



## Osprey Webcam – See It For Yourself!

Undoubtedly, you've heard the expression "a picture paints a thousand words." How about "a moving picture paints a million words"? This spring, with the launch of a brand new streaming video webcam, you will be able to get up close and personal to a pair of nesting Ospreys in the Creston Valley.

"This is a really exciting opportunity for people to follow the progress of the nesting adults and chicks throughout the spring and summer," says Fish & Wildlife Compensation Program Public Representative Gerry Thompson, who lives near the Creston Valley Wildlife Management Area (CVWMA). "These are incredible birds and we are very lucky in the Columbia Basin to have some of the highest concentrations of these fishing raptors in the world."

To view the Osprey webcam on-line go to [www.fwcp.ca](http://www.fwcp.ca).

The FWCP has teamed up with the Creston Valley Wildlife Management Area, Creston Public Library and Kootenay Wireless to make it happen.

If you do not have access to the Internet, plan a trip to Creston; both the library and the CVWMA Visitors Centre have installed monitors to view the nest.

The nest is located uphill from the CVWMA Visitor Centre and has been used by Ospreys for years. If Mother Nature cooperates, we can all have a "bird's eye view" of the Ospreys and their chicks until the fall when they will leave the area and head south.

"Watching the juvenile Ospreys feeding and learning to fly will be fascinating," adds Gerry. "It's a pilot project but if all goes well webcams could become a regular fixture on the FWCP website and who knows, maybe we can include other species."



Scott Dart

If the Osprey webcam pilot project goes well, the FWCP will consider more wildlife webcams in the future.

See the  
Osprey Webcam at  
**[www.fwcp.ca](http://www.fwcp.ca)**  
Follow the links to the nest

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# Message From FWCP Manager



It's been a few months since the last issue of the Update newsletter when the Fish & Wildlife Compensation Program (FWCP) announced that longtime Program Manager Maureen DeHaan had left for new responsibilities as the Environmental & Social Issues Manager for BC Hydro in the Columbia Basin Region. Since then,

I have assumed the duties as Acting Program Manager and I am attempting to fill Maureen's shoes.

While I am new to the Columbia Basin, I have been involved with the FWCP for years and I have a long history of working to address the environmental impacts of dam construction (please get to know me better by reading my brief bio below).

I always knew that this small organization of dedicated professionals was making a real difference in this region, but now that I am on the team I am getting a real sense of the scale and variety of projects that are underway. From small reptiles to big-game ungulates, from grasslands to wetlands, we seem to be involved in it all. Of course, we can't spread ourselves too thin and we need to stay focused on our mandate, which is to address construction impacts of BC Hydro dams here in the Canadian portion of the Columbia Basin. While our funds are limited - about \$4 million annually - we have been spending it wisely and we have a long list of achievements to show for it.

For example, the FWCP has:

- funded more than 600 conservation and enhancement projects;
- helped restore more than 5,000 hectares of habitat; and
- focused about one-third of its work on species-at-risk which includes helping raise and release more than 80,000 endangered upper Columbia River white sturgeon and another 24,500 Northern leopard frogs.

The list really does go on and on.

I am glad to be working with an organization that is doing its part to conserve and enhance local fish and wildlife. When you keep in mind that about half of the province's renewable electricity comes from this region, you get a sense of the scale of the task. Fortunately, Maureen has left me with an organization that is right on course and heading towards more environmental improvement.

I know we share our achievements with our Program Partners, the Ministry of Environment, BC Hydro, and Fisheries and Oceans Canada as well as local groups and volunteers. I am looking forward to continuing these good relationships.

If you want to know more about what we've been up to, or if you want to talk with me directly, please do not hesitate to contact me at (250) 352 6874 or [ed.hill@bchydro.bc.ca](mailto:ed.hill@bchydro.bc.ca)



## Ed Hill Takes the Manager's Chair

It's official: longtime Program Manager Maureen DeHaan has left the Fish & Wildlife Compensation Program (FWCP).

Fortunately for the FWCP, Ed Hill has stepped in as Acting Program Manager until the position is filled permanently. This Wildlife Biologist has a long history of environmental management related to hydro development issues.

"For now my priority is supporting the skilled and dedicated staff at the Fish & Wildlife Compensation Program so they can continue to deliver high-calibre projects that make a real difference," says Ed.

Before joining the FWCP, Ed worked as a Senior Environmental Coordinator for BC Hydro where he was

responsible for strategic and water use planning related to wildlife issues. He has also been BC Hydro's representative on the Wildlife Technical Committees for the Compensation Programs in the Columbia Basin and Peace Williston and for the Restoration Program in the Bridge Coastal region.

"I've been involved in environmental assessments and other initiatives related to power development projects from here to Newfoundland," says Ed, adding, "I've got lots to learn about the Columbia Basin and I'm looking forward to the new challenges."

You can reach Ed at (250) 352-6874 or [ed.hill@bchydro.bc.ca](mailto:ed.hill@bchydro.bc.ca)



**BC Hydro**

The FWCP works on behalf of its Program Partners BC Hydro, the Ministry of Environment and Fisheries and Oceans Canada to conserve and enhance fish and wildlife populations affected by the construction of BC Hydro dams in the Columbia Basin.

**Partners in Conservation & Enhancement**

# FWCP's New Senior Fisheries Biologist

When James Baxter was a young boy, family vacations were all about camping and fishing. And that's where our new Senior Fisheries Biologist developed his passion for and



FWCP's new Senior Fisheries Biologist, James Baxter.

interest in fisheries. James joined the FWCP in early 2007 and is already hip-wader deep into his new job. "I'm really looking forward to working on some of the smaller, community-based fisheries projects," says James, who has been working as a professional fisheries biologist for more than 15 years.

Before coming to the FWCP he worked extensively with government agencies, industry, and First Nations in the Columbia Basin. He has focused on fisheries research and management, environmental impact assessments and fisheries conservation issues. "I'm looking forward to the field work and being part of a team that is committed to conservation-oriented projects that will address the known impacts of BC Hydro dams."

James has authored many papers and presentations and has a M.Sc. from the University of British Columbia where he studied the ecology and population dynamics of bull trout.

You can reach James at (250) 352 6874 or james.baxter@bchydro.com.

If you would like to receive our newsletter electronically, contact:

**Beth Woodbridge at the FWCP 250-352-6874 or e-mail [info@fwcp.ca](mailto:info@fwcp.ca)**

The FWCP cares about the environment. This newsletter is printed on "Save a Tree" 100% postconsumer waste paper.



## New Website Address

Update your list of favourite websites right now!  
[www.fwcp.ca](http://www.fwcp.ca)

## Sturgeon gets "mugged"



See page 19

Golder Associates Ltd.

## Update Newsletter

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## We Would Appreciate Your Feedback

Let us know if you have questions or comments about the newsletter, or the Compensation Program.



