

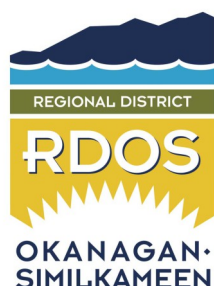


SOUTH
OKANAGAN
SIMILKAMEEN
**CONSERVATION
PROGRAM**



2015-2017 Program Report

The core administration of the South Okanagan Similkameen Conservation Program (SOSCP) is supported by Partner contributions. The work of the SOSCP would not be possible without the additional generous support of the following organizations:



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South Okanagan Similkameen Conservation Program

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Published by SOSCP, September 2017

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Message from the Chair

As Chair of the SOSCP, I am pleased to present this report for the SOSCP activities and accomplishments for 2015 through 2017.

2017 marks the 17th year of the SOSCP. The scope of the partnership continues to be a strong, dynamic group, constantly moving the bar in implementing major conservation efforts and milestones in the South Okanagan Similkameen.

I would like to thank the SOSCP executive for their commitment and support to the program. This partnership program thrives on collaboration. The SOSCP is as relevant today as it was when a small dedicated group came together to form this partnership. Today we continue to increase support and raise the profile of conservation throughout the region.

It has been a great pleasure to get to learn from and work alongside Bryn White. She is the heart of the SOSCP, pumping conservation to the membership, and beyond. She has worked tirelessly on very demanding but worthwhile files. Without her passion and drive I don't believe we would be celebrating such an accomplishment, milestone and conservation legacy as a Regional Conservation Fund. She continues to lead core SOSCP projects such as the Biodiversity Conservation Strategy, Environmental Planning for local and Regional Governments as well as many other working groups, leadership teams and side projects. Hats off to you Bryn!

It has been a privilege to serve as Chair over the past two years, and I look forward to working with the new Executive as Past-Chair.

Nicholas Burdock, SOSCP Chair
Okanagan Conservation Land Coordinator
The Nature Trust of British Columbia



Message from the Program Manager

SOSCP is proud to be celebrating 17 years of collaboration and partnership for conservation in the South Okanagan Similkameen.

For over a decade, as Program Manager I have enjoyed actively supporting our partners' conservation efforts, fostering collaboration, delivering conservation in key sectors, and increasing the profile and support for biodiversity conservation in this region. Our relationship with our colleagues in the north and central Okanagan (Okanagan Collaborative Conservation Program) is strong and the opportunities for collaborating on basin-wide conservation initiatives are bearing fruit.

Once again, striking a balance between advancing conservation collaboration, planning and policy with delivering tangible habitat protection and restoration outcomes on the ground is critically important. For me, the highlights of 2015-2017 have been a fantastic showcase restoration project in Penticton Creek, ungulate habitat enhancement in Garnet Valley with the Penticton Indian Band Natural Resources Department and Summerland Sportsmen's Association, the completion of the new environmental provisions in the South Okanagan Official Community Plans, and finally, the establishment of the South Okanagan Conservation Fund.

This report is a highlight of the program and partner accomplishments for the years 2015-2017.

Bryn White
SOSCP Program Manager

About SOSCP

South Okanagan Similkameen Conservation Program (SOSCP) is a partnership that brings together multiple levels of government, First Nations, and non-governmental organizations under one umbrella to conserve the region's unique species and spaces. Founded in the year 2000 by a handful of organizations, there are now fifty SOSCP partner organizations working collectively to conserve nature in one of the most biologically diverse and at-risk areas of Canada.

SOSCP functions to coordinate and facilitate the partners, help improve the effectiveness of their conservation efforts and raise the profile for conservation in the region.

Our program and our partners make significant investments in the quality of life in our communities each year:

- We help landowners care for nature on their lands.
- We secure and restore important natural areas.
- We work with Traditional Ecological Knowledge Keepers.
- We use science to inform decisions, management actions, and conservation priorities.
- We provide sustainable land use information and resources to decision-makers.
- We engage the community in learning about, and experiencing nature.

Meet the SOSCP Executive

CHAIR | Nick Burdock - *The Nature Trust of BC*

VICE CHAIR | Lauren Meads - *Burrowing Owl Conservation Society*

PAST CHAIR | Barb Pryce - *Nature Conservancy of Canada*

SECUREMENT TEAM CHAIR | Carl MacNaughton - *The Nature Trust of BC*

OUTREACH | Janet Willson - *Okanagan Similkameen Conservation Alliance*

TRADITIONAL ECOLOGICAL KNOWLEDGE | Michael Bezener - *En'owkin Centre*

SUSTAINABLE LAND USE | Lucy Reiss - *Environment and Climate Change Canada*

STEWARDSHIP | Alyson Skinner - *Okanagan Similkameen Stewardship Program*

MEMBER AT LARGE | Ross Everatt - *Southern Interior Land Trust*

MEMBER AT LARGE | Lisa Scott - *South Okanagan Naturalists' Club*

Promoting Ecologically Sustainable Land-Use

Sustainable land use planning is one of the six key pillars of the SOSCP, grounded in the idea that land use decisions, policies, and practices recognize the importance of ecological conservation. SOSCP and partners work to provide decision-makers, planners, and developers with the tools and guidance needed to make sustainable planning choices.

Keeping Nature in Our Future: A Regional Biodiversity Conservation Strategy

Introducing the South Okanagan Conservation Fund

As soon as the ink was dry on the Biodiversity Conservation Strategy for the South Okanagan Similkameen – *Keeping Nature in our Future* (2012), SOSCP began to implement high priority action items related to sustainable land use planning and financing conservation.

In 2014, SOSCP brought forward a formal proposal to the Regional District of Okanagan Similkameen (RDOS) Board, to establish a Local Conservation Fund as a key objective identified within the Biodiversity Conservation Strategy for financing conservation. A conservation fund is a dedicated funding source established by a regional district or municipality through local property taxes to support environmental conservation. The fund provides local financial support for activities to protect valuable natural areas, as part of restoring and sustaining a healthy local environment. The RDOS Board provided direction to staff to work with SOSCP to explore the establishment of a fund. Over the next two years SOSCP and RDOS worked together to consult with public, local organizations and gauge support for the concept.



SOUTH OKANAGAN SIMILKAMEEN CONSERVATION PROGRAM

After a successful public assent process in late 2016, the Regional District of Okanagan Similkameen adopted a bylaw to establish an environmental conservation service for the electoral areas in the South Okanagan and the City of Penticton, District of Summerland and Town of Oliver. The annual requisition will be \$450,000 in support of undertaking and administering activities, projects and works for water, environment, wildlife, land, and habitat conservation efforts to protect natural areas in the South Okanagan. While final funding decisions lay with the RDOS Board, SOSCP will be retained to administer management aspects of the fund program. Conservation organizations will be able to apply for funds during the very first call for proposals in September of 2017.

Shortly after completing *Keeping Nature in Our Future*, SOSCP also began to work with the RDOS to complete an overhaul of the Environmentally Sensitive Development

SOUTH OKANAGAN CONSERVATION FUND

Permit Area (ESDPA) provisions, including biodiversity mapping as the basis for legal schedules, policy items, guidelines and other tools, within the five RDOS South Okanagan Electoral Area Official Community Plans. SOSCP worked closely with RDOS staff to complete the legal map schedules, update specific legal requirements for environmental assessments, including a new rapid assessment approach for single family dwellings, which replaced a blanket exemption, as well as undertaking significant efforts to engage and consult with public throughout the process. In June of 2017, the RDOS Board adopted the new ESDPA package. SOSCP will continue to support RDOS with environmental planning expertise as the new provisions are implemented.



Okanagan Basin-Wide Biodiversity Conservation

SOSCP and the Okanagan Collaborative Conservation Program (OCCP) in the north and central Okanagan are collaborating on a number of priorities, including participating in the development of the first concerted effort by all three Okanagan regional districts to track progress on matters important to the Okanagan Valley. The State of the Basin Report is the product of an inter-regional initiative to develop a monitoring and evaluation framework with a uniform series of measures applicable across the three Okanagan regional districts, including for indicators related to urban containment and rural protection, environment and natural lands, water stewardship, and climate change and greenhouse gas emissions, for example. Over time, as data for each indicator is gathered year to year, baselines will be replaced with comparable data and trends that will highlight both successes and policy areas that may benefit from additional attention.

In 2016, SOSCP also supported the OCCP, Regional District of the Central Okanagan and Okanagan Basin Water Board with an update to the Foreshore Inventory Mapping of Okanagan Lake. The FIM Report key findings outline that 60% of Okanagan Lake's natural shoreline has been lost or permanently altered. The report recommends collective action by all Okanagan communities, including an Okanagan Lake shoreline management plan, and application of best practices and restoration during development by all. SOSCP and OCCP are planning deeper engagement activities on foreshore outreach and support for stewardship practices, restoration and enhancement for 2017.

