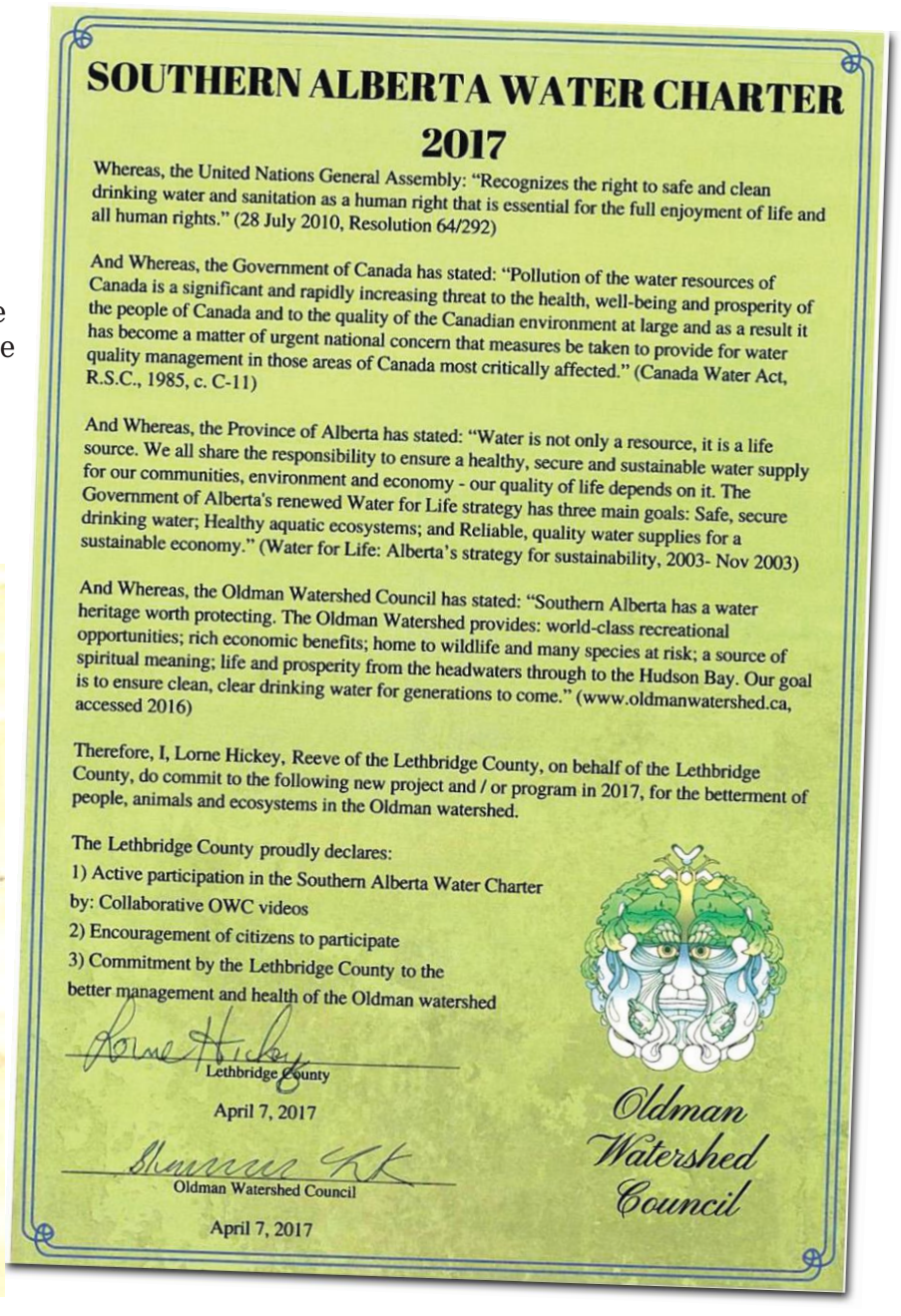
- New logo and name but the same great service -

2017 Southern Alberta

WATER CHARTER

Lethbridge County was proud to sign the 2017 Southern Alberta Water Charter, along with many others in the community. This initiative will take steps to improve watershed health throughout Southern Alberta. Lethbridge County will contribute to the Charter by helping to produce collaborative Oldman Watershed Council videos to better educate the public about watershed health. We will post updates to our website as we create these videos.