# Fort Shepherd Land Conservation At Trail

A number of organizations, including the FWCP, have banded together to ensure that a new chapter unfolds for the Fort Shepherd area south of Trail. This particular chapter focuses on the welfare of the local flora and fauna but will also take into consideration the needs of local recreationists and stakeholders. The piece of land in question – now known as the Fort Shepherd Conservancy Area – is rich in cultural history and wildlife diversity.

The 1,000 hectare parcel of land runs for 8 km along the west side of one of the last free-flowing sections of the Columbia River. The flat, open benches were used as a traditional base for hunting and fishing by the Sinixt people; the land is connected to the Dewdney Trail, and the Hudson Bay Company established a fur trading post there, which was destroyed by fire in 1872.

Having many unique features (e.g., caves, wildlife trees, and dry rocky slopes) and encompassing the largest contiguous area of very dry, warm Interior Cedar Hemlock (ICHxw) biogeoclimatic subzone habitat in the province, the land is an ecological jewel and attracts a wealth of wildlife. There are at least 14 species-at-risk confirmed on the property and another 16 may exist there. These include Townsend's Big-eared bats, Canyon Wrens, Western skinks, and Racer snakes. The river is also home to the endangered upper Columbia River white sturgeon. The area also provides valuable winter range for elk and deer.



The Land Conservancy of BC

The Fort Shepherd Conservancy Area along the Columbia River near Trail is a unique piece of private property that will be managed for wildlife, habitat and heritage values.

As well as contributing \$100,000 to the purchase price, the FWCP is also helping to develop a Land Management Plan for the area. This will guide the long-term management of wildlife on the lands and will address recreational uses and possible access restrictions to help conserve the natural, historical, and archaeological values.

Teck Cominco announced its plans in late 2006 to donate two-thirds of the value of the land to establish a conservation area in perpetuity. The Land Conservancy (TLC) has an agreement with Trail Wildlife Association to assist with the management of the area in conjunction with TLC, which will own the land. The Columbia Basin Trust has also contributed to the land purchase.

## Revelstoke Mtn. Caribou: Predator work sheds light on cougar diet

Tracking and collaring cougars is all in a day's work for biologists working with the Fish & Wildlife Compensation Program (FWCP). Since the winter of 2005-06 biologists have been following the movements – and eating habits – of a cougar collared in the Revelstoke area. Data received from its GPS (Global Positioning System) collar is helping biologists explore the relationship between cougars and ungulates, including endangered mountain caribou in the North Columbia Mountains.

“We’re doing this work to determine the distribution and movement of cougars in the Columbia Mountains and we want to find out to what degree cougars overlap with caribou,” says Biologist Ross Clarke, who is leading this FWCP work. “Plus we want to find out what the cougars are eating so we can get a better idea of what role cougar predation is playing in declining caribou numbers.”

*continued on page 5*

continued from page 4

“We have been getting data from the GPS collar and using that data to locate cougar kill sites to determine prey selection,” says Ross, adding that 28 kill sites have been investigated so far.

It’s too early to draw conclusions since biologists will continue to gather data until 2009, but they do know that since 2006 there has been very little overlap between this collared cougar’s territory and caribou habitat.

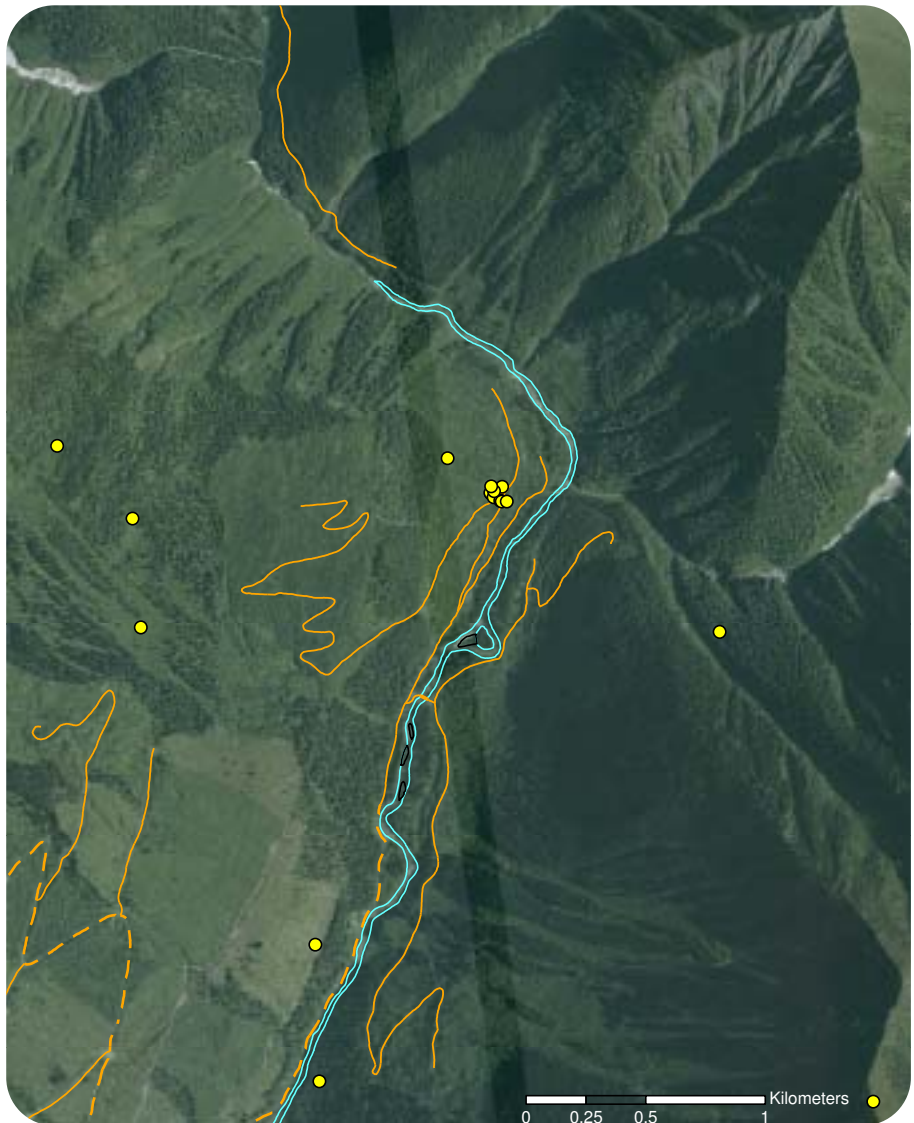
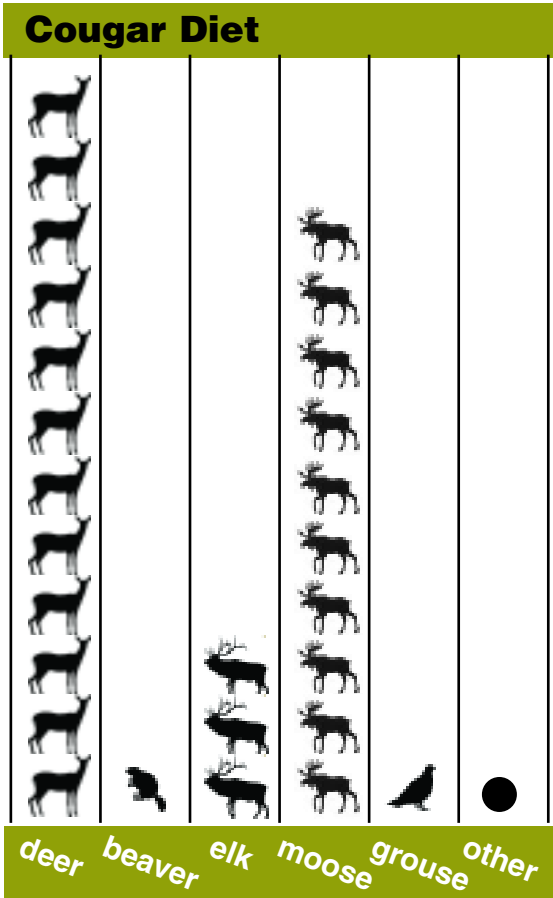
This limited overlap has not always been the case. In the past cougar numbers have been much higher. The winter of 1997-98 was a heavy snow year in which there was a sharp decline in the cougar’s traditional prey base, which includes deer and elk. This reduction in prey across the Columbia Basin resulted in cougars looking for alternate prey, thereby increasing the chance of encountering caribou. Cougar numbers started to decrease around 2000-01 due to a smaller prey base, increased hunting, and removal due to depredation. Numbers are at relatively low levels at the present.