SOSCP and partners Ministry of Forests, Lands and Natural Resource Operations, BC Wildlife Federation Wetland Education Program and Okanagan Similkameen Stewardship Society are also continuing to participate in the development of the Okanagan Wetland Conservation Strategy with the Okanagan Basin Water Board, and the OCCP. SOSCP and OCCP also delivered a joint presentation at both the Okanagan Basin Water Board (OBWB) and the Okanagan Basin Stewardship Council in 2017 to highlight aspects of biodiversity protection outlined in *Keeping Nature in Our Future*, and the areas of commonality with OBWB objectives.

Environmental Planning Support for Local Government

The contracted SOSCP Shared Environmental Planner position is an innovative approach to building capacity for environmental expertise. Funded by SOSCP local government partners (Regional District of Okanagan Similkameen (RDOS), District of Summerland, Town of Osoyoos and the City of Penticton) together with supporters such as the Real Estate Foundation of BC, Habitat Conservation Trust Foundation, and Habitat Stewardship Program for Species at Risk (Environment and Climate Change Canada), the Environmental Planner position provides environmental planning support, as well as technical and policy guidance to South Okanagan-Similkameen local governments. Registered Professional Biologist Alison Peatt has been working as the SOSCP Shared Environmental Planner for the past four years helping to meet the environmental planning needs and



priorities of participating local governments. Providing consistency of advice across jurisdictions, this innovative approach provides cost effective environmental planning services to local governments managing development in a region known for extensive sensitive ecosystems and high diversity of species at risk.

Strengthen Bylaws for Environmental Protection

The SOSCP Shared Environmental Planner provides direction to facilitate enhanced bylaws for environmental protection. In the past two years this work has included review and input on environmental values and sensitivities for the Town of Oliver (complete) and Town of Osoyoos (underway) Official Community Plans. The project to update the Regional District of Okanagan-Similkameen Environmentally Sensitive Development Permit Areas (Rural Areas A, C, D, E and F) is also now complete. As part of this project, the SOSCP shared planner helped to develop a Rapid Environmental Assessment process to support development of single-family dwellings in the RDOS where sensitive habitat makes development difficult. Replacing the current residential development exemption, this assessment is designed to provide streamlined development advice and help homeowners locate development in areas of lower sensitivity.

Review of Development Proposals

Based on a user pay model, developers hire qualified professionals to help build concepts that mitigate environmental impacts. To support local government

review of these proposals, the SOSCP shared planner continues to provide local governments across the South Okanagan-Similkameen with assistance in considering how proposals conform to federal and provincial legislation, as well as local government requirements. Since 2010, SOSCP has ensured that sensitive environmental values were considered in the review of proposed developments overlapping sensitive areas. Reviewing thousands of hectares of proposed development over the past several years, the SOSCP shared planner has influenced development and facilitated enhanced protection of environmental values in a variety of sites throughout the region.

Examples include:

- Zoned country residential, a greenfield development proposal within the District of Summerland was located in sensitive grassland and overlapped proposed Critical Habitat for Lewis's Woodpecker, a species listed as threatened under the federal Species at Risk Act (SARA). With input from the SOSCP shared planner, the district worked with the developer's team to revise the proposal to cluster development in a smaller development footprint. To address concerns about local wetlands and the sensitive species they support, a new connection to sewer and water systems was also included.
- During a development proposal located in an area overlapping Critical Habitat for several species at risk and bordering both the Okanagan River Channel and McIntyre Creek, the SOSCP shared planner encouraged the developer's team and the regional district to support protection and recruitment of wildlife trees. This benefitted the Lewis's Woodpecker known to occur in the area and on the property. The SOSCP shared planner influenced the prescription for protection and restoration of setback areas along the river channel and helped encourage the developer to protect high value cottonwood trees found on the property.

Technical and Policy Support for Implementation of the Biodiversity Strategy

Since the publication of the Biodiversity Conservation Strategy for the South Okanagan Similkameen, the SOSCP shared planner has provided technical assistance for the implementation of the strategy. Some highlights include supporting the preparation of special area reports in two high biodiversity areas of the Okanagan. In 2016, report on the area surrounding Spotted Lake (Kłilxw) that is a sacred place for the Okanagan (Syilx) people summarizes the available land use and environmental information about this landscape. This report has been completed with the intention that it will complement traditional knowledge of the Syilx people and help contribute to a goal of enhanced protection of both cultural and environmental values in this significant area. In 2017, the focus of a baseline report addresses a second area of extraordinary biodiversity, Osoyoos West Bench. Bringing together interested experts and partners, the SOSCP shared planner has helped prepare the Osoyoos West Bench report to provide a baseline description of the land use, sensitive ecosystems and species that occur in this unique area. This report has been completed with the intention that it will support future land use decisions in the area.

Support Protection of Riparian and Wetlands Habitats

The SOSCP Shared Environmental Planner continues to help highlight the value, and sensitivity of areas near water including wetlands, lakes and streams. Key projects helping to address sensitive ecosystems near water include:

- The SOSCP shared planner participated as a speaker and writer in the Protecting our Natural Assets outreach project together with partners Okanagan Similkameen Conservation Alliance (OSCA), Regional District of Okanagan Similkameen (RDOS), South Okanagan Real Estate Board (SOREB), and others. This project developed outreach materials, conducted workshop training events and field tours to help those involved with waterfront management understand the biodiversity values, risks and regulations associated with shoreline areas. One



highlight was the highly successful professional development seminar provided to the South Okanagan Real Estate Board in 2015.

- Working with the OCCP, Central Okanagan Regional District, local communities, Okanagan Basin Water Board, and other partners, the SOSCP shared planner supported data collection and information sharing about the Foreshore Inventory Mapping (FIM) update, completed in 2016. This project on Okanagan Lake included the collection of updated inventory information about shoreline impacts associated with development and land use.
- Shoreline development is regulated through the provincial Riparian Assessment Regulation (RAR). Assessment reports prepared by qualified professionals direct development to help avoid impacts to fish and sensitive lakeshore and streamside areas. The SOSCP shared planner helps local governments review these assessments and understand the implications of assessment reports. She participates in workshops and other discussions to increase awareness of strategies and opportunities to better regulate shoreline development. She also provides local governments with advice relative to environmental values and management of municipal streamside and lakeshore areas including participation in projects to protect and restore portions of Penticton and Ellis Creek flowing through urban areas.

Protection and Management of Local, Regional and Provincial Parks

Park management has been an ongoing priority for the SOSCP shared planner. Over the past two years, the shared planner has been involved in providing advice to various existing parks and natural areas managed by local governments. Highlights include her involvement in review of the Penticton Parks Master Plan, currently in development and her participation in planning to restore and maintain a trail network in Giants Head Park (Summerland). SOSCP also supported the District of Summerland in its efforts to designate Conkle Mountain Park. Also with the SOSCP shared planner's help, RDOS obtained advice on a project to restore and upgrade the KVR trail between Road 21 and Road 22, near Osoyoos (Rural Area A). Beyond park management, the SOSCP shared planner also helps encourage park establishment. Building on her advice associated with development proposals, the SOSCP shared planner's work has helped ensure additional protection for natural areas including



protection for a small, but extremely high value area of Critical Habitat and historical nesting area for Lewis's Woodpecker near Trout Creek in Summerland, and a new large neighbourhood park being planned for establishment at the north end of Summerland.

Supporting Protection of Species at Risk

An important focus of the SOSCP shared planner is protection of species at risk. Over the past year, she has begun to develop a portfolio of outreach materials designed to help qualified professionals identify Critical Habitat attributes in the field and design prescriptions to address impacts associated with development. Beginning this year with Critical Habitat for Lewis's Woodpecker, Branched Phacelia and Grand Coulee Owl-clover, she will continue over the next two years to add materials for an additional six species. The SOSCP shared planner has also begun working to facilitate direct local government stewardship of sensitive ecosystems and species at risk. Working with the City of Penticton, the shared planner has been supporting a project to protect the only known habitat in Canada for the endangered Nugget Moss.

Supporting Tree Protection and Management

With a growing awareness of the importance of trees to species at risk, for erosion protection and to mitigate impacts of climate change, local governments are increasingly interested in appropriate regulation and management of trees. The SOSCP shared planner regularly works with local government on development proposals identifying high value wildlife trees to retain in developed areas and also helps provide information about applicable regulations and processes to use in the ongoing management of trees and vegetation near powerlines, and other land improvements. Working with an experienced arborist, the SOSCP shared planner is helping the City of Penticton work on Urban Forest management planning. In this work, the SOSCP shared planner emphasizes the importance of maintaining a supply of large cottonwood trees in the South Okanagan-Similkameen. These trees are a keystone species and vital to the protection of many Okanagan species, including species at risk.

Securing Key Habitats

Since its inception, another key pillar of the SOSCP has been supporting the acquisition of key habitats, which includes purchases, covenants, or donations of private land, often in conjunction with enhanced protection of Crown lands. Securement activities often include restoration, care, and management of these important areas.

