



ISSUE
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PEACE/WILLISTON FISH & WILDLIFE COMPENSATION PROGRAM

Biologists survey frogs, toads and salamanders in Williston watershed

In the spring of 1998, the Peace/Williston Fish and Wildlife Compensation Program (PFWWCP) launched a reconnaissance-level survey of amphibians (frogs, toads, and salamanders) in the Williston Reservoir watershed. Amphibians in BC are wetland-dependent species, requiring an aquatic environment in which to breed and lay their eggs.

Interest in the plight of amphibians has been rising since the late 1980s when scientists worldwide began to note increased and widespread amphibian population declines, extinctions and deformities.

“Most amphibians have never been properly surveyed in the northern and mountainous regions in northern regions of the province are poorly known,” said Mari Wood, senior wildlife biologist with the program.

The primary objectives of last spring’s surveys were to record the occurrence of amphibian species in different biogeoclimatic zones in the southern and eastern parts of the Williston Reservoir watershed, to document the timing of breeding activity, to test survey methods, and to assess the need for more comprehensive surveys.

“We conducted surveys over a two-week period last May, the time when amphibians congregate at wetlands for breeding,” said Wood. “Since the frog and toad species in our region each have distinctive calls, we conducted evening ‘calling surveys’ to determine the presence and relative abundance of each species at a site. These surveys took place

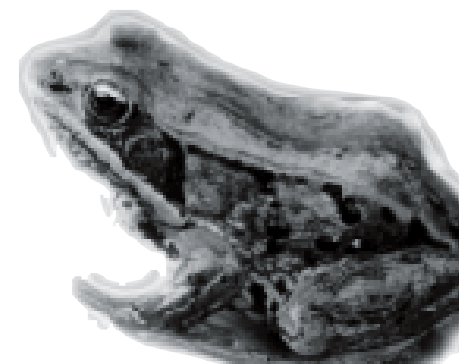
between dusk and midnight when amphibians are most vocal.”

Visual searches were undertaken in the afternoons during the warmest part of the day when both adult amphibians and their egg masses can be observed. These searches are necessary to detect non-vocal amphibians such as female frogs and toads, and long-toed salamanders.

Surveys confirmed the presence of all four suspected amphibian species in the Parsnip River drainage: long-toed salamander, western toad, wood frog and Columbia spotted frog. The latter three species were also confirmed in the Peace River drainage while the long-toed salamander and striped chorus frog remained undetected.

Areas surveyed in the Parsnip drainage include Sabai Lake, Blackwater Creek, Curve Lake, Germansen Landing, Mugaha Marsh, and Mugaha Creek. In the Peace drainage, surveys were conducted in the Dunlevy Creek, Gaylard Creek, and Johnson Forest Service Road areas.

After the reconnaissance surveys were completed, a status report on the survey findings was prepared by the programs’ wildlife technician Pamela Hengeveld. Further monitoring activities are scheduled for 1999.



Inside...

- 1 Biologists survey frogs, toads and salamanders.
- 2 An update of our wildlife activities
- 4 Students raise kokanee
- 5 Chetwynd groups work for healthy environment



BC Environment and Lands

Natureline is published to inform community leaders, interest groups, and the public about current projects and environmental initiatives being undertaken by the Peace/Williston Fish & Wildlife Compensation Program.

The program is a joint BC Hydro and BC Environment initiative designed to enhance and conserve fish and wildlife in the watersheds of the Williston and Dinosaur reservoirs in north-central British Columbia.

In 1988, a \$10 million fund was established to support research and enhancement projects for fish and wildlife in the Williston Reservoir watershed.

A further \$1 million was added to fund fisheries projects in the Dinosaur Reservoir watershed between the W.A.C. Bennett and the Peace Canyon dams. The annual interest from this fund is managed to maintain the program in perpetuity.

This issue of Natureline deals with some of the projects currently being undertaken and some volunteer activities. We invite you to forward any questions and comments on the Peace/ Williston Fish and Wildlife Compensation Program to Brian Blackman, senior fisheries biologist or Mari Wood, senior wildlife biologist at:

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Natureline

An update of our activities 1998/99

Wildlife surveys

A February 1999 inventory of woodland caribou wintering on alpine slopes of the Wolverine, Germansen, Plughat, and Gillis Mountain ranges revealed only 91 caribou. The presence of most radio-collared caribou in the Wolverine Caribou Herd in low elevation pine forests, explained the unusually low numbers of caribou sighted on high elevation alpine slopes. Moose surveys were also conducted in February 1999 in the Omineca, Nation, and Ospika river valley bottoms, with the primary objective of determining age/sex composition. The broad floodplain of the Omineca River revealed the highest densities, with 500 moose observed. Far fewer moose were observed in the Nation and Ospika River valleys (65 and 15 respectively).