Many people only associate caribou with high-elevation habitat, but historically they also used the valley bottoms far more

frequently. It has been the pressure of human development, including dam construction, roads, railways, logging, and agriculture that has driven them higher up the mountains. These pressures and their influence on predator-prey dynamics are very complex.

“This is the first time that cougar interactions have been studied in this area and the Fish & Wildlife Compensation Program is glad to be contributing to the scientific understanding of species at risk,” says Ross.

An older female cougar with two kittens was collared in February 2007 and is now adding data to the project. Her collar will help biologists track the big cat’s movements and diet in the months and years ahead.



Signals sent from the GPS collar are downloaded from an aircraft then used to create a map that helps biologists track the cougar’s movements. In this case, a cluster of GPS point locations indicates a kill site, which is then investigated as part of this FWCP work exploring the relationship between cougars and caribou predation.

# We Need Your Help:

## Learning More About Bald Eagles Helps Great Blue Herons

If you know where a Bald Eagle's nest is located, we would very much appreciate hearing about it. The information you provide could help local Great Blue Heron populations. Not sure what the connection is between Herons and Eagles? Read on.

"Very little population data has been collected on Bald Eagles in the Columbia Basin since the early '80s, and there appears to be a link between the failure of Great Blue Heron colonies and repeated incursions and harassment by Eagles," says Wildlife Biologist Marlene Machmer. She has been gathering data on Herons in the Columbia Basin for the last five years on behalf of the Fish & Wildlife Compensation Program (FWCP), with funding support from FortisBC.

"Information on Eagle nest locations from the public would be invaluable in our attempt to better understand the interactions between these two species," says Marlene.

Great Blue Herons are blue-listed (i.e., a species of special concern) in B.C. and there has been a steady decline in the number of active breeding sites in the Columbia Basin in recent years. Marlene's research indicates that there is an average of only about three breeding pairs per 1,000 sq. km in the Columbia Basin, and in 2006, 47% of active nests failed to produce young. In the East Kootenay 62% of Heron nests failed last year. This compares with only 15% of known active Heron nests failing in 2002.



Failing Heron nests across the Columbia Basin have biologists looking for answers and asking for your help to locate Bald Eagle nest sites.

Hérons typically nest in mature relatively dense forest stands near wetland and riparian areas. Eagles also use these habitats, which are under increasing pressure in the Columbia Basin. Monitoring findings indicate that interactions between Herons and Eagles are increasing, as they compete for the same diminishing habitat supply.

"Tracking Eagle numbers and distributions while continuing to monitor species interactions and breeding success at Heron rookeries will add to our understanding and provide direction for stewardship and habitat management actions" says Marlene.

### Report Bald Eagle nest sites

online at the Fish & Wildlife Compensation Program website at **[www.fwcp.ca](http://www.fwcp.ca)**

or contact Wildlife Biologist Marlene Machmer at **(250) 354 0150**  
**[mmachmer@netidea.com](mailto:mmachmer@netidea.com)**.

### Want to know more?

Read the latest reports on Great Blue Herons online at **[www.fwcp.ca](http://www.fwcp.ca)**

# Anglers Help with Study:

## Rainbow & Bull Trout Diet on Upper Arrow Lakes Reservoir

You are what you eat, so the saying goes. And if you are a Rainbow or Bull trout living in the Arrow Lakes Reservoir, what you eat may have a lot to do with the Fertilization Program coordinated by the FWCP and the Ministry of Environment.

Results from a study that looked at the stomach contents of Bull and Rainbow trout in the Arrow Lakes Reservoir confirm that fertilization is benefiting the higher trophic levels (i.e., higher up the food chain) by providing more food for the predator fish in the reservoir. This is important because it means, for example, that the improved condition of Bull trout (in the study year) as compared to pre-fertilization samples, may lead to more rapid recruitment to the fishery, earlier and more frequent spawning, and perhaps greater fecundity (egg production) in the predator species.

“Understanding the diet of Rainbow and Bull trout is important to biologists so we can better understand how the food web functions and how best to enhance the fish benefits from the Fertilization Program and the Hill Creek spawning channel,” says FWCP Fisheries Biologist Steve Arndt. “Until this study, we knew that the Fertilization Program had been successful in restoring kokanee numbers but we knew very little about the effects of fertilization at higher trophic levels.”

The study, *Post-Fertilization Diet, Condition, And Growth Of Bull Trout And Rainbow Trout In Arrow Lakes Reservoir*, looked at stomach contents from 53 Bull trout and 51 Rainbow trout collected at Nakusp, near the south end of the Basin. Samples from an additional six Rainbow and eight Bull trout were obtained at a fishing derby. Biologists learned a lot about the diet of local fish and recorded fish length, weight and age. The stomach analysis occurred from late winter to early summer 2003. “We couldn’t have done this research without the help of local anglers,” says Steve.

### Here’s a sampling of what’s in Rainbow and Bull trout stomachs\*:

- Stomach analysis showed that kokanee were the primary prey species of Bull trout and Rainbow trout > 50 cm.
- Rainbow trout fed on winged terrestrial ants.
- Bull trout fed on Mysis shrimp.
- There was evidence in the sample year of a slight but statistically significant increase in the number of fish prey in bull trout stomachs since the Fertilization Program began in 1999.
- The percentage of Bull trout with Mysis shrimp in the stomach increased significantly from 5% pre-fertilization (Sebastian et al. 2000) to 13% in 2003.