SOUTHERN ALBERTA WATER CHARTER

2017

Whereas, the United Nations General Assembly: "Recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights." (28 July 2010, Resolution 64/292)

And Whereas, the Government of Canada has stated: "Pollution of the water resources of Canada is a significant and rapidly increasing threat to the health, well-being and prosperity of the people of Canada and to the quality of the Canadian environment at large and as a result it has become a matter of urgent national concern that measures be taken to provide for water quality management in those areas of Canada most critically affected." (Canada Water Act, R.S.C., 1985, c. C-11)

And Whereas, the Province of Alberta has stated: "Water is not only a resource, it is a life source. We all share the responsibility to ensure a healthy, secure and sustainable water supply for our communities, environment and economy - our quality of life depends on it. The Government of Alberta's renewed Water for Life strategy has three main goals: Safe, secure drinking water; Healthy aquatic ecosystems; and Reliable, quality water supplies for a sustainable economy." (Water for Life: Alberta's strategy for sustainability, 2003- Nov 2003)

And Whereas, the Oldman Watershed Council has stated: "Southern Alberta has a water heritage worth protecting. The Oldman Watershed provides: world-class recreational opportunities; rich economic benefits; home to wildlife and many species at risk; a source of spiritual meaning; life and prosperity from the headwaters through to the Hudson Bay. Our goal is to ensure clean, clear drinking water for generations to come." (www.oldmanwatershed.ca, accessed 2016)

Therefore, I, Lorne Hickey, Reeve of the Lethbridge County, on behalf of the Lethbridge County, do commit to the following new project and / or program in 2017, for the betterment of people, animals and ecosystems in the Oldman watershed.

The Lethbridge County proudly declares:

1) Active participation in the Southern Alberta Water Charter by: Collaborative OWC videos

2) Encouragement of citizens to participate

3) Commitment by the Lethbridge County to the better management and health of the Oldman watershed

Lethbridge County

April 7, 2017

Oldman Watershed Council

April 7, 2017

Oldman Watershed Council

I am going to go out on a limb here and say that it is great that we have signed the 2017 Water Charter. However, I have to say Lethbridge County has been committed to Watershed Health for longer than the 11 years that I have been here. The fact that my Rural Extension Specialist (RES) position exists and that this type of position has been associated with Lethbridge County for over 20 years, speaks volumes. The many organizations and groups that I am affiliated with helps the county understand present and future sustainable agriculture initiatives.

The Lethbridge County Nutrient Management newsletter is testament to the efforts that the County has taken to help our agricultural producers become environmentally sustainable. Along with the nutrient management topics, riparian articles and water quality information, we include valuable weed management discussions that can help producers understand their weed control obligations as agricultural producers.

This newsletter discusses spotted and diffuse knapweed throughout. We have heard that folks are struggling with European Elm Scale. There is a brief article for folks to find information on European Elm Scale. As well there is an article with contact information on helping make energy efficiency affordable. There is a new announcement, as of July 20/17 that the Solar PV Program will be reopening on Wednesday, July 26th, 12:00 pm (noon).

Please prepare the following information BEFORE submitting an application, and attach to your completed application. Any application submitted without this information will be considered incomplete and returned to the applicant.

1. Verification of your Distribution Rate Class from your energy retailer;
2. A signed copy of your Micro-Generation Agreement offer ("pre-approval") from the wire owner;
3. An electricity bill for one month's electricity (current within the last 24 months;
4. A solar PV quote for the equipment you intend to install.

Have a Great Summer

Lethbridge County Agriculture Service Board

#100, 905-4th Avenue South Lethbridge, AB, T1J 4E4

Phone: 403-732-5333 Picture Butte ■ Fax: 403-732-4328

Gary Secrist
Agriculture Fieldman

Dwayne Rogness
Rural Extension Specialist (RES)
403-380-1598

Terry Mrozowich, *ASB Foreman*

Kevin Virostek, *Foreman/Weed Inspector*

Growing Forward 2

Helping Make Energy Efficiency Affordable

There are many technologies and practices farmers and ranchers can implement on their operations to reduce their energy footprint and protect (and possibly even increase) profit margins. Carbon emission reduction and energy sustainability can both be practiced while also running an economically sustainable farm.

Increasing energy efficiency often requires an up-front investment in order to obtain equipment that will save energy and money. Unfortunately, the initial costs of energy efficient products can be prohibitive for some producers. The Government of Alberta, through *Growing Forward 2 (GF2)* a federal, provincial, territorial initiative, offers two incentive-based programs aimed at helping Alberta farmers and ranchers reduce energy consumption and thus costs.

