



Welcome to our spring issue! We hope you enjoy reading about all the exciting research and programs going on in the South Okanagan Similkameen area. Whether it's about frogs risking their lives crossing the highway, butterflies locating the perfect flower, or Burrowing Owls finding the right grassland, you'll be sure to learn something new about what you can do on your property to help.

Marron River Landowners Become Wildlife Habitat Stewards

By *Bianka Sawicz*
TLC's SOS Stewardship Program

The South Okanagan-Similkameen (SOS) Stewardship Program of The Land Conservancy of BC (TLC) welcomes two new landowners who have signed on as Wildlife Habitat Stewards as a result of their love for the precious Marron River and its surrounding natural area.

Both Doreen Olson and Phyllis Jmaeff live and own property in the Marron Valley along different points of the Marron River. Olson and Jmaeff have decided to keep most of their property undeveloped for the sake of nature protecting the unique habitats of the South Okanagan and the species that call it home. "Phyllis Jmaeff and I used to be neighbours in what was rural Surrey and now we are neighbours in the Okanagan working towards the same goals. It was not planned, but certainly is a pleasant coincidence," says Olson.



Doreen Olson of Three Gates Farm proudly installs her 'Wildlife Habitat Steward' sign.

Olson has protected about 15 acres along the Marron River allowing the riparian (river-side) area to maintain its natural vegetation and structures for rare species such as Western Screech Owls. These endangered owls live in deciduous riparian woodlands in the south Okanagan and lower Similkameen valleys. A pair of owls have made their home and successfully bred on the property for years now. Olson also has set aside approximately 61 acres of rugged terrain where many other species and plants call home.

Jmaeff has protected 340 acres of grasslands, rugged and rocky terrain, coniferous forest, riparian, and wetland areas for important species at risk such as the Rubber Boa, Western Rattlesnake and Painted Turtles. Set off Highway 3A about 6 km from the Kaleden Junction, this tranquil property is a natural wildlife haven, a Mountain Springs Nature Retreat B & B and a Similkameen Okanagan Organic Producers Association (SOOPA) certified organic farm. "I just love it here and want to do the best to keep it thriving. I also want to share this place with people so they can see nature's wonderful creations," says Jmaeff. For more information, please visit <http://mountainspringscentre.ca/information.html>.

The SOSSP is excited to be working with these two landowners. Congratulations and we look forward to a busy year!



Phyllis Jmaeff of Mountain Springs Nature Retreat is stewarding 340 acres in the Marron River Valley, just east of Kaleden.



Photo Jerry Oldenettel

Flammulated Owl

Thank You to All Our Wildlife Habitat Stewards and Conservation Partners!

By Paula Rodriguez de la Vega
TLC's SOS Stewardship Program

We would like to acknowledge the following individuals and businesses for their continued dedication to stewardship and conservation in the Okanagan and Similkameen valleys. These landowners have all either signed a stewardship agreement committing to steward the wildlife habitat areas on their property or have legally placed a conservation covenant on part of their land. Examples of wildlife habitat are grasslands (with or without sagebrush or antelope brush), wetlands, water bodies with riparian areas, rocky bluffs, or open forests. Whether they combine stewardship with farming, ranching, accommodations, or their style of life, they all deserve much praise.

- Bighorn Ridge Guest House
- Firman Family
- Casa del Mell Orchards
- Doreen Olson
- Dumpling Dale Organic Farm
- Dust Farm
- Forbes Family Farm
- God's Mountain Estate
- Harker's Fruit Ranch
- High Chaparral Guest House
- Jill Salter
- Kambo Farm / Ciliegia Villa
- Mariposa Organic Farm - Sage Winds Division
- Mountain Springs Nature Retreat
- Nugteren Farm
- O'Reilly Farm & Bed and Breakfast
- Rob Webster
- Rolling Sage Orchard
- Summerhill Pyramid Winery
- Tinhorn Creek Vineyard
- Triple F Farm
- Valentine Farm & Guest House
- Ven'Amour Organic Farm / Forbidden Fruit Winery



If you would like more information on how to become a Wildlife Habitat Steward or a Conservation Partner, please contact the TLC office at 250-492-0173 or visit conservancy.bc.ca.