*\*Based on 2003 study year results*



When all you have to work with is a partially digested fish, you need a little help to determine how big the fish was before it was eaten. This chart helps biologists determine the size of kokanee found in Bull and Rainbow trout stomachs.

### Want to know more?

Read the full report online at [www.fwcp.ca](http://www.fwcp.ca)  
Visit our REPORTs page

Since 1999, the FWCP has been adding nutrients to replace those lost in upstream reservoirs to enhance the productivity in the upper Arrow Lakes reservoir. This Fertilization Program, together with a similar initiative on Kootenay Lake, is widely viewed as one of the largest successful lake restoration efforts in the world. It is an ongoing experiment and involves regular monitoring and adjustments.

# BC Hydro Funding for FWCP

It's always good news when you can announce funding, especially when that means money for local conservation and enhancement work. Guess what? The Fish & Wildlife Compensation Program (FWCP) has good news.

For fiscal 2007-08 the FWCP will have just over \$4 million in new funding to spend on behalf of its Program Partners, the Ministry of Environment (MoE), BC Hydro, and Fisheries and Oceans Canada (DFO).

"We will continue to fund projects that will make a real difference to local fish and wildlife populations impacted by the construction of BC Hydro dams, right here in the Columbia Basin," says MoE's Wayne Stetski, Co-chair of the FWCP Steering Committee.

Each year, as part of its water license agreement, BC Hydro provides the FWCP with \$3.2 million (indexed for inflation based on 1995 dollars) in perpetuity. Since 1995 the FWCP has received more than \$50 million from BC Hydro.

"BC Hydro is committed to doing its part and we're glad to have the MoE and DFO working with us," says BC Hydro's Kevin Conlin, Co-Chair of the FWCP Steering Committee.

The funding will be shared between fish and wildlife projects across the Columbia Basin (see map on page 6). A large portion of the funding for fish projects will continue to go towards the Fertilization Program in Kootenay Lake and upper Arrow Lakes Reservoir - viewed as one of the largest, most successful lake restoration projects in the world.

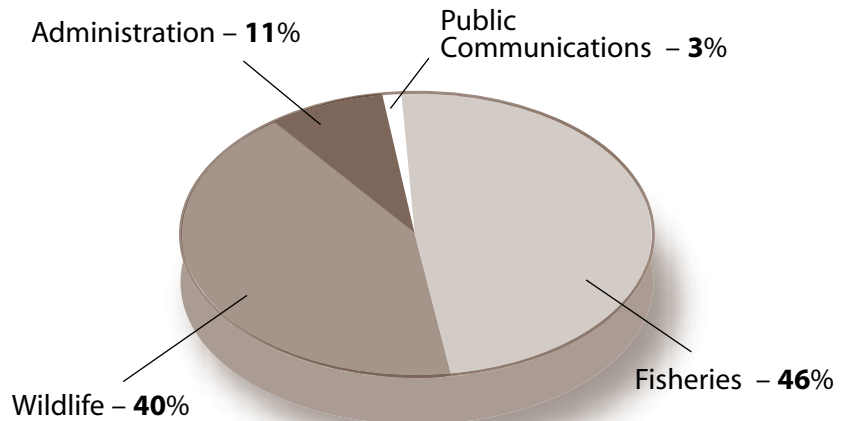
"The Fertilization Program is a long-term effort to restore the ecosystems impacted by dams that trap nutrients upstream," says Wayne, adding that by rebuilding the food web the Fertilization Program is supporting the entire ecosystem.

Funding aimed at the Meadow Creek and Hill Creek Spawning Channels on Kootenay Lake and upper Arrow Lakes Reservoir will continue to account for a large portion of the fish budget.

On the wildlife side, funds will go towards many projects including habitat restoration work that will benefit a range of species; land acquisition for conservation; species recovery and inventory work; and wetland restoration.

## How is the money spent?

### Funding of Core Services 2007 - 08



A portion of both the fish and wildlife budgets is earmarked for the Ecological Impact Assessment project that is scheduled to wrap up in 2008. This long-term project is quantifying the impacts of BC Hydro dams on fish and wildlife in the Columbia Basin and has been a substantial undertaking.

The vast majority of FWCP funding goes towards "hands-on" projects.

"The FWCP is a 'doing' organization and we are proud to keep our administration costs to a minimum so most of the funding can go towards the fish and wildlife," says Kevin.

## Want to know more?

Visit [www.fwcp.ca](http://www.fwcp.ca) for a list of Fish & Wildlife Projects funded in 2007-08.

# Hill Creek Spawning Channel:

## FWCP Working to Stabilize Kokanee Fry Survival Rates

The FWCP operates the Hill Creek Spawning Channel (HCSC) near Nakusp. It is one of five manmade kokanee spawning channels in the region. In 2004 more than 200,000 kokanee spawners filled the channel - one of the best returns in a decade.

For the last two decades (1984 to 2003) the kokanee egg-to-fry survival rate at Hill Creek has been approximately 42%, ranging from 24% to 69%. The survival rate in a natural stream ranges from four to 15%. The FWCP also operates the Meadow Creek Spawning Channel at the north end of Kootenay Lake.

Despite its good track record, the 2004 and 2005 egg-to-fry survival rates at HCSC were disappointing. In those years extremely low egg-to-fry survival rates were experienced - 0.8% and 2.8%, respectively - and FWCP fishery biologists are working hard to find the cause and a solution. Fortunately, the egg-to-fry survival rate in 2006-07 rebounded to approximately 36 % but biologists want to do all they can to prevent low survival rates in the future. (At the time of writing, the 2007 survival rates were not yet known.)

### Possible factors for the low survival rate were investigated

A long list of possible factors for the low survival was investigated, including high temperatures, disease, gravel size and angularity, early out-migration of fry, beaver dam effects on flows, predators, and siltation of the spawning gravel. Low egg-to-fry survival in 2004 was initially attributed to possible freezing of eggs due to unusually cold weather and water flow diversion caused by a beaver dam. Gravel compaction may have prevented fry from moving deeper into the substrate during unfavourable winter conditions.

However, the poor survival in 2005 could not be attributed to these factors, and an analysis of long-term weather records

showed that average creek discharge was the highest recorded for October in 2003, and the highest recorded for September in 2004, since the spawning channel has been in operation. "I think the record-breaking rainfalls in the previous fall are the key to understanding the poor survival of the 2004 and 2005 year classes," says FWCP Fisheries Biologist Steve Arndt. "It is likely that a high sediment load was deposited in the channel shortly after the eggs were deposited in both of these years. We know from our observations in the following springs that sediment loads in the gravel were unusually high." These high discharge levels are often associated with periods of very high turbidity and sediment loads. The reduced gradient and flows in the spawning channel create ideal conditions for settling of the sediments between the gravel. When sediments clog up the spaces between the gravel, sub-surface water flow is reduced, and the supply of water and oxygen to the eggs and developing alevins can be eliminated.