The *GF2* On-Farm Energy Management Program (OFEMP) and the GF2 On-Farm Solar Photovoltaic (OFSPV) Program offer farmers and ranchers the opportunity to become energy efficient by sharing the cost to purchase energy efficient or renewable technologies. These initiatives are intended to make energy efficient technology as affordable as current technology, making the environmentally friendly choice also the economically sensible choice.

Eligible projects of OFEMP include:

- Construction projects that install high-efficiency equipment from the program's Funding List;
- Retrofit projects that improve operation energy usage per unit of production; and
- Installation of sub-metres to monitor on-farm electricity and/or natural gas usage.

Eligible OFSPV systems must be:

- Grid-tied, not off-grid;
- Approved under Alberta's Micro-Generation Legislation;
- Positioned to optimize sunshine and minimize shading;
- Have manufacturer-warranties on: Solar modules, Racking, Inverters and/or Micro-inverters; and
- Producing power that is used in the production of a primary commodity.

The government has partnered with three grassroots organizations staffed with Energy Outreach Officers whose role is to promote the OFEMP and the OFSPV Program to Alberta communities. Energy Outreach Officers are available to attend community events, talk about energy efficient technologies, as well as answer questions about the OFEMP and OFSPV Program and explain the benefits of these programs to farmers and ranchers. The Outreach Officers are also more than happy to meet one-on-one with farmers and ranchers to help them find potential energy efficiency solutions for their operation. You can get in touch with your regional Outreach Officer by contacting your municipality, or by calling your regional representative directly.

CONTACT INFORMATION

South-central Alberta, from Clearwater County to Cypress County.
SouthGrow Regional Initiative.
SouthGrow's mission is "To accelerate and enhance quality of life, development and sustainability for the communities of the SouthGrow region of Alberta."
Energy Outreach Officer – Vern Steinborn
Phone: (403) 894-0050
Email: vern.steinborn@southgrow.com

To learn more about the OFEMP and the OFSPV Program visit www.growingforward.alberta.ca

Key Points regarding the new On-Farm Solar PV Program

Program Conditions:

1. Retroactive projects will no longer be accepted. If a project has been initiated (ordering or purchasing equipment, equipment delivery, component construction, etc.) prior to the approval of the application, it will NOT be accepted.
2. The grant rate has changed to align more closely with the Residential and Commercial solar programs. Grant funding is calculated as follows:
   a) <100 kW: $0.75/W to maximum 35% eligible cost share
   b) 100.01 – 150 kW: $0.56/W to maximum 27% eligible cost share
3. In order to qualify for the On-Farm Solar PV grant program, an applicant must have an Electrical Distribution Rate Class that is rated as Farm, or equivalent, as of the month of January 2017. Proof of this rate class will be required, and can be found either on your electrical bill or obtained from your electricity retailer.
4. If you do not have an Electrical Distribution Rate Class that is rated as Farm, or equivalent, please refer to http://solar.efficiencyalberta.ca/ to determine if you may qualify under other provincial solar programs.

Check out the website for more information: http://www.growingforward.alberta.ca/Programs/index.htm?contentId=ON_FARM_SOLAR_PRG&useSecondary=true

COST OF KNAPWEED TO WESTERN CANADA

❖ *Continued from* **Page 5**

1. Spotted Knapweed

Picloram (Tordon 22K, Grazon) and Clopyralid (Lontrel) are the most effectively used chemicals for spotted knapweed control. Dicamaba has also shown decent activity on spotted knapweed when applied at the correct rate and timing. Picloram causes the largest initial decrease in native species but over the long-term still shows benefits from the relaease of spotted knapweed competition. 2,4-D can be used as a method of suppressingspotted knapweed if applied when the plant is in the rosette stage. Unfortunately this is not always effective as 2,4-D does not inhibit germination of the seeds in the soil. Dicamba and 2,4-D treatments will need to be repeated often as there is no continued residue activity.

2. Diffuse Knapweed

Diffuse knapweed seems to be best controlled with 2,4-D or Glyphosate, although this only provides seasonal control. If longer control (approximately two or more seasons) is desired, then Dicamba (Banvel) and Picloram would be the best options when applied to actively growing weeds. Dycleer can also be used if applied when the leaves are fully expanded.

Biological Control

Several insects have been released in North America to control the spread of the different types of knapweed. Only Russian knapweed is present in sufficient numbers to make a biological control program feasible. A gall nematode (Subanguina picridis) is available for Russian knapweed but control levels have not yet been determined. There have been various agents introduced into the United States for the control of spotted and diffuse knapweed, but little research has been done in Canada to determine if these agents are adaptable to our conditions. Control strategies for these less common knapweeds should instead focus on locating new stands and preventing their spread through other management methods.

