groups and local nature societies – and new members are always welcome! We appreciate membership from right across the province, as blooming data from all parts of Saskatchewan is important in determining long-term climate change trends. Please pass on this information to friends, family, schools, youth groups and community groups and our program will keep growing.

Check out the PlantWatch website at [www.plantwatch.ca](http://www.plantwatch.ca) for great information on how to plantwatch, and full descriptions of each plant tracked in Saskatchewan. We have PlantWatch posters, wall charts, *Canada in Bloom* booklets, and other information available for distribution for no charge at the Nature SK office. Please feel free to contact Deanna or Nature Saskatchewan.

Remember, even one observation of one plant is appreciated!

Happy PlantWatching!



Tara Sample, Nature Saskatchewan

# Spotlight Plants:

## Prairie Crocus

This beautiful prairie plant has flowers that are blue to purple and about 4 cm across. Each flower has 5 – 7 petal-like sepals, which have a fuzzy appearance on the outside. After the flower fades, the sepals fall off and the flowering stem produces a shaggy cluster of seeds at its tip. The leaves are grey-green in colour and are divided into narrow lobes. These leaves cradle the flower like a spiky collar, as the flower bud emerges and opens. First bloom is when the first flowers are open in the observed plant. The flowers open during the day but close at night, so make sure you are observing the first flower opening.

**Did you know...** on a sunny day the temperature inside a crocus flower can be as much as 10 C (18 F) warmer than that of the surrounding air! Not only does the dish shaped flower concentrate the sun's warmth, it tracks the sun across the sky, maximizing the length of time each day that it can stay warmer than the surrounding air.



## Northern Bedstraw

This fragrant native species stands 20-60 cm tall, with many small white flowers. The 4 petals on each flower are shaped like tiny crosses. The narrow, veined leaves are arranged in groups of four, encircling the stem. Northern Bedstraw is found in forests, along roadsides and in most prairie environments. First bloom is recorded when the first flowers open in the observed plant.

**Did you know...** that Northern Bedstraw is related to coffee? The seeds can be dried, roasted and ground as a coffee substitute. The leaves and roots can also be used to make tea, but continual use will irritate the mouth.



## Common Lilac

This common non-native shrub can grow up to 4 m high and 7 m wide. Small fragrant pale to medium purple flowers (florets) grow in clusters of 10 – 20 cm long. The leaves are smooth and heart shaped and appear before the flowers bloom. Lilacs thrive in many habitats and often grow wherever they have been planted. If possible, select a lilac bush that is at least 10 metres away from a building or obstacle. The first bloom is recorded when the first flowers are open on 3 places on the observed shrub.

**Did you know...** that there are over a 1,000 varieties of lilac! They come in several colors with the most popular colors being lilac and purple.



# Where does all the data go?

## Heather Andrachuk, Ecological Monitoring and Assessment Network

When you send in your observation data sheet to Saskatchewan PlantWatch, or enter your observations on the PlantWatch website, do you wonder what happens to that data? Well, every PlantWatch observation is important to the success of this program. All PlantWatch observations are submitted into a national database that is hosted by the Ecological Monitoring and Assessment Network (EMAN) Coordinating Office. It is stored there, but is accessible to anybody that is interested in looking at it, free of charge. You can access it at [www.plantwatch.ca](http://www.plantwatch.ca) and download it in a couple of formats, such as a spreadsheet.

Besides downloading the data into a spreadsheet, you can look at observations on a map. When you go to “View Results” on [www.plantwatch.ca](http://www.plantwatch.ca), a map with all of the PlantWatch observations will appear. When you zoom in, using the magnifying glass icon, you will see each observation location marked with a flower. If you select the “i” icon (for “information”) just below the map and then click on any flower, you’ll be able to see information about that observation; this includes location, date, and species information. If a photo of the observation has been included with the data (this is done in the “Submit Observations” stage), you can also see it there.

Observations help us to determine trends, or changes, in bloom dates over time. For instance, EMAN can look at changes in the bloom dates of all of the plants that are monitored in a particular region (e.g. Regina), or of one species over a large area (e.g. all of Canada) to assess how plants are responding to changes in their environment. In 2006 we did an analysis in Manitoba to examine historical data and compared that to present day data. When we have long-term data that we can analyze, we work with statisticians and plant phenology experts (who study seasonal timing of life cycle events) to put all of the information together and write scientific papers. We work to have these published in scientific journals, which helps to give the PlantWatch program - and citizen science in general - credibility within the scientific community.

That is why your participation is so important. You are collecting important data that can be used to help inform science and decision making. Of course, long-term data about the same species from the same location is the most valuable for us to be able to assess trends, but any information is helpful!

If you have questions about your data or troubles with the Website, please don't hesitate to contact Deanna at Nature Saskatchewan or Heather Andrachuk at the EMAN Coordinating Office. You can reach Heather at [heather.andrachuk@ec.gc.ca](mailto:heather.andrachuk@ec.gc.ca) or (905)336-4411.

Thank you very much for your participation in PlantWatch. It's because of your input and dedication that this program is so successful!

## Two Climate Change Scenarios...

*If the world continues increasing carbon emissions at its current pace, by about 2 percent a year, the resulting warming will cause the extinction of about 60 % of species around the world and a sea level rise of several meters per century with eventual rise of tens of meters, enough to transform global coastlines. An alternative scenario is if humans dramatically reduce carbon emissions - sea levels would still rise substantially and cause big problems, but the most catastrophic effects of warming might be averted. Humanity doesn't have long to make up its mind whether to pursue policy changes; another decade without emissions being reduced would probably make the alternative scenario infeasible.*

*(The Washington Post on NASA Scientists Climate Change Analysis).*

### Check out the following Climate Change websites!

[www.climatechangesask.ca](http://www.climatechangesask.ca)  
[www.climatechange.gc.ca/calculator](http://www.climatechange.gc.ca/calculator)  
[www.pembina.org/climate-change](http://www.pembina.org/climate-change)  
[www.plant-talk.org/resource/climate.html](http://www.plant-talk.org/resource/climate.html)  
[www.goforgreen.ca](http://www.goforgreen.ca)  
[www.greenfacts.org](http://www.greenfacts.org)



## Join the Nature Challenge

### from the David Suzuki Foundation

Join thousands of Canadians who are protecting nature for future generations. Choose at least three of the simple actions listed below and sign up as someone who cares about the environment at [www.davidsuzuki.org](http://www.davidsuzuki.org). Even if you're already doing all 10 actions - please consider adding your name to the growing list of Canadians committed to helping the earth!

Ten earth-friendly suggestions from David Suzuki (For more details visit his website):

1. Reduce home energy by 10%
2. Eat meat-free meals once a week
3. Buy a fuel efficient, low-polluting car
4. Choose an energy efficient home and appliances
5. Stop using pesticides
6. Walk, bike or take transit to regular destinations
7. Prepare your meals with locally produced food
8. Choose a home close to regular destinations
9. Support alternatives to the car
10. Get involved, stay informed