Osoyoos Oxbows: Ted Pendergraft and Sons Conservation Area (Nature Conservancy of Canada)

In March 2017, the Nature Conservancy of Canada (NCC) and their partners celebrated the new Osoyoos Oxbows: Ted Pendergraft and Sons Conservation Area. Located along the Okanagan River just north of Osoyoos Lake, this 36-hectare (90-acre) wetland property is the latest addition to a complex of conservation lands in the heart of one of British Columbia's best birding areas.



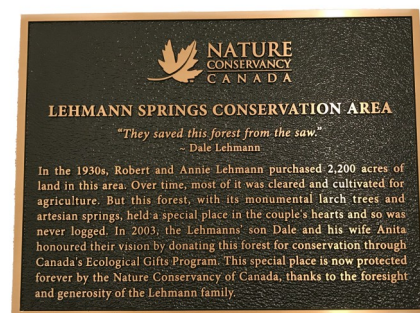
A key partner in NCC's work in the Osoyoos Oxbows is Ducks Unlimited Canada (DUC). In addition to contributing funds to purchase this land, DUC is also a co-title holder and will collaborate with restoration work on the site. Recreating historic oxbow channels will allow wetland species, such as the western painted turtle, Great Basin spadefoot and blotched tiger salamander (all COSEWIC-designated species at risk), to relocate from nearby areas.

The property contains some of the last remaining marshes in an area that was once a significant chain of wetlands. The Osoyoos Oxbows is recognized as an Important Bird Area for the diversity of birds that use these lands for breeding, nesting, hunting, and as a critical migration stopover.

Many funders contributed to the success of this project, including the Government of Canada through the Natural Areas Conservation Program, Habitat Conservation Trust Foundation, British Columbia Conservation Foundation, Oliver-Osoyoos Naturalists' Club, South Okanagan Naturalists' Club, Okanagan Similkameen Parks Society, Burrowing Owl Winery and many individuals.

Lehmann Springs Conservation Area (Nature Conservancy of Canada)

Dale Lehmann waited a long time to see his parents recognized for the conservation vision in protecting a unique woodland on their large agricultural property near Bridesville. The 59-acre (24-hectare) property was donated to The Land Conservancy of BC in 2003, and then transferred to the Nature Conservancy of Canada in 2015 as part of TLC's debt-restructuring plan. Working with NCC staff and financed by Environment Canada, the Lehmann's contribution to conservation is now recognized with a bronze plaque, installed on the land they loved so much.



Sage and Sparrow Conservation Area update (Nature Conservancy of Canada)

Wildlife work on Sage and Sparrow has been active in the past two years. Working in partnership with the Burrowing Owl Conservation Society of BC, NCC staff and volunteers installed 24 burrows. Two owls were released on the conservation area in 2016, and in 2017, eight owls were released. Thanks to efforts like these, it is entirely possible to spot this once-extirpated bird in BC's grasslands.

Bat monitoring on Sage and Sparrow has also been ongoing. Monitoring devices have been installed in various locations around the conservation area as part of a pilot year for participation in the North American Bat Monitoring Program.

This species-rich conservation area is a boon to conservation researchers, and NCC is proud to work with biologists from many agencies to support their work documenting rare and at-risk species. One project underway at Sage and Sparrow, run by the Canadian Wildlife Service, uses drones to improve critical habitat mapping for sage thrasher, a small, sagebrush-dependent songbird that is endangered provincially and federally.

To date, NCC has documented 52 species at risk on the Sage and Sparrow Conservation Area, including some species that have only one or two documented records in Canada.



Antelope Brush Conservation Area (The Nature Trust of BC)

In April 2016, The Nature Trust of British Columbia acquired an 85-acre piece of rare Antelope-brush habitat located at the south end of Vaseux Lake which has been owned by the Kennedy family since 1886. Over the past 17 years, The Nature Trust has been securing adjoining sections and now together with this last portion, have



the largest private holding of rare Antelope-brush habitat in the South Okanagan totalling 152 hectares (375 acres). The property is home to more than 20 species at risk including Behr's Hairstreak butterfly, Bighorn Sheep, Pallid Bat, Desert Night Snake, Great Basin Spadefoot Toad and Lewis's Woodpecker.

Skaha Lake Property (The Nature Trust of BC)

The Nature Trust of British Columbia has secured 35.4 hectares (87.5 acres) of critically important habitat for Bighorn Sheep on the eastside of Skaha Lake in the Okanagan. This property is adjacent to their existing Skaha Lake Property complex which is included in the McTaggart-Cowan/Nsək'łniw't Wildlife Management Area. The Skaha Lake parcel is located in two of the most endangered biogeoclimatic zones: Bunchgrass and Ponderosa Pine. It is important for supporting Bighorn Sheep as well as other species at risk such as the White-throated Swift and Western Rattlesnake. It also has potential to support the endangered American Badger.

Managing and Enhancing Similkameen Conservation Properties (Southern Interior Land Trust Society)

In April 2016 Okanagan Region Wildlife Heritage Fund Society changed its name to Southern Interior Land Trust (SILT). Formed in 1988 to purchase land for wildlife in the Okanagan Region, SILT aims to conserve and restore wild land as habitat for wildlife under increasing pressure from development. In the south Okanagan Similkameen SILT owns 15.5 acres in Cawston called Ginty's Pond, which is co-managed with the Ministry of Environment and 50 acres of Similkameen River frontage and access to steep upland Crown lands which are habitat for Bighorn sheep, goats, deer and many other animals and plants. As part of a new direction for the almost 30-year old, volunteer-run organization, SILT recently hired its first Executive Director. Registered Professional Biologist Al Peatt was a founding director of the society, has extensive securement experience and will work to raise the capacity and profile of SILT.



Enhancing Stewardship on Private and Public Land

Another principle of the SOSCP is to promote stewardship activities in important areas, and to encourage landowners and land managers to protect biodiversity, enhance habitat for plants and wildlife, and to manage lands sustainably. This approach emphasizes cooperation, and is only possible thanks to the passion and drive of those who recognize the key role that stewardship plays in the broader conservation picture.

Landowner Outreach (Okanagan Similkameen Stewardship Society)

Okanagan Similkameen Stewardship Society (OSS) was established to assist and support communities and land stewards in understanding and caring for the natural environment. OSS contacted over 800 landowners throughout the Okanagan and Similkameen, providing information about local species and spaces, and encouraging them to become Wildlife Habitat Stewards. A Wildlife Habitat Steward is a landowner who has entered into a voluntary landowner stewardship agreement outlining best management practices for a natural area on the property. Wildlife Habitat Stewards include ranchers, orchardists, viticulturalists, bed & breakfasts, homesteads, ecotourism businesses, and outdoor schools. OSS is now supporting 72 Wildlife Habitat Stewards in the Okanagan and Similkameen caring for over 3550 acres of wildlife habitat including grasslands, shorelines, wetlands, rugged terrain and low elevation forests.

As part of commitments to landowner stewards, OSS is very active in assisting landowners with clean-up and wildlife enhancement projects. Contract staff, volunteers and landowners participated in 54 habitat enhancement projects in 2016/17, enhancing over 260 acres of habitat through invasive plant management, fencing projects, native plant revegetation and nest box installation.



Community Stewardship (Okanagan Similkameen Stewardship Society)

Okanagan Similkameen Stewardship Society was able to make a real difference in the communities it works in thanks to volunteers and funders and partners like the Community Foundation of the South Okanagan-Similkameen, TD Tree Days and City of Penticton, Habitat Conservation Trust Foundation, Wildlife Habitat Canada and Environment and Climate Change Canada.

In 2016, OSS supported 19 communities in 24 conservation and stewardship initiatives including clean-ups, green-ups, local events and guest speaker events.

Over 100 volunteers from the community, including those from South Okanagan Naturalists' Club, Nature Kids BC and Girl Guides, got their hands dirty and planted over 1000 native trees and shrubs, and removed over 300 pounds of garbage from public parks and trails in the Okanagan and Similkameen valleys.

The Cormack Marsh Community Earth Day Celebration in Princeton engaged 150 landowners and residents in invasive plant removal, bird identification, wildlife residence creation, planning native species, trail building and interpretive sign installation.



In Penticton, OSS has been continuing the effort to improve habitat along the shores of lower Ellis Creek with funds from the Habitat Conservation Trust Foundation, TD Friends of the Environment and the Province of BC. SOSCP and OSS have been working with the Province of BC and the City of Penticton, as well as scores of volunteers, to return native plants to the riparian area of the creek, and were excited to unveil a new bench and interpretive sign recognizing the environmental values and the volunteer efforts. OSS also partnered with the TD Tree Days Program and the City of Penticton to support a project that saw 70 volunteers plant over 500 native shrubs and trees at Riverside Marsh near the Okanagan River in Penticton.

Okanagan River Restoration Initiative (Okanagan Nation Alliance)

According to Traditional Ecological Knowledge, the Okanagan River in Penticton was once rich in salmon including Steelhead, Coho, Sockeye and Chinook. Unfortunately, with the channelization of the river in Penticton, salmon spawning habitat is now extremely limited because of the flat channel grade, low water velocities and a bottom that is inadequate for spawning and egg incubation. As fish passage at Skaha Lake Control Dam was provided in 2014, gravel augmentation in the Penticton Channel has been identified as one of the highest river habitat priorities among broader goals of the Okanagan River Restoration Initiative (ORRI).