### A number of improvements have been introduced

To reduce the likelihood of a similar event happening in the future, the FWCP has introduced a number of improvements to the operations of the facility. A more extensive cleaning process is used to get the gravel cleaned before kokanee arrive in the fall, and most importantly, the frequency of site visits has been increased specifically during rainfall events and during the winter incubation period. Since the channel has two water sources (Hill Creek and a pipeline from McKenzie Creek), one of the sources can be turned off if it is turbid and the channel can be operated on the least turbid source until both are cleared.

Turbidity levels and oxygen levels in the gravel are now routinely monitored. An analysis of the suspended sediment particle size has also been completed to help investigate options for settling out a greater percentage of suspended sediments before they enter the channel.

It is too early to know the 2007 egg-to-fry survival rate but biologists are not taking any chances; they have taken a number of steps to improve conditions in the spawning channel and monitor the variables more closely.

"Our monitoring shows good survival of kokanee fry up to February 2007, and barring unforeseen events, there should be a good emergence this spring," says Steve.



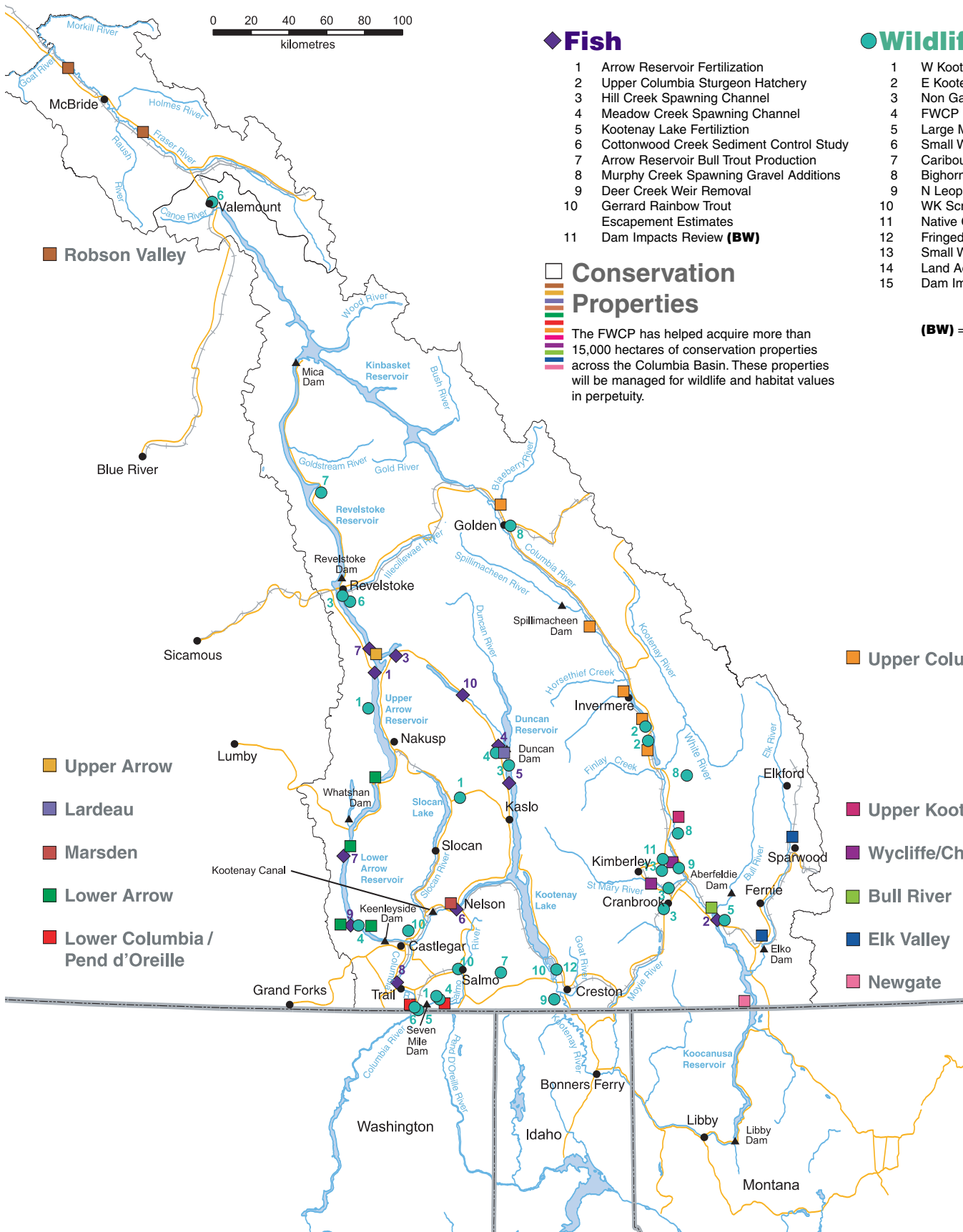
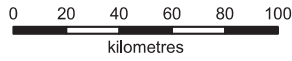
Ministry of Environment



The FWCP is monitoring kokanee egg-to-fry survival rates closely.

# Fish & Wildlife Projects 2007-08

visit [www.fwcp.ca](http://www.fwcp.ca) for more information



## Fish

- 1 Arrow Reservoir Fertilization
- 2 Upper Columbia Sturgeon Hatchery
- 3 Hill Creek Spawning Channel
- 4 Meadow Creek Spawning Channel
- 5 Kootenay Lake Fertilization
- 6 Cottonwood Creek Sediment Control Study
- 7 Arrow Reservoir Bull Trout Production
- 8 Murphy Creek Spawning Gravel Additions
- 9 Deer Creek Weir Removal
- 10 Gerrard Rainbow Trout Escapement Estimates
- 11 Dam Impacts Review (**BW**)

## Wildlife

- 1 W Kootenay Enhancement
- 2 E Kootenay Enhancement
- 3 Non Game Enhancement
- 4 FWCP Land Mgmt Operations
- 5 Large Mammal Monitoring
- 6 Small Wildlife Projects
- 7 Caribou Recovery
- 8 Bighorn Sheep Augmentation
- 9 N Leopard Frog Recovery
- 10 WK Screech Owl Inventory
- 11 Native Grass Seed Collection
- 12 Fringed Myotis Inventory
- 13 Small Wetland Restoration
- 14 Land Acquisition (**BW**)
- 15 Dam Impacts (**BW**)

## Conservation Properties

The FWCP has helped acquire more than 15,000 hectares of conservation properties across the Columbia Basin. These properties will be managed for wildlife and habitat values in perpetuity.

**(BW)** = basin wide

# Old Photos Hold the Key to New Science



Arrow Lakes Historical Society

Old photographs like these helped the FWCP determine the impact of BC Hydro dam construction in the Columbia Basin. This is the SS Revelstoke on the Columbia River above Revelstoke in the early 1900s.