Species at Risk and Exotic Plant Invasion in Canada's Endangered Antelope-brush Ecosystem

By Josie Symonds
Unit of Biology and Physical Geography, University of British Columbia Okanagan

Exotic species invasion poses a serious threat to ecosystem structure and function throughout the world. The magnitude of this threat has not yet been quantified in the antelope-brush (*Purshia tridentata*) shrub-steppe ecosystem of the South Okanagan Valley, one of Canada's four most endangered ecosystems. More than 68% of the historical spatial extent of this ecosystem has been lost from B.C. and much of the remaining habitat is in an early seral stage and is highly invaded by exotic plants. Habitat loss and degradation have impacted the native wildlife and plant species that use this ecosystem, many of which are threatened or endangered themselves.



Photo: Josie Symonds

Behr's Hairstreaks are small (wingspan: 2.5 to 2.9 cm) butterflies that typically fly between early June and mid July in the South Okanagan Valley.

My Master of Science research with the University of British Columbia Okanagan investigates the role of native plant diversity, soil resource availability, and anthropogenic disturbance in describing and predicting patterns of exotic plant diversity in the antelope-brush ecosystem. The results of this research will inform conservation and management activities in this endangered ecosystem by identifying and predicting which habitat patches are the most highly invaded and which are particularly important for acquisition or restoration work. This research will also investigate the effect of exotic plant diversity on the key habitat resources of the federally threatened Behr's Hairstreak (*Satyrrium behrri columbia*), a small lycaenid butterfly and focal species for the conservation of British Columbia's antelope-brush habitats. More generally, this research promises to inform recovery efforts for numerous other species at risk that rely on antelope-brush habitats.

Private landowners can help by conserving and preventing the degradation of antelope-brush habitats on their properties and by promptly reporting all sightings of Behr's Hairstreaks or other species at risk to local authorities. For more information about this project, please contact Josie Symonds at josie_symonds@hotmail.com or 250-859-4233.

Invasive Plant Profile - Sulphur Cinquefoil

By Lisa Scott

RDOS Okanagan-Similkameen Invasive Plant Program Coordinator

Sulphur cinquefoil (*Potentilla recta*) is one of the most aggressive invasive plants impacting our grasslands and lower elevation forests. This long-lived Eurasian perennial infests disturbed areas, meadows, pastures, and rangelands and can dominate a site within two to three years of first appearance. Its seeds are spread by grazing ungulates, especially deer and elk, as well as human activities, including ATV and off-road recreation. Recent increases in sulphur cinquefoil density may also be associated with density reductions in knapweed and toadflax, due to stress resulting from attack by biological control agents (natural insect enemies).

It is a member of the rose family (Rosaceae), and is one of over 20 herbaceous cinquefoils in B.C. Plants grow upright, reaching heights of 15-70 cm, with one or more hairy stems. Leaves are divided into 5 to 7 hairy, toothed leaflets, each 5-10 cm long. Flowers are pale yellow with five heart-shaped petals around a bright yellow centre. The plant begins blooming in mid-June



Photo Lisa Scott

and produces flowers throughout the summer if growing conditions are favourable.

As with all invasive plants, prevention is number one. Due to its aggressive tendencies and challenges in controlling, this is one species you are best preventing from invading your property. This can be

accomplished by maintaining your land in a healthy, vigorous condition to ensure a productive plant community. Competitive perennial grasses and forbs utilize water and nutrients that would otherwise be readily available to cinquefoil. Cooperate with adjacent landowners and encourage them to control sulphur cinquefoil. Reducing soil disturbance is also important, in addition to immediately re-seeding disturbed, bare soils with



Photo Lisa Scott

Sulphur cinquefoil is an aggressive invasive plant impacting grasslands and low elevation forests.

a suitable seed mix that provides dense, early colonization to reduce weed invasion. Hand digging, with regular follow up, can be effective on new and small infestations.