In 2015, ORRI continued the success of the previous year with the development of Spawning Beds (No. 1 and No. 2), creating a third Spawning Bed (No. 3) below the Highway 97 bridge, this time designed for Kokanee and Sockeye. In 2016, the ORRI group also prepared the engineering designs for the fourth Spawning Bed (No. 4) to be constructed in 2017 between the Golf Course bridge and the KVR abutments.

The gravel size, water depth, water velocity and gradient in each bed are optimized for salmon spawning and egg incubation survival. Large rocks were also placed in clusters to provide refuge for Burbot as well as juvenile



salmon and trout. The new Spawning Beds provide excellent public viewing opportunities of salmon spawning in October and improve the health of the channel by reducing the abundance of invasive exotic species such as the Eurasian watermilfoil. The beds have not affected the river bed stability or the flood protection capacity.

This project is led by the Okanagan Nation Alliance and involves the collaboration between First Nations, provincial and federal governments, local stakeholders and stewardship groups, as well as various funding agencies. The project has been very successful to date and the three constructed Spawning Beds have been used close to maximal capacity by the targeted species every year. The success of this project will continue to be measured over the next years and will guide future restoration.

Penticton Creek Restoration Initiative (City of Penticton)

Penticton Creek is the third-largest tributary to Okanagan Lake and was historically an extremely productive waterway for Okanagan Lake Kokanee and Rainbow Trout. After a series of floods during the 1940s that damaged many homes and businesses in Penticton, flood protection works were undertaken in the 1950s that redirected the creek into a smooth concrete-lined channel, damaging fish and riparian habitat. Restoring Penticton Creek was a recurring theme during the downtown Penticton planning process in 2013, so Penticton City Council appointed a Penticton Creek Restoration Committee that includes the Okanagan Nation Alliance, Penticton Indian Band, SOSCP (Chair), Freshwater Fisheries Society of BC, Penticton Fly Fishers, Downtown Penticton Business Association, as well as Penticton and senior government staff. The Committee first undertook a study of the habitat and hydrological conditions of the creek, then developed funding capacity to implement a showcase, in-stream restoration project for 2015 to show how the creek could be rehabilitated.

In July and August of 2015, this showcase restoration project was completed. With funding support from the



Habitat Conservation Trust Foundation (HCTF), the Recreational Fisheries Conservation Partnership Program, TD Friends of the Environment, and the City of Penticton, three riffles and pools with boulders and small round river rock to provide improved habitat for fish replaced a homogeneous concrete flume, along an 80 meter section just upstream of the Ellis Street Bridge. Despite the challenges of balancing the needs for restoring fish habitat with ongoing flood protection measures on an urban creek, the project was successfully executed due to an incredibly supportive environment with decision makers, landowners and funders. Early monitoring results of the showcase section showed a fourfold increase in fish density, and a tenfold increase in salmonids.

The focus for the Committee during 2016 and 2017 was the development of a comprehensive and long-term Master Plan for the creek. The Master Plan was undertaken to inventory flood protection infrastructure and current fish habitat values, identify priorities, opportunities and also outline potential costs for rehabilitating the creek with flood protection and fish habitat in mind over the next many years. The Penticton Creek Master Plan was completed and adopted in spring of 2017, with a second in-stream restoration project planned for summer of 2018.

Habitat Conservation in Garnet Valley (SOSCP, Penticton Indian Band, Province of BC, Summerland Sportsmen's Association)

The spirit of working together in the Garnet Valley has continued to grow over the past two years. In 2015, SOSCP, the Summerland Sportsmen's Association, the Nature Trust of BC, Okanagan Basin Water Board and the Province of BC completed a third wetland protection project in the valley, with an exclusion fence to protect a natural spring on the provincial Conservation Lands. Forests, Lands and Natural Resource Operations (FLNRO) and Fish and Wildlife staff worked on a preliminary habitat prescription to recover ungulate winter range compromised by fire suppression and forest in-growth for a small portion of the Conservation Lands. The BC Wildfire Service lent their falling services and volunteers from the Summerland Sportsmen's Association came out for a series of work bees with SOSCP and Provincial Fish and Wildlife staff to get the habitat enhancement work done.

In 2016, an expanded phase of collaboration and partnership emerged for Garnet Valley involving the Penticton Indian Band, the Provincial Ministry of Forests, Lands and Natural Resource Operations and local Sportsmen's clubs. This next phase of working together expanded the habitat work done in 2015, and focused on

habitat and cultural enhancement using traditional practices and ecosystem and fire science in harmony. The Garnet Valley Ungulate Winter Range Project was funded by the Forest Enhancement Society of BC, and was co-led by the Penticton Indian Band and BC Ministry of FLNRO. The pilot project area of focus was approximately 50 hectares. This pilot project has led to broader collaborative resource management initiatives.

In late 2016, and into spring of 2017, PIB and FLNRO hosted the establishment of a Garnet Valley Advisory Committee, a direct result of strengthened relationships achieved from the work in the Garnet Valley. The workshops set the tone for collaborative management of the multiple and overlapping values found in the Garnet Valley area. Attended by representatives from PIB, British Columbia and several third party stakeholders with vested interests in better management of important resources in the Garnet Valley, we were able to successfully identify aligning values, roles and objectives.

Crown Land Stewardship (Provincial Ministry of Forests, Lands and Natural Resource Operations)

Provincial Ministry of Forests, Lands and Natural Resource Operations, Ecosystems Division has been leading a number of initiatives for species and ecosystems at risk conservation through multi-stakeholder consultation, implementation of regulations and voluntary stewardship.

In the fall of 2016, twenty-two Wildlife Habitat Areas (WHAs) were approved for establishment in the south Okanagan and Similkameen under regulations that impose special conditions on forest and range practices to address impacts to the habitat of species at risk. This set of WHAs includes provisions for Lewis's Woodpecker, Williamson's Sapsucker, half-moon hairstreak, tiger salamander and Great Basin spadefoot. Some areas include interpretive signs as reminders of the stewardship practices and conditions that are required to protect the species.



FLNRO has also undertaken fine scale plant community mapping of large portions of the South Okanagan Wildlife Management Area (SOWMA). The data will be used to better manage rare and sensitive ecological communities like water birch/rose (required habitat for red-listed yellow breasted chat, for example) and antelope brush shrub steppe (habitat for Behr`s hairstreak and many other SAR).

FLNRO has also been working with local municipalities to establish voluntary stewardship agreements for species at risk including for Rocky Mountain Ridged Mussel - Penticton, Summerland, Oliver, and Western Screech Owl - Summerland.

In July 2016, a Motor Vehicle Closure under the Provincial Wildlife Act came into effect at Oliver Mountain. This closure was the result of a multi-year, multi-stakeholder planning process and supports the conservation of a number of environmental values including antelope-brush grasslands and habitat for Behr's Hairstreak, Lewis's Woodpecker and Great Basin Spadefoot.

The Ministry of Forests, Lands and Natural Resource Operations, Ecosystems Division has also been leading some mitigation projects, and an ecological inventory for the Osoyoos West Bench area. Fences have been

installed to keep off-road vehicle traffic from damaging areas with high concentrations of species at risk, including annual paintbrush, Grand Coulee owl-clover, and Great Basin Spadefoot.

Species at Risk signs: Rocky Mountain Ridged Mussel interpretive signs were created and erected at six locations where the mussels are known to occur including in Summerland at Peach Orchard and Kin Park, Oliver at Lion's Park, Penticton at Three Mile Beach, Vaseux Lake and Vernon's Kin Park. These colourful interpretive signs raise awareness of the sensitivity of native mussels and make it easy to distinguish them from invasive mussels. In collaboration with Wildlife Tree Stewardship and Environment Canada, FLNRO developed and posted Williamson`s Sapsucker identification signs in four Wildlife Habitat Areas in the South Okanagan.



Expanding Community Involvement Through Outreach & Education

Getting community members involved in conservation and excited about nature has always been recognized as a key driver of SOSCP and its partners. This includes a variety of activities such as professional development sessions, workshops, school programs, festivals and outdoor seminars that help to foster a love and understanding of nature and the outdoors in the young and young at heart.

Okanagan Desert Society

In 2016 the Osoyoos Desert Society (ODS) celebrated its 25th anniversary. ODS aims to conserve and restore the antelope-brush ecosystem in the South Okanagan as well as to educate and inspire active concern for ecosystems worldwide. The Society stewards 67 acres of endangered antelope-brush habitat at its nature education facility – the Osoyoos Desert Centre. The Centre welcomes approximately 10,000 people annually and provides visitors with an opportunity to learn about local wildlife and ecology by taking a tour along a 1.5 km boardwalk, exploring hands-on exhibits and strolling through a native plant garden. Over the past two years a number of enhancements have been made at the Centre, including the addition of new interpretive signage along the boardwalk, construction of a Butterfly Habitat Viewing Deck, upgrades to the demonstration garden and removal of invasive plants.