Other Methods of Control

A very effective method of controlling knapweed is by stressing the weed (for example, with the application of chemicals) and then reseeding the area to a competitive perennial grass species. This should only be an option if knapweed has infected tame pastures or cropland, as it is not recommended to break native grasslands. It should be noted though, that the reintroduction of grasses may be difficult due to the build-up of allelopathic chemicals in the top layer of soil and tillage may be required in order
to disperse the allelochemicals through the soil to allow germination of new grasses. If chosen to do so, sod-forming grasses help prevent invasion better than bunchgrasses. If a native pasture has been infested and the knapweed stand is not too old and well-established, growth of the native grass species may be stimulated by irrigation (if possible). This may increase the competition of the grass therefore keeping the weed under stress. Using irrigation is also a method thatcould apply to tame pastures if one does not wish to reseed.

Knapweeds are an extremely aggressive species with the potential to rapidly invade native grasslands, thus threatening the diversity of native habitat. Awareness of this weed needs to be raised and the expansion of the weed in Alberta prevented. Management of knapweeds must include an integrated approach using numerous
methods of control and monitoring, with the main focus being prevention.

I don't usually single out folks for jobs well done in the County. However, we would like to commend Tollestrup Construction for their efforts to control knapweed at their river bottom site by Coalhurst. They have had great success this year with knapweed control. Director of Operations Doug Atwood says *"without a sound Integrated Pest Management Program, we could not get the knapweed control that we have been able to achieve"*

Call the Lethbridge County Agriculture Service Board for more information 403-732-5333

Know Your Knapweeds

Knapweeds are aggressive, invasive weeds. They are listed as Prohibited Noxious weed under the Alberta *Weed Control Act*. Under this designation they must be eradicated when found in Alberta.

They are commonly found in pastures, cultivated fields, roadsides, railroads and disturbed sites. They increase costs to land stewards, consume soil nutrients, pose an increase in fire hazard and easily crowd out native vegetation. Knapweeds have little forage value, thus reducing grazing potential of pastures and rangeland, affecting both domestic livestock and wildlife.

To report sightings of any of these Knapweeds call the
Alberta Pest Surveillance System
310-2777 (APSS)
PLEASE REPORT EXACT LOCATION

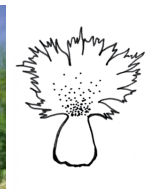
The best knapweed control is prevention.

Learn to identify your Knapweeds to keep an infestation from becoming established.

Bighead Knapweed (present in Alberta)

Centaurea macrocephala



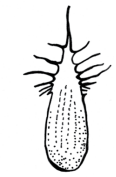


HEIGHT: 50-170 cm
GROWTH HABIT: Perennial with several un-branched stems
LEAVES: Light-green in color, leaf much longer (5-20 cm) than wide (2-10 cm), with widest point below middle, wavy/ toothed edges, hairy and pointed tips
BRACT: Thin & papery, with fringed edges
FLOWER: Yellow color and approx. 6 cm across
FOUND: Commonly grown as ornamental, but has potential as an invader if allowed to escape

Diffuse Knapweed (present in Alberta)

Centaurea diffusa





HEIGHT: 20-80 cm
GROWTH HABIT: Annual or short lived perennial that is very branched
LEAVES: Slivery-green, lower leaves are very divided, upper leaves are narrow and elliptical
BRACT: Covered with “comb-like” spines
FLOWER: Usually white but can be rose or purple and approx. 1.5 cm across
FOUND: Disturbed sites in grasslands, woodlands and open coniferous forests

Spotted Knapweed (present in Alberta)

Centaurea stoebe ssp. micranthos



HEIGHT: 30-150 cm
GROWTH HABIT: Biennial or short lived perennial, with many stems that branch
LEAVES: Medium-green with a silvery-gray cast; deeply lobed on young plants becoming elliptical with maturity
BRACT: Fringed tips dark & short
FLOWER: Purple, pink or sometimes white and approx. 4 cm across
FOUND: Roadsides, fields and open forests

Black Knapweed

Centaurea nigra



HEIGHT: 30-150 cm
GROWTH HABIT: Perennial from woody root crown, with few stems and openly branched at middle
LEAVES: Green-gray, leaf much longer than wide, roughly hairy, leaf margins may be slightly lobed to continuous margins and will gradually become smaller towards flowers
BRACT: Covered with “comb-like”, dark brown or black fringed margins up to 3x as long as the bract
FLOWER: Rose to lavender color and approx. 3 cm across
FOUND: Roadsides, fields, clearings and waste areas