Unfortunately, no biological controls have been approved for sulphur cinquefoil in North America and chances of ever getting approval are slim. Acceptable agents are difficult to find because insects and diseases damaging to this weed may also attack closely related cinquefoils or strawberry plants, which are also a close relative.

For more information on invasive plants, check out the Regional District website www.rdos.bc.ca, call 250-492-0237, or email info@rdos.bc.ca.

Amphibian Research Occurring Near You

By Jonquil Crosby, Natasha Lukey, and Sara Ashpole

In collaboration with the TLC, Ministry of Transportation, Ministry of Environment, and University of Waterloo

Beware of Bullies

The Okanagan's native amphibians are being bullied from their wetland homes by the introduction of the invasive American Bullfrog. Bullfrogs are voracious predators, and eat animals of all shapes and sizes, including endangered amphibians. Bullfrogs lay thousands of eggs that can take a couple of years to morph into adults from tadpoles, making permanent water bodies especially at risk of bullfrog invasion. People who move eggs, tadpoles, or frogs also unintentionally facilitate invasion. If you are helping a critter, such as rescuing eggs from a swimming pool, make sure you can identify the species first.



Photo: T. Rebbien

This huge metamorphosing bullfrog tadpole relies on permanent wetlands for the several years it will take to develop into a frog.

Natasha Lukey is continuing efforts to reclaim the permanent wetlands that these bullfrogs have taken over. It is important to connect with landowners who live in the vicinity of high-risk permanent wetlands for bullfrog prevention and early detection. Beginning in May, informational letters will be distributed to targeted landowners requesting participation in a survey to assess public knowledge of bullfrogs.

Frogs Face Challenging Commute



Photo: Jared Hobbs

Tiger salamanders have a dangerous commute crossing an increasingly developed landscape.

On rainy nights you might just see a few high visibility vests lurking about with flashlights. It might not be obvious, but these students are exploring movement patterns – and where better than on a highway!

As the weather warms, watch out for critters crossing as amphibians are travelling from their upland overwintering grounds to breeding habitat where females go to lay their eggs. Critters such as Tiger Salamanders and Great Basin Spadefoots often make long movements across land on wet nights frequently encountering treacherous obstacles. Traffic and roads are significant barriers to species dispersal and survival.

Jonquil Crosby is looking at amphibian movement corridors as they traverse the south Okanagan landscape. To assess the impact of roads, wildlife surveys are being conducted. There is a focus along highway 97 where an expansion and new intersection is being constructed at Rd 22 where known Tiger Salamanders breed.

'Get Your Boots On'

Keep tuned for some 'wet' events that Jonquil and Natasha will be hosting in June and July to stomp out invasive bullfrogs. If you would like to join Jonquil on rainy nights you can email her at jonquile@uvic.ca. Or, if you think you may have seen or heard the low-pitched loud drone of a bullfrog, you can contact Natasha at nlukey@interchange.ubc.ca.



Photo: Sara Ashpole

American Bullfrogs are invasive and eat our smaller native amphibians.

Not all Mosquitoes Carry West Nile Virus

By Paula Rodriguez de la Vega
TLC's SOS Stewardship Program

The usual way for humans to get the West Nile Virus (WNV) is through the bite of an infected, adult, female mosquito. The risk of contracting the virus is low. Of people who are infected with WNV, most will have no symptoms. About 20% will only develop flu-like symptoms. In rare cases (which is less than 1%), more severe complications can occur such as encephalitis (inflammation of the brain), meningitis (inflammation of the brain's lining, or paralysis).