The FWCP is nearing the end of a groundbreaking multi-year project that will assess the biological impacts of BC Hydro dams in the Columbia Basin. The methodology has never been used before and when the project is complete, the FWCP will have pioneered an assessment model that can be used elsewhere. Despite its cutting-edge approach, the biologists needed help from some old-fashioned black and white photographs.

As part of the work, the FWCP asked consultants to estimate the level of primary productivity - that's the production at the plant level that forms the basis of the food web. Milton Parent, one of the founding members of the Arrow Lakes Historical Society (ALHS) got involved and provided more than 150 photographs dating back to the early 1900s.

"The photographs that Milton pulled together were extremely useful," said FWCP's Fisheries Biologist Steve

Arndt. "Topographical maps and aerial photographs played their part, but to get detailed images of what the environment - most importantly, the rivers and lakes - looked like back in the '50s and '60s was critical to the project."

The old photographs showed how turbid or sediment-filled the waters were during the spring freshet period prior to dam construction. The researchers were then able to assess how much light was penetrating the water and estimate what level of productivity might have been occurring with small plant life given that level of light penetration.

"The Society is very pleased to help and it is very rewarding to know that our archives are actually increasing today's knowledge base," said Milton. "It certainly helps to bring a purpose to the many hours of volunteer time that our members put in."

The full results of the work are expected in March 2008 and will help guide the FWCP in its future work.

## So You Think You Know It All?

- 1** The FWCP leaves no stone unturned: How many rocks have been turned over as part of the FWCP's Western skink inventory work in the Columbia Basin?  
A) 300      B) 3000      C) 30,000
- 2** Take a wild guess: What percentage of Western painted turtle hatchlings are lost to predation?
- 3** In 2005 the FWCP helped relocate Rocky Mountain bighorn sheep from the Radium area south to Wasa. How many lambs were born to the relocated sheep in 2007?



FWCP

The odds are stacked against Western Painted turtle hatchlings.

# Ecosystem Restoration:

## Stoddart Creek Work Reduces Interface Fire Risk

Efforts to restore a fire-maintained ecosystem on the south side of Stoddart Creek northeast of Invermere are well underway. When restoration is complete, the 110-hectare treatment area will offer improved forage and wintering conditions to many species including the blue-listed (vulnerable) Rocky Mountain bighorn sheep. With funding from the Strategic Wildfire Protection Program, the risk of interface fires in the Juniper Heights area has also been reduced.

Fish & Wildlife Compensation Program (FWCP) Biologist Doug Adama explains, “Our priority is to improve wildlife habitat but this project is unique because we could also include some interface fire work into our restoration plans.” The restoration work is partially funded by the FWCP in partnership with the Regional District of East Kootenay, which secured the remaining funds from the Strategic Wildfire Protection Program administered by the Union of British Columbia Municipalities and funded by the Ministry of Forests.

The slashing, which is now complete, will reduce the fuel load and create more open forest and grassland habitat preferred by ungulates and other species such as the red-listed (endangered) badger and the blue-listed Flammulated Owl. The slash piles will be burned in spring 2007 and a prescribed burn is scheduled for spring 2008.

This work will build on similar restoration efforts completed in 2001 on the north side of Stoddart Creek.

“The slashing and pile burning reduces the fuel load and that reduces the risk of interface fires,” says Doug, adding there are homes nearby and a local airport. “Part of our work on this project

included construction of a fire guard along a power line which gives added protection in the event of a fire.”

Monitoring the crown and surface fuel load is another unique aspect of this restoration project, which Doug says is one of the few opportunities he’s seen where wildlife and interface fire concerns have come together.

The area being treated is known as a fire maintained ecosystem, meaning an ecosystem that would be regenerated naturally by fires. Decades of fire suppression has created dense forests and reduced the availability of suitable habitat for species such as bighorn sheep. This ecosystem restoration work in the Stoddart Creek area will support other local efforts to restore these habitat types and increase the forage and range for ungulates.

“The more habitat types available, the better for biodiversity,” says Doug.

Much of the low-level valley habitat in the Columbia Basin has been lost to human settlement and development, including flooding caused by the construction of BC Hydro dams.



Doug Adama

Juvenile trees (on ground) are removed as part of ecosystem restoration work and a juniper (left side of image) is left standing since it offers potential habitat for the blue-listed (vulnerable) Flammulated Owl.

# Report Skink Sightings:

## This Reptile Needs Your Help

The quantity and quality of habitat for a wide range of species has changed in recent decades, often for the worse, due to a wide range of human-caused influences. These include residential and industrial development, construction of transportation corridors and back roads, dam development, and fire suppression.

The blue-listed (vulnerable) Western skink is just one of many species facing challenges due to changing habitat and, as a result, biologists are keen to discover skink sites in the Columbia Basin.

You can help during the 2007 field season by reporting skink findings. Juveniles are easily identifiable due to their bright blue tails, which slowly fade as they reach adult-hood. Report your skink sightings online at [www.fwcp.ca](http://www.fwcp.ca) or call us at (250) 352 6874.



Jakob Dulisse

The distinctive blue tail makes it easy to spot juvenile Western skinks.

# FWCP Helps Protect World's Oldest Black Cottonwood Grove

Nestled between Fernie and Elkford along the Elk River lies a grove of black cottonwoods that is well worth visiting. It is located near Morrissey on a conservation property owned by the Nature Conservancy of Canada (NCC). Not only are the trees exceptionally large – some specimens are up to 2.2 m in diameter – but they have also been identified as the oldest black cottonwoods in the world – up to 400 years of age.

Reason enough to protect this particular grove of trees, certainly, but there are two other factors why every effort should be made to support the black cottonwoods in the Basin. First, they are relatively scarce. The BC Conservation Data Centre has ranked the cottonwood ecosystem of the Southern Interior among the rarest of plant communities in the province. Second is their extremely valuable contribution to floodplain ecosystem health and the various species that depend on them.

Black cottonwoods are the largest broadleaf tree in the Pacific Northwest and are critical to floodplain ecosystem health as they can easily withstand one or two months of flooding. Being large trees located right next to a river, they can help stabilize banks, moderate water temperature, and supply large woody debris. As a result, fish spawning areas are often located adjacent to cottonwood stands.

They are used by a wide variety of birds including Pileated Woodpeckers and other cavity nesters, songbirds, waterfowl, Herons, and Owls. Recent FWCP work on the endangered

Western Screech Owl found that all seven of the owls' Central Kootenay sites were located in, or near, riparian habitat that included black cottonwood wildlife trees.



Cottonwoods play an important role in our ecosystem.

In 2006 the FWCP teamed up with other local groups including Wildsight, local citizens, and NCC to help build trails, bridges, boardwalks, and to install fencing to protect this sensitive ecosystem. Signage was also developed to educate visitors about the Morrissey cottonwoods.

**Want to know more about the oldest black cottonwoods in the world?**

Visit [www.fwcp.ca](http://www.fwcp.ca)

Search our report database.