Meadow Knapweed

Centaurea x moncktonii



HEIGHT: 30-150 cm
GROWTH HABIT: Perennial that is openly branched near top
LEAVES: Deep-green, leaves are much longer than wide, hairy and stalkless. Basal leaves occasionally with wavy margins or lobed, taper at both ends, upper leaves are smaller and not lobed
BRACT: Fringes gold to dark brown, about the width of the bract and rounded at the tip
FLOWER: Rose to purple and approx. 2 cm across
FOUND: Roadsides, riverbanks, pastures, meadows, forest openings and waste areas

Squarrose Knapweed

Centaurea virgata ssp. squarrosa



HEIGHT: 20-50 cm
GROWTH HABIT: Perennial with many stems that branch near top
LEAVES: Green and resin-gland-dotted. Lower leaves are deeply divided, upper leaves are smaller, with few lobes
BRACT: Spine at tip of bract strongly curved backward, longer than spines at side of bract
FLOWER: Rose, purple to pink and approx. 1 cm across, fruiting heads are dropped at maturity
FOUND: Rangelands, pastures, open forests and roadsides

Brown Knapweed (present in Alberta)

Centaurea jacea



HEIGHT: 30-150 cm
GROWTH HABIT: Perennial that is openly branched near top
LEAVES: Green-gray, leaf much longer than wide, roughly hairy, leaf margins may be slightly lobed to continuous margins and will gradually become smaller towards flowers
BRACT: Tips are wider than base and the thin, papery margins have a dark brown centre
FLOWER: Rose to purple and approx. 3 cm across
FOUND: Roadsides, fields, clearings and waste areas

Russian Knapweed (present in Alberta)

Rhaponticum repens

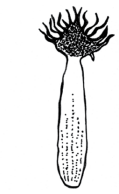


HEIGHT: 30-100 cm
GROWTH HABIT: Hardy, long lived perennial, branched stem with creeping roots
LEAVES: Slivery-green, hairy, lower leaves long and lobed, upper leaves smaller & toothed
BRACT: Pearly and papery, with no noticeable fringes or spines
FLOWER: Pink to purple and approx. 1 cm across
FOUND: Fields, roadsides, riverbanks, ditches, clear cuts and cultivated ground

Tyrol Knapweed

Centaurea nigrescens





HEIGHT: 30-150 cm
GROWTH HABIT: Perennial that is openly branched near top
LEAVES: Basal oblong leaves are much longer than wide. Lobed leaves, terminal lobe much larger than other lobes, upper leaves are smaller, with few lobes
BRACT: Bract tipped with triangular fringe, which ends abruptly, not tapering down the side of long slender green base of the bract
FLOWER COLOR: Rose to purple and approx. 3 cm across
FOUND: Roadsides, fields and waste areas

PHOTO CREDITS: Bract images courtesy of Identification of Knapweeds and Starthistles in the Pacific Northwest By: Cindy Talbott Roche, M.S., former Washington State University Cooperative Extension coordinator, and Ben F. Roche, Jr., Ph.D., WSU Cooperative Extension range management specialist, deceased. | **Bighead Knapweed** - Nicole Kimmel, Alberta Agriculture & Rural Development. Richard Old, XID Services, Inc., Bugwood.org | **Diffuse Knapweed** - Nicole Kimmel, Alberta Agriculture & Rural Development | **Spotted Knapweed** - Michael Shephard, USDA Forest Service, Bugwood.org, Norman E. Rees, USDA Agricultural Research Service - Retired, Bugwood.org | **Black Knapweed** - Cindy Roche, Bugwood.org | **Meadow Knapweed** - Cindy Roche, Bugwood.org | **Squarrose Knapweed** - Cindy Roche, Bugwood.org, Steve Dewey, Utah State University, Bugwood.org | **Brown Knapweed** - Cindy Roche, Bugwood.org | **Russian Knapweed** - Steve Dewey, Utah State University, Bugwood.org, Norman E. Rees, USDA Agricultural Research Service - Retired, Bugwood.org | **Tyrol Knapweed** - Joseph M. DiTomaso, University of California - Davis, Bugwood.org

Alberta Government
ALBERTA Invasive species COUNCIL

To access the *Alberta Weed Control Act*, scan this code with your smartphone or visit **www.agriculture.alberta.ca/weedcontrol-act**

To access more weed information, scan this code with your smartphone or visit **www.agriculture.alberta.ca/weeds**