There are over 50 species of mosquitoes in B.C. and of these, only nine can potentially carry the disease. Data specific to the south Okanagan was unavailable at the time when writing this article. In looking at their breeding habitats, three breed in backyard artificial containers like rain barrels, paddling pools, bird baths, livestock watering troughs, untreated swimming pools or wet tarps. Some use ditches and stagnant water, others in flooded pastures, and only one species breeds in permanent cattail marshes.

Combating WNV needs a multi-pronged approach that includes prevention, monitoring, education, and integrated pest management. The RDOS is currently working on a mosquito control plan and one of their management methods will be to

apply mosquito larvicides such as Vectobac, Altosid, VectoLex, and Aquabac. The manufacturers of these bacteria-based larvicides claim that they are species-specific, affecting only members of the Order Diptera, which includes mosquitoes, black flies, and midges. We could not find any independent studies on the effects of these larvicides on other aquatic species. Of further concern is that the manufacturers fail to recognize that mosquito larvae are important parts of the aquatic and terrestrial food chains.

If you have a wetland and are concerned about mosquitoes, here are a few things to think about;

- The Little Brown Myotis (B.C.'s most common bat) can consume over 500 mosquitoes in an hour.
- All adult amphibians, larval salamanders, and some tadpoles are predatory on adult mosquitoes or larvae. Recent studies on salamanders show that they eat about 400 mosquito larvae a day.
- Dragonflies larvae and adults eat mosquito larvae and adults.
- Are the WNV vector mosquitoes breeding in your wetland or is it non-carrier mosquito species?
- What are the effects of mosquito insecticides on other invertebrates and amphibians?

For more information, see B.C. Center for Disease Control (www.bccdc.ca) or Interior Health (www.interiorhealth.ca).

Things You Can Do to Combat Mosquitoes:

Destroy or dispose unnecessary containers that collect and hold water. One common B.C. mosquito species needs only one cup of water to mature from egg to adult.

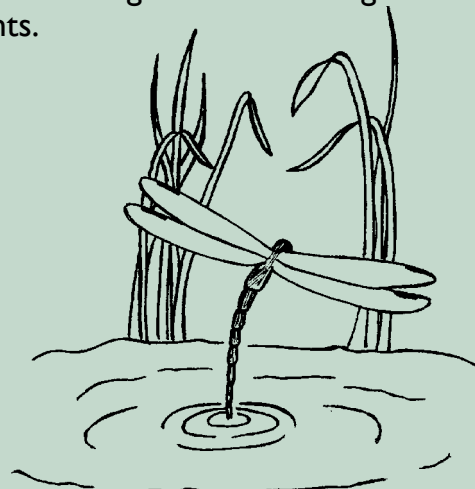
- Clean or empty bird baths, pet water dishes, saucers under flower pots, at least once a week.
- Clean out and maintain your roof gutters so that water flows out.

Promote healthy populations of natural mosquito predators including threespine sticklebacks, backswimmers, mayfly larvae (caddis flies), frogs, salamanders, dragonflies, damselflies, birds (swallows, purple martins, common nighthawk, fly catchers), and bats.

Install bat and bird houses on your property.

Preventing Mosquito Bites:

- Provide the greatest protection from mosquitoes around dusk and dawn, including staying out of doors.
- Use mosquito repellent.
- Install good screens on doors and windows.
- Wear hats and light-coloured long sleeves and pants.



You Are Making A Difference!

By Paula Rodriguez de la Vega
TLC's SOS Stewardship Program

The South Okanagan - Similkameen (SOS) Stewardship Program would like to give landowners and volunteers a big round of applause. Take a look at all that has been accomplished over the last year (April 2009 - April 2010). Thanks to your involvement!

167 - the number of people that attended Community Stewardship Events (Ginty's Pond, Peach Cliff, Marron River, Lower Park Rill and Anarchist Mountain, Oliver-Forbes Wetland).

17 - the number of landowners who benefitted from SOS Stewardship's Weed Warrior Crew in summer 2009.

72 - the number of hectares that benefitted from habitat improvement projects on landowner's properties.