# No, We Are Not the CBT!

## But there are some similarities...

The Fish & Wildlife Compensation Program (FWCP) and the Columbia Basin Trust (CBT) are very different and independent organizations that work in the same region and sometimes work together. This probably explains why some – actually, many – people get the two organizations confused. Let's look at the facts.



Fish & Wildlife Compensation Program	Columbia Basin Trust
<ul style="list-style-type: none"> <li>■ A non-profit partnership working on behalf of its Program Partners BC Hydro, the Ministry of Environment, and Fisheries and Oceans Canada</li> </ul>	<ul style="list-style-type: none"> <li>■ A Crown Corporation working on behalf of Basin residents</li> </ul>
<ul style="list-style-type: none"> <li>■ Works in the Columbia Basin to conserve and enhance local fish and wildlife species impacted by the construction of BC Hydro dams</li> </ul>	<ul style="list-style-type: none"> <li>■ Works in the Columbia Basin on behalf of Basin residents impacted by construction of three dams built under the international Columbia River Treaty</li> </ul>
<ul style="list-style-type: none"> <li>■ Receives funding from BC Hydro as a condition of water licences for BC Hydro dams</li> </ul>	<ul style="list-style-type: none"> <li>■ Received one-time funding from the Province and receives ongoing revenues from the sale of electricity generated at its power facilities and other regional investments</li> </ul>
<ul style="list-style-type: none"> <li>■ Funds and delivers fish &amp; wildlife projects aimed at conserving and enhancing fish &amp; wildlife in the Canadian portion of the Columbia Basin</li> </ul>	<ul style="list-style-type: none"> <li>■ Funds social, economic, cultural and environmental projects across the Columbia Basin. Invests in power projects that generate revenue that will continue to fund projects into the long-term</li> </ul>
<ul style="list-style-type: none"> <li>■ Doesn't own any dams or hydro-electric power plants</li> </ul>	<ul style="list-style-type: none"> <li>■ Jointly owns and operates the Arrow Lakes Generating Station &amp; Brilliant Dam with its partner Columbia Power Corporation. Has the rights to develop a hydro generating facility at the Waneta Dam</li> </ul>
<ul style="list-style-type: none"> <li>■ Occasionally partners with CBT to deliver fish and wildlife projects</li> </ul>	<ul style="list-style-type: none"> <li>■ Occasionally partners with FWCP to deliver fish and wildlife projects</li> </ul>
<ul style="list-style-type: none"> <li>■ Has two offices: Nelson and Invermere</li> </ul>	<ul style="list-style-type: none"> <li>■ Has four offices: Castlegar, Nakusp, Golden, Cranbrook</li> </ul>
<ul style="list-style-type: none"> <li>■ For more information <a href="http://www.fwcp.ca">www.fwcp.ca</a> or call (250) 352 6874</li> </ul>	<ul style="list-style-type: none"> <li>■ For more information <a href="http://www.cbt.org">www.cbt.org</a> or call 1 800 505 8998</li> </ul>

# Fertilization Program:

## Gerrards Benefit from 15 Years of Nutrients

The Gerrards of Kootenay Lake are the largest rainbow trout in the world. Despite their impressive size – the largest one caught on Kootenay Lake in 1976 weighed in at 35.5 pounds – the spawning population was once reduced to 150. Fortunately, that’s old news.

Careful management of the fishery, together with the addition of nutrients to Kootenay Lake, has helped the mighty Gerrards return to a spawning population that numbers approximately 1,000 each year.

“When you try to rebuild the food web from the bottom up, you expect all the species within the ecosystem to benefit,” says Limnologist Eva Schindler. “The Fertilization Program has been doing just that for the last 15 years and it’s paying off.”

During the late-April early-May spawning in 2006, the peak daily count of Gerrards in the Lardeau River at the north end of Kootenay Lake was 438 fish.

“This is the highest daily count since the early 1980s,” says Jeff Burrows, Senior Fish Biologist with the Ministry of Environment in Nelson. He adds that since 1961 the peak daily count has averaged 310 fish. Anglers fund annual spawner counts through B.C.’s Habitat Conservation Trust Fund.

Watching the spawning Gerrards jump and cavort is worth the drive. The Ministry of Environment, which coordinates the Fertilization Program together with the Fish & Wildlife Compensation Program, has established a viewing platform that makes it easy for anyone to enjoy this unique site and see the benefits of the Fertilization Program first-hand.



Ministry of Environment

### See for yourself:

See the mighty Gerrard rainbow trout for yourself. Drive to Kaslo and follow Highway #31 towards Meadow Creek. Continue on #31 up the Lardeau River until you reach the highway bridge that crosses the Lardeau River just below Trout Lake. Spawning trout can be viewed directly below the bridge and from a viewing platform on the east side of the river.



Jumping Gerrards attract crowds to the Lardeau River each spring.

# Elk Lured into Research Project

It might not be appealing to you, but a bit of hay is all it takes to lure a few local elk into a project that will help biologists get better population estimates in the East Kootenay and learn more about migratory behaviour.

This project is being led by the Ministry of Environment (MoE) with funding and support from the Fish & Wildlife Compensation Program (FWCP). The capture and collaring got underway in February 2007 with the help of a moveable corral, local ranchers and volunteers from the East Kootenay Wildlife association and the Traditional Bowhunters of BC.

“As soon as five cow elk were lured into a corral and fitted with Global Positioning System (GPS) or Very High Frequency (VHF) collars in one location, the portable corral was moved to another area,” says Tara Szkorupa, project leader and Wildlife Biologist with the MoE. “This project is a great example of how the Ministry works with partners like the Fish & Wildlife Compensation Program to manage wildlife in the Columbia Basin.”

Forty elk were collared and safely released this spring with plans to collar another 25 next year. Up to 80 cow elk will be selected and collared over two years at various winter ranges, including Pickering Hills, Skookumchuck, and Premier Ridge.

“Data collected from the collared elk will help us track movements and migration patterns and that should help us better understand which populations are maintaining their migratory behaviour and to what extent elk are remaining at low elevations throughout the year and causing problems for private land owners including ranchers,” says FWCP Wildlife Biologist Larry Ingham. “We are using hay to lure elk into the corrals but this is definitely not a feeding program.”

Elk are often blamed for over-grazing and damage to private land, and populations in the East Kootenay have increased recently. The proportion of non-migratory elk may also have grown, contributing to the competition for low-elevation range land. Fencing installed by ranchers to keep elk off their private land has contributed to overgrazing on Crown range land and is another factor in this equation.

The combination of low-elevation habitat flooded in the Columbia Basin and increasing human development limits the amount of available habitat. Protecting what remains across the Basin is important for local wildlife populations.

“The information gathered through this multi-year project will test our assumptions about elk, improve our understanding of this species, and help us develop science-based strategies to manage them in the future,” says Tara who adds that help from Tembec, the BC Conservation Corp and countless local volunteers made it all possible.