In addition to operating the Desert Centre, the Society hosts year-round educational programs, including its popular lecture series. Recent programs focused on fire ecology, connectivity conservation, bats, snakes, and badgers. Presenters included local researchers and

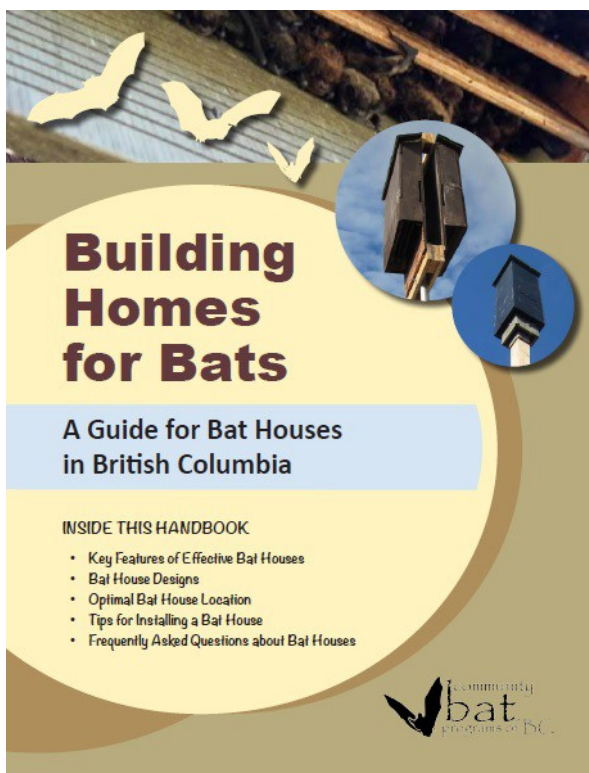
representatives from organizations including the Okanagan Community Bat Program and the Burrowing Owl Conservation Society of BC. Partnerships with other environmental organizations, community groups and local businesses play an important role in the Society's programs and projects. In 2015 the Society completed a multi-year native seed mix study in collaboration with several local vineyard operators. And – thanks to its partners throughout the community – the Society was able to hold its first Art in the Desert event in 2016, as well as continue to host its annual fundraiser, Romancing the Desert.

Helping People and Saving Bats (Okanagan Community Bat Program)

The Okanagan Community Bat Program (OCBP) is part of a larger BC-wide network of community bat projects, carried out in partnership with the Ministry of Environment. In the Okanagan, there are 14 species of bats that eat a variety of insects, including those that impact the agricultural and forest industry and those that are disease-spreading pests (i.e. mosquitos). OCBP



raises awareness about bat conservation and enhances bat habitat. They provide support to landowners and engage residents in citizen-science to monitor bat populations.



In 2016 OCBP's Bat Line responded to over 200 calls and visited 16 landowners who had bats in home buildings. To assist with evictions and habitat enhancement, OCBP constructed and distributed 20 bat boxes and also updated bat box construction and installation recommendations to better suit Okanagan summers.

Monitoring White Nose Syndrome (WNS), a fungal disease responsible for the deaths of millions of bats in eastern North America, has been a priority. WNS was first detected in Washington State in March 2016. To monitor the spread of this disease, Community Bat Program coordinators have been collecting reports of unusual winter bat activity across southern BC and have submitted 30 dead bats to Canadian Wildlife Health Centre lab for disease testing. To date, there has been no WNS reported in the province.

To monitor bat populations, OCBP engaged Okanagan residents and coordinated 12 annual bat counts. Three community events were attended, and in coordination with Okanagan Similkameen Conservation Alliance Ecostudies programs, OCBP delivered 13 Go Batty presentations to schools.

OCBP operates with funding from Habitat Conservation Trust Fund, Habitat Stewardship Program, and the BC Government, and with the assistance of our many community partners and Okanagan residents.

EcoStudies Programs (Okanagan Similkameen Conservation Alliance)

In September 2015, with funding from Nature Canada, Okanagan Similkameen Conservation Alliance launched a Migratory Bird pilot program at the Vaseux Lake Bird Observatory (VLBO). The Program offered students and the public the chance to observe activities at the bird banding station where crucial data is collected to monitor bird species and populations. During the program 12 schools from School District 53 and School District 67, for a total of 275 students, and just under 100 members of the public took part.

Springboarding off the success of the pilot program and again with support from Nature Canada's Naturehood



Program, OSCA offered a second program in the Fall of 2016. In addition to the Migratory Bird Program, Save our Salmon and Go Batty programs were added. Eleven elementary schools and two home learner programs participated with a total of 533 students visiting Vaseux Lake Banding Station or the salmon spawning channels. The public were also invited to visit the banding station where station staff and volunteers hosted 75 visitors over a three-hour period. About one hundred people attended two weekend salmon spawning tours held in Oliver and Penticton. In total, over 750 students, teachers and residents participated in Naturehood activities hosted by the Okanagan Similkameen Conservation Alliance.

In the spring of 2016, Nature Canada provided OSCA with funds to do a Feederwatch with one of the schools that took part in the Migratory Bird program. Kaleden Elementary was chosen to participate. The project included installing a robust bird feeder and pole system, as well as a feeder-cam at the school. OSCA staff did an in-class presentation to inform the students about Project FeederWatch and how it works. Students monitored the images and videos captured on the feeder-cam throughout the month of observation. Data collected was reported via eBird.com.

Meadowlark Nature Festival (Okanagan Similkameen Conservation Alliance)

In 2017 Meadowlark Nature Festival celebrated its 20th anniversary presenting over 75 tours throughout the Okanagan and Similkameen. Festival organizers acknowledged the 20th anniversary milestone with a Gala honouring Founders Richard Cannings, Doreen Olson and Lisa Scott. In early 2017 a Sport Tourism Economic Assessment Model (STEAM) report was completed that determined the Festival's annual economic impact to be \$625,000 for the whole of BC and over \$550,000 directly to Penticton and area.

Aquatic Species at Risk

Ministry of Forests, Lands and Natural Resource Operations (FLNRO) have developed and installed interpretive signs at six locations where the Rocky Mountain Ridged Mussel is known to occur. These colourful interpretive signs raise awareness of the sensitivity of at risk native mussels and make it easy to distinguish them from invasive mussels. FLNRO has also signed voluntary stewardship agreements with the District of Summerland, City of Penticton and the Town of Oliver in support of conserving Rocky Mountain Ridged Mussel habitat.



Defence Against Invasive Aquatic Species

Many initiatives are underway in the Okanagan Similkameen to defend against invasive Zebra and Quagga mussels. Okanagan Basin Water Board (OBWB) has been leading the way with the “Don't Move A Mussel” and “Clean, Drain, Dry” public education campaigns. This is in addition to advocating for greater capacity and resources to prevent the fouling of our waterways by these invasive mussels and the devastating impacts they will bring to property values, water quality, fisheries, tourism, and the ecology of our lake systems.

Okanagan and Similkameen Invasive Species Society (OASISS) has been cooperating with the Okanagan Basin



Water Board and other agencies since 2013 to deliver the valley wide “Don't Move A Mussel” and “Clean, Drain, Dry” public campaigns to stop the spread of aquatic invasive species. Summer students have assisted with monitoring water bodies for invasive mussels or their larvae, and have educated boaters about invasive mussels and how to prevent their spread at various marinas, boat launches, campsites and other locations around the Okanagan Valley.

The Province of BC, with support from BC Hydro, FortisBC, Columbia Power and the Columbia Basin Trust, established permanent mussel inspection stations at major entry points along BC's borders with Alberta and the US. Many of these stations operate seven days a

week from April through October in addition to mobile decontamination units. From Penticton, eight inspectors will cover southern border entries from Midway/Yahk to Osoyoos and including the Nighthawk station.

During the six-month BC mussel defence pilot program in 2015, over 4,300 boats were inspected, of which 70 were identified as coming from an invasive mussel infested province or state. Of those 70 watercraft, 34 required decontamination and 15 were confirmed to be transporting invasive mussels or their larvae. One droplet of contaminated water is all that is needed to destroy our freshwater systems forever.

Okanagan Basin Water Board adopts Statement of Wetland Values

Wetlands are among the rarest and most sensitive ecosystems in the Okanagan, representing only about 0.2% of the regional landscape. In spite of their limited extents within the landscape, wetlands provide disproportionately large values. They are known as biodiversity hotspots due to the unique habitat they provide for a wide variety of wildlife and the critical ecological services they provide in biological productivity, hydrological functions, and other socio-economic benefits. Aquatic ecosystems in the Okanagan continue to be threatened and are under pressure from urbanization, encroachment, isolation, and other land development. It is estimated that over 84% of low elevation wetlands within the Okanagan have been lost to development. Okanagan Basin Water Board (OBWB) recognizes through this statement of values, the benefits that wetlands provide to the region, and encourages local governments in the Okanagan to adopt best



practices aimed at wetlands conservation and protection, ephemeral wetlands in particular, and to implement these best practices through their by-laws. OBWB has led the development of an Okanagan Wetland Strategy to identify and protect wetlands all throughout the Basin.