Some wildlife surveys were deferred due to winter weather conditions and subsequent animal distributions. Woodland caribou wintering in the Akie River exhibited behaviour similar to those in the Wolverine Caribou Herd, choosing to remain in low elevation forests rather than ascending to windswept alpine slopes where they are most easily enumerated. A survey to identify critical open water areas for overwintering waterfowl was cancelled due to warmer than usual weather conditions which resulted in an over-abundance of open water areas. Critical areas can

only be identified during extended periods of very cold temperatures.

Health Evaluation of Stone's Sheep

A health evaluation of Stone's sheep residing on Rainbow Rocks along the Williston Reservoir was also initiated this winter with the capture and examination of six sheep. Three ewes were radio-collared and released for subsequent monitoring of movements and habitat use. Additional sheep from Rainbow Rocks, and sheep wintering on higher elevation alpine terrain, will be captured and examined again next winter.

Wetlands Enhancement Monitoring

Twenty wetland sites in the Parsnip and Peace drainages were enhanced for wildlife through the establishment of 49 nest boxes and 15 floating islands. Monitoring of the use of the nest boxes and floating islands was conducted in the summer of 1998; a

report on the results is being prepared.



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Fisher Habitat Use

In 98/99, contract biologists continued the third year radio-telemetry monitoring of collared fishers, medium-sized forest carnivores. Monitoring has provided information about maternal den and resting site characteristics, seasonal habitat use and movements, and juvenile dispersal. Six new fishers were captured and collared this year; 20 fishers have been collared during the project to date.

Forage Enhancement Monitoring

Forage enhancement activities (manual slashing and girdling) were previously conducted between 1992 and 1994 along the Omineca River and just north of Mackenzie. To determine if these treatments benefitted ungulates, the response of vegetation to the treatments and the amount of browsing by ungulates at the treated sites were assessed.

Nabesche Mountain Goats Surveyed

In July 1998, we conducted an aerial inventory of mountain goats residing in the Nabesche River drainage on the north side of the Peace Arm. The primary objectives of the survey were to (1) determine the population size, age and sex ratios, and distribution of mountain goats in the area, (2) record the locations of potential mineral licks, and (3) evaluate the capability of the habitat in the area to support

goats. Other ungulates using high elevation habitats in the survey area were also counted and classified. All alpine terrain between Bernard and Schooler Creeks, and from the Williston Reservoir north to the Emerslund Lakes, was surveyed.

Most ungulate inventories are conducted in winter when animals seek areas of low snow depths such as valley bottoms or windswept alpine slopes. However, white mountain goats are most easily located in mid-summer when they frequent high elevation open alpine and cliff terrain, and are more visible against the darker background of vegetation and rock. Distinguishing between sexes (both males and females have horns) is also simpler at this time of year. Females (called “nannies”) with young kids, retain their long winter coats into August resulting in a rather shaggy appearance, while males (called “billies”) shed their winter coats in early summer and appear short-haired and smooth.

We located 62 mountain goats during the surveys - 50 on Mt. Brewster and 12 further to the northwest. Goats were always sighted on or close to steep alpine rock or cliff terrain which provides security from predators. Other ungulates observed on the inventory included 46 Stone’s sheep, five woodland caribou, and four moose. In contrast to the goats that prefer steeper terrain, all Stone’s sheep were sighted on moderately sloping alpine grassland, rock talus, or scree slopes in the northern and eastern portions of the survey area. No goats or sheep were observed on Mt. Burden or Mt. Greene in the western portion of the Nabesche drainage.





Students Raise Kokanee

Thanks to a big effort from the community, about 150 students in Mackenzie and Hudson's Hope are gaining hands-on experience raising kokanee from eggs to minnow-sized fry.

Arne Langston, a BC Hydro fisheries biologist with the Peace/Williston Fish and Wildlife Compensation Program, is coordinating the project.

"The intent is not to promote hatchery production," said Langston, "but to provide students with an educational, hands-on fisheries project opportunity."

The fish eggs were distributed in November to students in four schools: three in Mackenzie and one in Hudson's Hope. They were collected from Kootenay Lake kokanee which were returning to spawn at the Meadow Creek spawning channel north of Nelson.

Since November, the students have been monitoring the egg-hatching process using carefully controlled aquarium conditions. Next June, students will release the fry into creeks flowing into Williston reservoir.

During this project, the students will gain an understanding of the fish life cycle, the dangers fish are exposed to, and the role fish play in the ecology of the reservoir.