Ministry of Environment

Minimizing stress on elk lured into the corral and those fitted with a collar is a priority for the biologists working on this multi-year project.

# Columbia River Sturgeon Survival Rates: What's Happening with the Juveniles Released Each Year?

Efforts to recover the endangered upper Columbia River white sturgeon involve many partners including government, First Nations, American tribes, industry, environmental groups, and yes, even school children. More about them later.

This fish, the largest freshwater fish in North America, has been reduced to a very small number of individuals. In Canada, from the border to the Arrow Lakes Reservoir, about 1,000 wild adult fish exist. Below the border, south to the Grand Coulee Dam in Washington, about 3,200 adults exist. Most of the fish are more than 30 years old.

“If you have a declining and aging population with relatively few young to replace the older fish, you have a serious problem,” says FWCP Acting Manager Ed Hill. “And that’s exactly what we are facing.”

In the last six years the Upper Columbia White Sturgeon Recovery Initiative (UCWSRI) has done a great deal of work to improve the scientific understanding of these fish and engage the public in the long-term recovery of this species.

“The FWCP has helped release nearly 80,000 juvenile white sturgeon into the upper Columbia River and we’ve involved local school children in the process. Recovery of this species will take generations and that’s where the schoolchildren come in. One day it will be up to them,” says Ed.

While the sight of children releasing juvenile sturgeon is heart-warming, is it making a difference?

“The survival rates are encouraging but it will take several more years for us to know if the rearing and releasing of sturgeon is a viable option for species recovery,” says Grant Trower, volunteer FWCP Public Representative. “If the juveniles we release mature and successfully rear young, then it’s been a huge success.”

Monitoring to date shows that about 28% of the fish released survive the first six months. The survival rate then increases to about 85% for the next year and 90% for the following years.



The long-term survival of North America’s largest freshwater fish, the sturgeon (juvenile pictured), requires a commitment from today’s children and future generations.



Ongoing monitoring is obviously an important part of this very long-term project that involves so many partners in Canada and the United States. The FWCP is an active partner in the Recovery Initiative, funding sturgeon hatchery operations based in the East Kootenay. The FWCP also coordinates the sturgeon release events each year and helped develop Sturgeon Education Kits for elementary schools that were funded by BC Hydro and Fisheries and Oceans Canada.

“While the reasons for the sturgeon’s decline are not fully understood, it’s our job to conserve and enhance local fish and wildlife, like the sturgeon, that may have been impacted by the construction of BC Hydro dams in the Canadian portion of the Columbia River Basin,” says Grant.

**Want to know more?**

Visit [uppercolumbiasturgeon.org](http://uppercolumbiasturgeon.org)

Or [www.fwcp.ca](http://www.fwcp.ca)

# FWCP's Newest Public Representatives

Meet the newest Public Representatives on the FWCP's Steering Committee: Gerry Thompson from Wynndel and Grant Trower from Lardeau. They join long-time Public Rep Greg Mustard from Invermere.

The three "Gs," so to speak, were selected from across the Columbia Basin because of their knowledge of and interest in fish and wildlife and for their ability to network with local groups across the Columbia Basin.

As Public Reps on the Steering Committee, they will help make funding recommendations and provide strategic input to the FWCP. They join First Nations Representatives as well as staff from the Ministry of Environment, BC Hydro, and Fisheries and Oceans Canada at the Steering Committee table.

Gerry Thompson worked extensively with stakeholders and community members on environmental issues before retiring to Wynndel a decade ago.

"I'm looking forward to meeting other people who are interested in fish and wildlife and supporting the FWCP," says Gerry.

Grant Trower from the north end of Kootenay Lake has worked on community-based environmental issues and has a solid understanding of conservation issues in the area.

"I hope my experience and local knowledge will help the FWCP do its job," says Grant.

Feel free to contact one of our Public Representatives or any FWCP staff member if you would like to know more about our work.

Contact **FWCP**  
(250) 352 6874  
info@fwcp.ca

Contact **Gerry Thompson**  
(250) 866 5614  
thompson@uniserve.com

Contact **Grant Trower**  
(250) 366 4375  
lardeauriver@canada.com

Contact **Greg Mustard**  
(250) 342 3114  
mustard@cyberlink.bc.ca

The First Nations Representatives on the FWCP Steering Committee are Joe Nicholas of Windermere and Chief Fabian Alexis of Vernon. Meet them in an upcoming FWCP newsletter.



Gerry Thompson enjoys spending time on the Goat River.



Grant Trower helps install new signs about conservation lands near Meadow Creek.

## FWCP Photo Contest

### Snap up this opportunity

Combine stunning scenery, abundant fish and wildlife with digital cameras and you have the makings of a great photo contest! Be part of the FWCP's new fish and wildlife photo contest. Get the details at [www.fwcp.ca](http://www.fwcp.ca).

Be sure to send us your digital image online by **September 15**.



# So You Think You Know It All?

Answers continued from page 11

- 1 Hard to believe but the correct answer is C. Biologist Jakob Dulisse has turned over 30,000 (approx.) rocks in his tireless efforts to inventory this little known reptile, which is a species-at-risk.
- 2 It's not easy being a Western Painted turtle. About 85% of hatchlings are lost to predation. And those that do survive face other risks. Road kill is one of the biggest factors in adult mortality, so slow down at turtle crossings.
- 3 Nine lambs were born this spring indicating that the relocated sheep are settling in nicely with the herd, and this effort to support declining numbers in the Premier Ridge herd appears to be working.



Angus Glass

In spring 2007, the FWCP helped relocate more sheep in ongoing efforts to support this species-at-risk. Read the full story online at [www.fwcp.ca](http://www.fwcp.ca). Go to our communications page to read the news release.

## Free Fish & Wildlife News!

There's more than one way to stay in touch with us and receive free fish and wildlife news! Subscribe to WildBytes, our new electronic newsletter. Just three times a year but always full of interesting news and project updates. The first five new subscribers will receive a FWCP water bottle to keep you hydrated in the great outdoors!

Call or email us now: [info@fwcp.ca](mailto:info@fwcp.ca) or (250) 352 6874.



## FWCP Website is new and improved!

We've just updated our website! We hope you like the new look and improved navigation. All the same great fish and wildlife reports are still there, plus our free searchable database. Be one of the first five people to view our new website and you will get a FWCP water bottle. Be sure to tell us you were there by going to the CONTACT page and sending us an email!

### New Website Address

Update your list of favourite websites right now!

[www.fwcp.ca](http://www.fwcp.ca)

## Sturgeon Swims Away from "Mugging"



Golder Associates Ltd.

Fisheries Biologists from Golder Associates Ltd. were doing routine monitoring of juveniles on behalf of the Upper Columbia White Sturgeon Recovery Initiative, when this six-foot-long adult was accidentally caught. Using pliers and patience the travel mug was safely removed and the sturgeon's life was saved.