Nature Kids BC

Since 2013, the Nature Kids Club of BC – South Okanagan Chapter (previously the Young Naturalists' Club) has been going out once a month to explore nature. This naturalist club is for children ages 5 – 10 and their families and is about 35 members strong. It has been led by volunteers Alyson Skinner and Paula Rodriguez de la Vega. Recently, two new volunteer leaders have joined; Kyle Fossett from Oliver and Janelle Parchomchuk from Penticton. Over the last year, Nature Kids has had winter adventures at Yellow Lake learning about ice safety and ice fishing, and an evening walk and campfire at Garnet Fire Lookout learning about stars and forest fires. Spring and summer exploration included tree planting at Riverside Marsh in Penticton, a shoreline walk at Sunoka Beach, an interpretive hike on skunks and flowers, a wetland day with slimy salamanders and toad-ally awesome toads, a wonderful walk learning about birds with 11 year-old author, Jordyn Ems Shay, and a geology rock exploration



hike to the top of Peachcliff. Inside activities included a guided tour of the Penticton Museum Natural History section, a Halloween interactive presentation on bats, and a fun morning on Burrowing Owls which included dissection of an owl pellet.

Vaseux Lake Bird Blind

In May 2017 BC Nature hosted the official opening of a new public viewing facility (bird blind) at Vaseux Lake Wildlife Refuge. The three-storey structure designed by Penticton's Landform Architecture replaces one built in the 1990s and offers significantly greater floor area, a central staircase, enclosed second level, and rodent-proof construction. Differing configuration of all three levels provide visitors with a variety of views and possible ways to use the blind.

The new blind was a project of the Important Bird and Biodiversity Area (IBBA) program of BirdLife International run through BC Nature. Headed by the Vaseux IBBA volunteer Caretaker, Eva Durance, with assistance from provincial and federal governments, The Nature Trust of BC, the IBA Coordinator, and a member of the South Okanagan Naturalists Club the project took over four and a half years to complete. Funding was provided by a number of agencies and businesses including the Public Conservation Assistance Fund of Habitat Conservation Trust Fund, BC Nature Foundation, Fortis BC Community Fund, Penticton Rotary Club, and Lake Breeze Winery. Many other individuals, government and non-profit agencies, and businesses assisted in a variety of ways to complete the project.



Applying a Science-Based Approach

A further pillar of the SOSCP is its commitment to ensuring that it uses a science-based approach to guide actions and decision-making, and to promote and facilitate further scientific research where needed for species and ecosystems at risk in the Okanagan Similkameen.

Rare Species Inventories or Research in the South Okanagan Similkameen

In the spring and summer of 2016, Ecosystems staff with the Ministry of Forests, Lands and Natural Resource Operations (FLNRO) undertook amphibian surveys in the Summerland area of Garnet Mountain, targeting two at risk species: Great Basin spadefoots and tiger salamanders. Past amphibian surveys in this area have been limited, despite its importance as the northern limit of tiger salamander records in BC. Tiger salamander larvae were confirmed at three ponds, two of which were not previously known as breeding ponds. No spadefoot tadpoles were observed this season, despite observations of numerous spadefoot tadpoles in previous seasons. These data will contribute to the implementation of the provincial recovery plan for tiger salamander. FLNRO staff has also been conducting fine scale plant community mapping of large portions of the South Okanagan Wildlife Management Area (SOWMA). The data will be used to better manage rare and sensitive ecological communities that are critical for many species at risk, such as water-birch rose thickets, that are required habitat for red-listed Western Yellow breasted Chat, and antelope-brush shrub-steppe habitats that support Behr's hairstreak butterflies.



Research and population monitoring of Yellow-breasted Chats (Southern Mountain population) in BC

Since 2001, Environment and Climate Change Canada has been leading research and monitoring for the endangered population of Western Yellow-breasted Chats in the Okanagan valley. The purpose of this work was to learn information that would contribute to recovering this population, including data on population size and distribution, habitat selection, productivity, dispersal, annual survival, population growth, the impact of population restoration, and overwintering areas in USA and Central America. Environment Canada staff work with local partners, but also collaborate with many others including in Mexico and the USA.



Chats have quickly responded to the livestock exclusion fencing, changes to livestock grazing practices, as well as actively planted areas and habitats that have been allowed to restore naturally in the Okanagan valley since 2001. For example, in the South Okanagan Wildlife Management Area the number of territories has increased from 4 to 50 since 2001. The ECommunity Place managed by the En'owkin Centre supported one pair of chats in 2001 but with habitat restoration now supports eight to 10 pairs every year. Through the

Habitat Stewardship Program, The Nature Trust of BC, and landowners, 67 km of livestock fencing has been installed in the valley. Ranchers provide alternate watering sources and allow access for biological monitoring. Chat surveys were conducted by Environment and Climate Change Canada in collaboration with many partners in particular the Osoyoos Indian Band, En'owkin Centre, and BC Forests Lands and Natural Resources Operations.

Vaseux Lake Bird Observatory

Vaseux Lake Bird Observatory (VLBO) is one of eight bird migration monitoring stations operating in British Columbia, but is the only station in the dry southern interior. The data collected at Vaseux Lake is very important to the continued monitoring of bird migration in BC and contributes a vast body of knowledge to a national monitoring network that receives data from stations across Canada. From August to October, three monitoring components are undertaken daily. All birds seen and heard each day are recorded, as well as a detailed census route that is undertaken by an experienced observer for an hour and a half just after sunrise. The station personnel and many volunteers also perform bird banding, with mist nets that are opened just before sunrise and checked every 20-30 minutes. Birds are extracted from the net and are banded, aged, sexed and weighed. Their wing chord is also measured and they are checked for fat levels and feather moult. The three monitoring methods are finally combined to come up with estimated daily totals for each species recorded which is used to extrapolate approximate abundance of each species. In 2016, 16 people contributed over 1055 observer hours at the station and 61 species were banded.

Western Rattlesnake Habitat Research in the South Okanagan

Rattlesnakes are a crucial component of grassland ecosystems in British Columbia, playing an important role in the complex food web and are an effective control agent for mice, voles and other small mammals. Unchecked, these small mammal populations can lead to widespread crop damage and the spread of harmful



diseases which could be potentially harmful and devastating for the Okanagan's agriculture industry.

Jared Maida is a graduate student from Thompson Rivers University who is studying how Western Rattlesnakes in the South Okanagan respond to habitat removal and fragmentation in the form of human disturbance and human presence. Maida's study site is located east of Osoyoos on the southern section of the Osoyoos Indian Reserve, where he works in close partnership with the Osoyoos Indian Band and the Nk'Mip Desert Cultural Centre. Rattlesnake populations in British Columbia face a tremendous amount of stressors and threats mainly associated with habitat loss, fragmentation and roads. As urbanization and agriculture continue to expand in the Okanagan, it is becoming more common for rattlesnakes to inhabit and utilize areas with reduced habitat quality and increased human presence such as golf courses and vineyards. Having a more meaningful understanding of the ecology of these snakes in non-natural landscapes will help develop and implement more meaningful and effective conservation and management strategies in areas of high human disturbance and presence.

Western Rattlesnake Road Mortality Research in the White Lake Basin
(Thompson Rivers University, The Nature Trust of British Columbia, Environment Canada, National Research Council Canada)

In 2015 and 2016 Thompson Rivers University student Stephanie Winton conducted the first focused study on rattlesnake roadkill in the province of BC. Road mortality of amphibians and reptiles has long been recognized as a severe conservation risk in the South Okanagan. The valley is home to numerous at-risk species including the Great Basin Spadefoot, Blotched Tiger Salamander, Western Yellow-bellied Racer, Great Basin Gopher Snake, and Western Rattlesnake. These sensitive species are all highly susceptible to being killed on roadways. The White Lake Basin contains critical habitat for these species but that habitat is transected by a network of roads.



Road surveys for dead rattlesnakes were carried out from April to October each year to establish the current rate of road mortality. Monitoring through rough mark-recapture methods was also done to get a baseline for the population. The information gathered will be used to see what impact road mortality is having on the long-term viability of the rattlesnake population. Roadkill hot spots and travel corridors within the Basin have also been identified. The project is also focusing on applied conservation, with a mitigation project underway in partnership with the BC Ministry of Environment and BC Ministry of Transportation and Infrastructure to

implement underpasses in locations of high roadkill concentration. After the underpasses are installed, road mortality within the area will continue to be monitored in order to determine their effectiveness. Results from this research will help reduce rattlesnake roadkill as well as provide information on all species impacted by roads. It will also add to the knowledge of animals in White Lake Basin and reveal key habitats.