53 - the number of volunteers involved in SOS Stewardship Program activities.



Photo Paula Rodriguez de la Vega

Volunteer John Lewall and Conservation Partner Steve Forbes spread mulch around native plants planted along the Forbes wetland in Oliver.

5 - the number of new Wildlife Habitat Stewards.

201.2 - the number of hectares under new stewardship agreements.

New Field Guide Available for Landowners

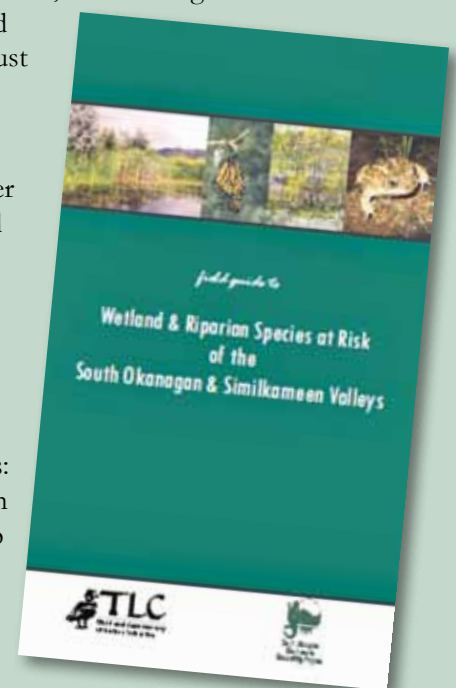
TLC's South Okanagan-Similkameen Stewardship Program launched a new publication titled "Field Guide to Wetland and Riparian Species at Risk of the South Okanagan & Similkameen Valleys". This 58 page, pocket sized booklet is designed to help private landowners identify some of the Species at Risk that live in wetlands and shoreline habitats. This booklet covers insects, mollusks, fish, amphibians, reptiles, birds, and plants at risk in those habitats.

Enjoy the full colour photos and descriptions of the species, and find out where they can be found. Learn about what threatens the species survival and what you can do on your land to help them.

This informational booklet is made possible thanks

to collaborative work with many of our partners, the donation from photographers, and funding from Habitat Stewardship Program and Habitat Conservation Trust Foundation.

One free field guide is available to any landowner with riparian and wetland habitats. Please contact our office 250-492-0173. Additional copies of the booklet are available for purchase or download a copy at conservancy.bc.ca and follow the links: Nature - South Okanagan Similkameen Stewardship Program - Stewardship Publications and Factsheets.



Landowners Are the Key to Burrowing Owl Reintroduction

By *Mike MacKintosh*

Burrowing Owl Conservation Society

Burrowing Owls are captivating little birds of prey, tiny, with long legs, bright yellow eyes and an unusual lifestyle. They live and raise their families in underground burrows, once naturally constructed for them by badgers and other burrowing mammals. The species is in considerable trouble in B.C. and Canada, and was declared endangered in 1995.

Each year since 1992, volunteers and scientists from the Burrowing Owl Conservation Society have reintroduced yearling burrowing owls to ranchlands in the Nicola Valley of B.C. to try to re-establish viable breeding populations.

To increase their numbers we have captive breeding facilities, at the B.C. Wildlife Park in Kamloops, and at Port Kells in the Fraser Valley.

Our great team of over 75 volunteers have been working in the Nicola Valley since 1992, building artificial burrows that the birds will use to raise their families of owlets in the wild. Ranchers and private landowners are the key. We now have over 850 burrows spread through the grasslands of the valley. Each year we release over 100 owls back to the wild to join with some of the birds returning from migration.

Burrowing owls are very social little birds. Many will find each other, pair up and raise their own families. In 2009, our field workers banded over 200 wild born young produced from 45 successful nesting pairs.



Photo: Burrowing Owl Conservation Society.

Mike MacIntosh holding a Burrowing Owl.