Species at Risk
(Environment and Climate Change Canada – Canadian Wildlife Service)

Over the past couple of years, the Canadian Wildlife Service (CWS) has worked with Ministry of Environment, Forest Lands and Natural Resource Operations, and other partners throughout the South Okanagan and Similkameen to carry out species at risk occurrence and population surveys and provide regulatory advice to protect individuals, their residences, and critical habitat.

In and around White Lake, biologists continued to monitor the effects of grazing and grazing exclusion on the Rusty Cord Moss, a very small plant indicative of early-successional soil exposures in grasslands. The Nature Trust of BC and Clifton Ranch cooperated to design and implement a grazing management plan to improve and maintain habitat for species at risk like the Rusty Cord Moss.



Along the beaches of Skaha and Vaseux Lake, populations of the Short-Rayed Alkali Aster were monitored for their response to the timing and location of beach sand disturbance. There were more than one hundred thousand plants at Christie Memorial Beach, thanks to careful stewardship by staff of the Regional District of Okanagan Similkameen. CWS cooperated with volunteers to continue monitoring Lewis's Woodpecker at road-side stops. Lewis's Woodpecker has a conspicuous undulating flight with frequent "hawking" while catching insects on the wing, so it is easy to see among the cottonwood, pine and Douglas-fir snags where it nests. Populations in Okanagan and Similkameen are stable since monitoring began.

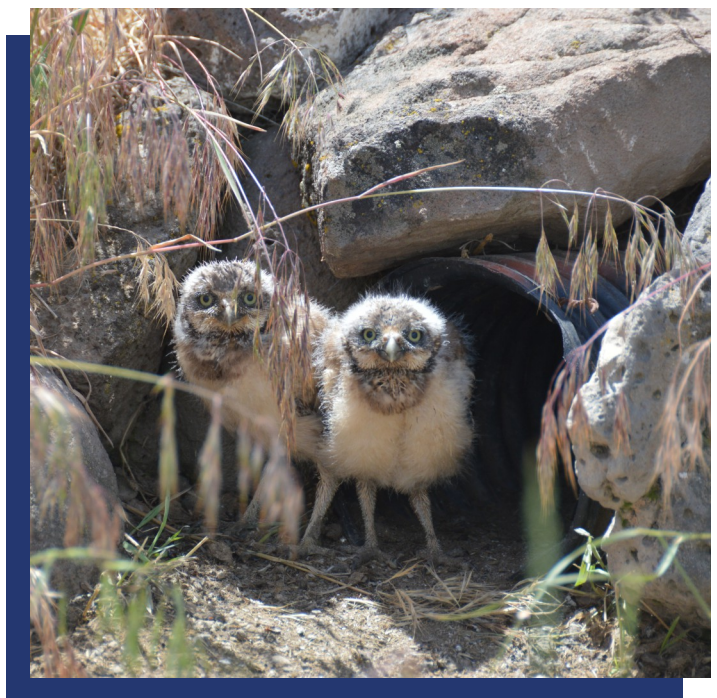
At Vaseux-Bighorn National Wildlife Area, CWS continued to listen for Pallid and Little Brown Bats. By deploying automated recording devices at the base of cliffs throughout the year CWS is able to determine where bats occur and also detect early warning signs of the White Nose Syndrome disease that is decimating bat populations in North America.

With the identification of critical habitat for many species at risk, land owners and managers immediately wonder "How does this affect me?" CWS spent much time listening to and speaking with First Nations, private landowners, municipal and regional district staff, developers, and local experts about specific projects, general concerns, and mechanisms to protect and avoid harming these species. The biggest learning curve is understanding the maps of critical habitat. Once a map is created, the area inside of it is not legally excluded from all human activity. On the contrary, some agricultural and forestry practices help create or maintain habitat for some species. Existing buildings, roads, intensively developed agricultural, industrial, and commercial lands usually lack the things species at risk need, so those are excluded from consideration as critical habitat. There is a limited list of activities that might destroy critical habitat for each species, and there are many opportunities to help protect or restore habitat and contribute to recovery. Funding programs like the Habitat Stewardship Program, Aboriginal Fund for Species at Risk, National Wetland Conservation Program, and Species at Risk Partnerships on Agricultural Lands assist in that recovery.

Bringing Back Burrowing Owls to BC (Burrowing Owl Conservation Society of BC)

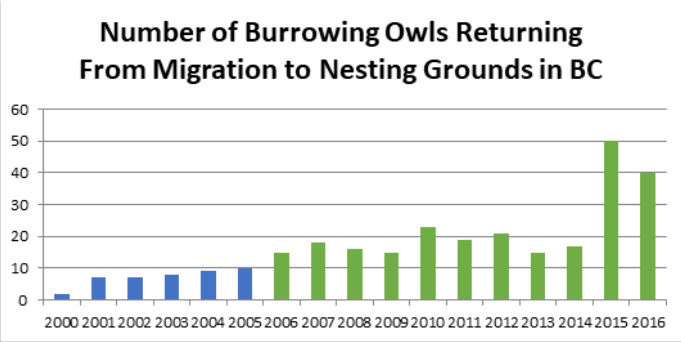
Burrowing Owls have been extirpated in BC since the 1980s. The Burrowing Owl Conservation Society (BOCS) of BC's program is one of our region's best success stories. To date the Society has worked with seven private ranch owners, two provincial sites and three Nature Conservancy sites. Most recently Burrowing Owls were released at a site with the Upper Nicola Band and at a site with the Penticton Indian Band. The Society is hoping to prepare sites with The Nature Trust of BC and other government properties in the summer of 2017 and 2018.

For the last three seasons BOCS has had a great field staff composed of Lia McKinnon (head field biologist), Charyl Omelchuck (Field assistant) and Lauren Meads (Field Director). This group of hands-on staff has been supported by (BOCS) board members headed by Mike Mackintosh, in addition to many volunteers that help build burrows, check field sites and feed and clean at the breeding facilities. Without the continual community support this program would not thrive as it has.



Year after year, as a result of this program, the number of burrowing owls returning to nesting grounds in BC after migration continues to increase (see graph below). The next step in the program is expanding the range of habitats that the owls can utilize and to participate in research that will improve migration monitoring.

The program also collaborates nationally and internationally with various organizations. In 2017 BOCS participated in two genetic studies conducted out of the University of Manitoba and the University of California, Los Angeles, providing blood and feather samples. They've also provided support to the Calgary Zoo as they attempt to reintroduce wild owls on to ranch properties in Southern Alberta, and every year they assist the



research site on the Umatilla Army Depot in Oregon where artificial burrows built by David Johnson and the Global Owl Project provide nesting opportunities to many wild Burrowing Owls. This collaboration has had great impact on both programs to improve the nesting areas for Burrowing Owls in Canada and the United States.

Citizen Science Surveys

WildResearch's Nightjar Survey Program is a citizen science program that conducts nocturnal roadside surveys for the Common Nighthawk, Common Poorwill and Eastern Whip-poor-wills, three bird species of conservation concern. All of these birds belong to the nightjar family, a group of migratory birds that forage for flying insects at night. Although they are understudied because their nocturnal habits exclude them from being

part of other bird surveys, steep declines in their numbers have been detected across North America. Two of the species that occur in BC include the Common Nighthawk, which has been federally listed as at-risk, and the Common Poorwill, which has no listing because of a lack of survey data. Citizen science surveys are an ideal way to study nightjars and contribute to their conservation because they can efficiently collect reliable data over a large geographic extent. In 2016, the Nightjar Survey Program was expanded to cover five new regions across Canada. In addition to the citizen science survey program, WildResearch also partnered with the Nature Trust of British Columbia to study the difference in detecting nightjars near and away from roads, as well as a research program to study Common Nighthawk habitat associations in British Columbia's grasslands.

The Okanagan Community Bat Program is one of many programs across BC that helps to encourage stewardship



of bat habitat on private property, identify roost sites, and promote annual bat counts to monitor bat populations. The Okanagan Valley has more species of bats living here than anywhere else in Canada, including many unique bats that are at risk due to loss of habitat and lack of suitable spots for winter hibernation and summer maternal colonies. Volunteers and residents are encouraged to get involved and count bats at local roost sites as they fly out at twilight. Counts are done in June before the pups are born, and a second time later in the summer when the pups are old enough to fly. These initiatives will become even more important to understand bat populations before the devastating White Nose Syndrome fungal disease reaches BC.

**Map our Marshes Penticton
(BC Wildlife Federation Wetlands Education Program)**

The BC Wildlife Federation Wetlands Education Program held a Map Our Marshes event in 2016 in partnership with the Okanagan Basin Water Board and the Okanagan Nation Alliance. The course offers community members the technical and field skills for mapping small wetlands, tracking changes to wetland landscapes, using GPS technology and uploading to online databases. Each of these elements are important for habitat protection and conservation. The field sessions were held at the ECommunity Place in Penticton. Okanagan Nation Alliance technicians participated in the course, which will allow wetland inventories during slow fisheries periods, and for the data to enhance the Okanagan Wetland Database.



Applying Traditional Ecological Knowledge

The En'owkin Centre continues its work to recover, revitalize and perpetuate Syilx culture, language, community and environment through a variety of initiatives, programs, projects, and events.