Photo: Burrowing Owl Conservation Society

The first task of our field staff each year is to locate returning migrants. Over the last five years the numbers have been steadily rising, with 18 owls making the return trip in 2007. Our group are now expanding the program to other parts of the province. We have met with ranchers in the South Okanagan and will be placing burrows near Oliver and Osoyoos in 2010.

Spreading the message about the owls and the program is very important. People from all walks of life are able to get involved and contribute whatever they can to make the planet a little bit better place. For more information, contact the Burrowing Owl Conservation Society of BC, 2165 Palmerston Avenue, West Vancouver, BC, V7V 2V7, groundowl@yahoo.ca, ph: 604-562-5810, www.burrowingowlbc.org.

The last Burrowing Owl in the South Okanagan - Similkameen was seen in the 1990's. Historically, nesting areas were found in Osoyoos, Oliver, Penticton, White Lake, and the Similkameen Valley. The Ministry of Environment attributes their disappearance to the decline in grassland habitat due to agricultural and urban development. These diminutive owls nest in burrows, sometimes made by badgers and ground squirrels.

Badgers are also endangered, with less than 45 individuals left in the region. Without sufficient burrows, owls are more vulnerable to inclement weather and predators, such as coyotes, hawks, other larger owls and weasels. Landowners can help by conserving and restoring grasslands.

The Importance of Stewardship

By Dr. Terry McIntosh
Botanist & Ecologist

In the early 2000's, I had the privilege to visit private properties on Salt Spring Island and help landowners with a variety of conservation efforts, from identifying plants to assisting in removal of invasive species. Since then, I have been providing botanical services to various groups from government agencies to NGOs. Last year, however, following an invitation from The Land Conservancy, I had the opportunity to revisit stewardship work, initiating plant and ecological surveys on a number of properties in the Okanagan-Similkameen region. And what a year it was! Not only did we enjoy meeting the landowners and discussing possible conservation activities, we also found numerous interesting or rare plants, none of which would have been observed without the permission of the landowner.

Land owners and their subsequent and cooperative stewardship of natural communities, including animals, plants, and their habitats, are critical towards our understanding and protection of biodiversity and native ecosystems. Not only does stewardship increase public awareness and networking, it provides a highly positive atmosphere for conservation activities. I look forward to 2010, and its rewards from working with landowners.



Photo: *Bianka Sawicz*

Dr. Terry McIntosh enthusiastically searching for rare plants.

Share Your Wildlife or Stewardship Story

Do you have a wildlife story about your property? Are you working on a habitat restoration or stewardship project on your farm or ranch? We would like to hear from you. Share your story in the next Stewardship Newsletter. Maximum length: 300 words + photos.

Please submit to dpiper@conservancy.bc.ca or call 250-492-0173.

Upcoming Events

Ciné-ACTION at the Cawston Community Hall. Eco-friendly documentary films combined with free tasting sample of raw, veggie homemade food. For more information, Mélisa, ph: 450-499-4232, melilady@hotmail.com.

- July 15:** Frogs Crossing! Working together for frog friendly travel.
- September 9:** Rawssian Borecht with "World According to Monsanto"
- September 23:** Raw Apple Pie with "What the bleep do we know"
- October 7:** Bread & natural yeast with "The Battle of the Bag"
- October 23:** Pumpkin bread and cookies with "Zeitgeist Abendum"

Osoyoos Desert Centre - www.desert.org

- July 24:** Romancing the Desert
- August 2:** Desert Night Tour
- August 18:** Gardening with Bees
- September 5:** 3rd Annual Native Plant & Seed Sale



Photo: *Paula Rodriguez de la Vega*

Lesley Pendleton at the Ginty's Pond Stewardship Event learns about Endangered Tiger Salamanders.

For more information please contact:

South Okanagan-Similkameen Stewardship Program/TLC The Land Conservancy of BC, 201-262 Main Street, Penticton, BC, V2A 5B2
Phone: 250-492-0173
Web: conservancy.bc.ca

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