Advancing Recognition and Application of Syilx Traditional Ecological Knowledge (TEK)

Adopting widespread recognition and application of Syilx TEK is a high priority for the En'owkin Centre in its work with Okanagan bands, the Okanagan Nation, the SOSCP and all program/project partners throughout traditional Syilx territory.



The En'owkin Centre continued its work on an enhanced framework for the inclusion of TEK in data analysis and planning, and in implementation of Indigenous methods and practices utilizing place based knowledge. The process includes Syilx Initial enquiry, TEK Scoping,



Assessment, and Conclusion/ Actualization. En'owkin Centre TEK staff continued to provide support to the Penticton Indian Band (PIB) for their land use planning, including recommendations for protected areas of cultural and environmental significance in the PIB Community.

The En'owkin Centre facilities and staff supported several Syilx TEK meetings to gather information from local community members and knowledge keepers and provide recommendations related to a diverse range of topics, current projects and project referrals including:

- Apex Watershed – gather TEK and provide preliminary recommendations for TEK Assessment to inform planning, watershed use and protection.
- Peachland Bypass – gather TEK on the environmental and cultural significance and considerations of the area that would be affected.
- Shingle Creek Restoration – gather TEK and provide recommendations for the restoration and revitalization of Chinook spawning habitat and fish passage throughout the Shingle Creek system.
- Mountain Beaver – gather TEK and provide preliminary recommendations for the restoration of Mountain Beaver habitats and populations.
- OIB Watershed – gather TEK and provide preliminary recommendations for TEK Assessment to inform planning, watershed use and protection.
- TEK Assessment / Field Survey – preliminary TEK assessment of important steep shale slope habitats at sacred sites which also offer habitat for Rubber Boa, Blue Racer, Gopher Snake, Western Rattlesnake, Night Snake, Spotted Bat among other listed species.
- Species at Risk Recovery Planning – En'owkin Centre staff participation in Species At Risk Recovery Team meetings for Great Basin Spadefoot and Tiger Salamander.

Facilitating and Strengthening Partnerships

En'owkin staff continue to facilitate the enowkinwixw dialogue workshops and cultural experiences for a variety of institutions and organizations. In 2016-17 the En'owkin Centre provided a cultural awareness workshop session and cultural ecotour as part of the Canadian Parks and Wilderness Society's Take Back the Wild seniors training program.

En'owkin supported the Regional District Okanagan-Similkameen and the Okanagan Nation Alliance with a successful grant application for a Canada 150 commemoration event entitled Community to Community aimed at bringing Aboriginal and non-aboriginal youth together to participate in the restoration of black cottonwood (mulx). Restoration activities will take place at 10 different sites in the South Okanagan in 2017.

The Centre also continued to build relationships between Okanagan bands and BC Parks to identify potential areas of cooperation and collaboration related to protected areas management and protected areas planning in the Okanagan region. The Okanagan Nation Alliance (ONA) and the TEK subcommittee of the Committee on the Status of Endangered Wildlife in Canada continue to gather TEK from local knowledge keepers to support recovery programs for species at risk.

En'owkin Centre TEK staff provided cultural support for several Okanagan Nation Alliance events including the Annual Sockeye Salmon Fry Release in May and the Annual Salmon Feast in September at s̓x̓w̓ə̓x̓w̓nitk ʷ Provincial Park (Okanagan Falls).

Protecting Riparian Habitat through the Locatee Lands Project

In collaboration with the Okanagan Nation Alliance, participating Certificate of Possession (or “locatee”) landowners and the Penticton Indian Band, with funding support from Environment and Climate Change Canada's National Wetland Conservation Fund and the Washington State Habitat Conservation Plan Tributary



Fund, the En'owkin Centre was able to successfully secure a crucial 3.22 hectare locatee parcel within the endangered Okanagan River floodplain in Penticton to add to the Locatee Lands Project's growing complex of protected areas.

Additional funds are being sought by the Centre for 2017 to match a contribution from Environment & Climate Change Canada's Aboriginal Funds For Species At Risk to complete securement of an additional 2.29 hectare



locatee parcel supporting nesting endangered Yellow-breasted Chats (xʷaʔqʷaylm'), and to continue landowner contact and securement negotiations with other willing Certificate of Possession Holders on-reserve.

Restoring Lowland Riparian Habitat, Species At Risk and Species of Cultural Significance

Secured ECommunity Place Locatee Lands parcels continue to support habitat restoration and enhancement project work to advance recovery of species at risk populations and species of cultural significance to Syilx people, and which provide benefit to the broader Okanagan community. 2016-17 activities funded by Environment and Climate Change Canada's Interdepartmental Recovery Fund include:

- Traditional Burns that provide protection to critical forest and shrubland habitats from catastrophic wildfire, and which rejuvenate open field habitats.
- Invasive plant management to control populations of Great Burdock, Hounds-tongue, Virginia Creeper, Russian Olive, and invasive hybrid "Bull Hooks" roses.

- Evaluation monitoring of reptile, amphibian and small mammal population use of open field and wetland habitats, including three constructed wetlands created to provide breeding habitat for indigenous amphibians.
- Installation and maintenance of nest boxes for Western Screech-Owl and Wood Ducks.
- Propagation of indigenous plants using traditional Syilx protocols and methods and using contemporary greenhouse and nursery facilities. All propagated plants are to be planted at the ECommunity Place Locatee Lands site in future years.
- Installation, maintenance and repair of riparian fencing to protect sensitive riparian and wetland habitats from local livestock and human trespassers.
- Collaboration with the Canadian Wildlife Service and UBC-Okanagan PhD student, Kristen Mancuso, to equip and later recover GPS loggers carried by Yellow-breasted Chats and Gray Catbirds to determine the breeding, migration and overwintering locations used by local breeding populations.



In 2016-17, the ECommunity Place Locatee Lands (EPLL) hosted over 1500 visitors of all ages to learn about local species and habitats from an Indigenous Okanagan (Syilx) perspective. The Syilx Indigenous Land-based Learning Program supported meaningful, memorable and transformative indoor and outdoor cultural and environmental learning experiences for K-12 students from local and regional public schools, band-operated schools and independent schools.

Post-secondary students from Selkirk College and Sprott Shaw Community College also visited our site and provided volunteer support for a variety of habitat restoration and enhancement projects. En'owkin Centre staff also led several popular tours at the EPLL site as part of OSCA's Annual Meadowlark Nature Festival.



South Okanagan Similkameen Conservation Program Partners

BC Conservation Foundation
BC Lake Stewardship Society
BC Ministry of Forests, Lands and Natural Resource Operations
BC Ministry of Agriculture
BC Ministry of Environment
BC Nature
BC Wildlife Federation
BC Wildlife Federation – Okanagan Region
Burrowing Owl Conservation Society of BC
Canadian Parks and Wilderness Society – BC Chapter
Canadian Intermountain Joint Venture
City of Penticton
Conservation Northwest
Department of Fisheries and Oceans Canada
Destination Osoyoos
District of Summerland
Dominion Radio Astrophysical Observatory
Ducks Unlimited Canada
En'owkin Centre
Environment and Climate Change Canada – Canadian Wildlife Service Pacific Yukon Region
Federation of BC Naturalists
Friends of the Oxbows
Green Earth Movement (GEM) Penticton High School
Grasslands Conservation Council of BC
Habitat Conservation Trust Foundation

The Land Trust Alliance of BC
The Nature Conservancy of Canada – BC Region
The Nature Conservancy of Washington
The Nature Trust of BC
Town of Osoyoos
Town of Oliver
Okanagan Collaborative Conservation Program
Okanagan College
Okanagan Similkameen Conservation Alliance
Okanagan Similkameen Parks Society
Okanagan Similkameen Stewardship Society
Osoyoos Desert Society
Osoyoos Indian Band
Osoyoos Lake Water Quality Society
Pacific Salmon Foundation
Partners in Flight
Penticton Museum and Archives
Regional District of Okanagan Similkameen
Royal BC Museum
Southern Interior Bluebird Trail Society
Southern Interior Land Trust Society
South Okanagan Rehabilitation Centre for Owls
South Okanagan Naturalists Club
University of British Columbia Okanagan
Village of Keremeos
WA Dept. of Fish and Wildlife





SOUTH OKANAGAN CONSERVATION FUND

The South Okanagan is a special place. Our natural environment contributes greatly to our quality of life. Healthy lands ensure clean and abundant water, fresh air, habitat for fish and wildlife, local food, working farms and ranches, and natural places for people to enjoy.

Today, many of our natural areas are in trouble and are at risk of being lost or damaged forever. Action is needed now to invest in the environment so it continues to sustain us.

Residents here care about where they live. Each and every one of us can now turn a modest annual contribution into amazing achievements that will benefit us now and for generations to come.

The South Okanagan Similkameen Conservation Fund is a dedicated source of funding for local conservation projects that help communities ensure the sustainability of our environment and protect our quality of life now, and for the future.

Learn more at soconservationfund.ca