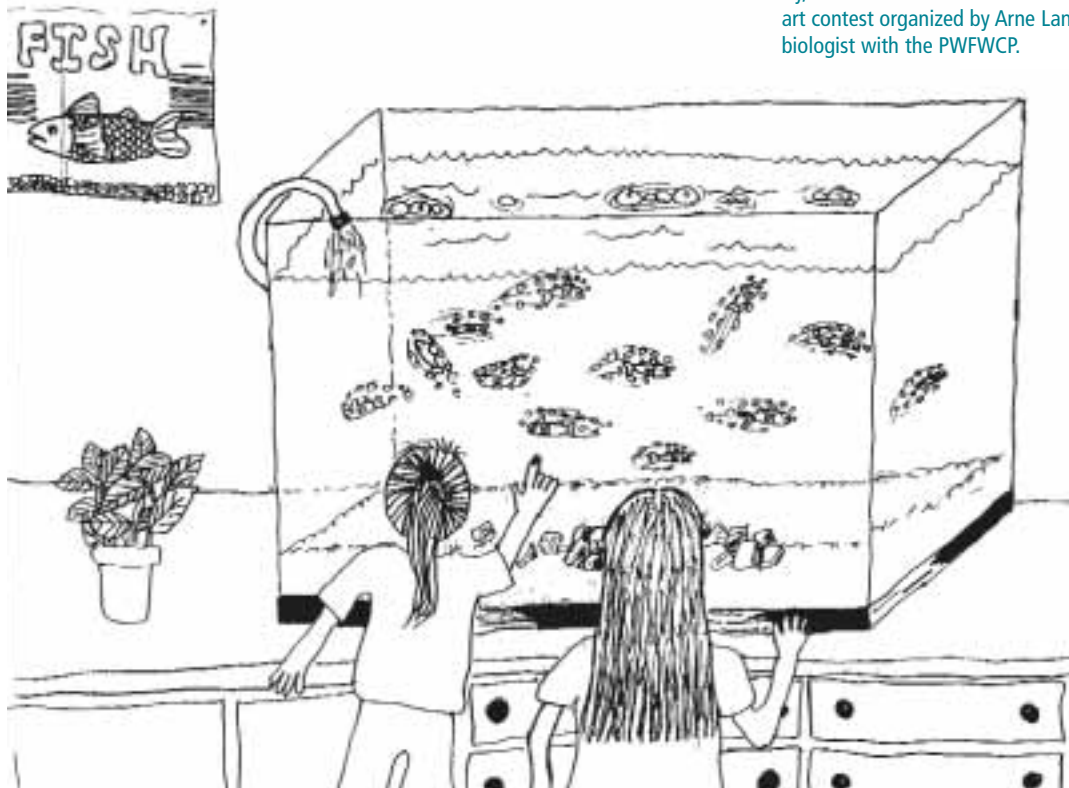
"By raising the fish, the students will develop a sense of ownership for the health of the streams and reservoir, and an overall appreciation for fish and wildlife resources," Langston said.

Several organizations worked on the project with the Peace/Williston Fish and Wildlife Compensation Program, a joint effort by BC Hydro and the Ministry of Environment, Lands and Parks to enhance and protect fish and wildlife within the Williston reservoir and Peace Canyon watersheds in north-central B.C.

The Department of Fisheries and Oceans donated materials and technical support, and the Ministry of Environment, Lands and Parks provided the 250 kokanee eggs. The purchase of aquariums and related equipment was made possible by Finlay Forest Industries, Fletcher Challenge Canada, the Mackenzie Fish and Game Association, Canfor Ltd. (Chetwynd), the BC Hydro office at the W.A.C. Bennett Dam, the Lions Club of Hudson's Hope, and the Hudson's Hope Rod and Gun Club.

Participating schools are: Morfee Elementary (Ken Bohn's class); Mountain View Elementary (John Nolan's and Ruth Flynn's classes); Mackenzie Elementary (Marion Talbot's class); and Hudson's Hope School (Janet Hohner's class). ■

Drawing by Bianca Sinclair, a student at Mackenzie Elementary School. Bianca's drawing of kokanee, which the class raised from eggs to small fingerling size fry, was one of about 80 submitted in an art contest organized by Arne Langston, biologist with the PWFWCP.



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Chetwynd groups work to keep hunting and fishing paradise

Many Chetwynd outdoorsmen and their families have been active in the Peace/Williston Fish and Wildlife Compensation Program, which aims to enhance fish and wildlife in the watersheds of the Williston and Dinosaur reservoirs.

Chetwynd residents claim the area around their community is a hunting and fishing paradise and they want to keep it that way.

Eight members of the Chetwynd Rod and Gun Club and their families have worked over the past three years to stock Simpson Lake with rainbow trout taken from the Williston Reservoir.

"We're more than willing to help," said George Mallia, vice president of the Chetwynd Rod and Gun Club. "Conservation is of prime importance and I would like to see a lot more fish and wildlife enhancement."

Located about 40 kilometres west of Chetwynd, Simpson Lake contained no fish until the stocking program began. "What we're trying to do is establish a naturalized, self-perpetuating population of rainbow trout," said Arne Langston, a fish biologist with the program. "This will take the pressure off the Pine River and other nearby fishing areas and provide us with a genetic pool of wild rainbow trout."

Using a vehicle loaned by Jim Derby, a former member of the Peace/Williston Advisory Committee, the volunteers transported fish in coolers almost two kilometres from

the end of the road to Simpson Lake. They then deposited the fish at various points around the lake using Derby's inflatable boat.

"We learned a lot from this project," said Derby. "Stocking a barren lake isn't as simple as it appears, but if we can establish a trout population there, the rewards will be well worth it."

The 85-member Chetwynd Environmental Society also contributed ideas to the Peace/Williston Fish and Wildlife Compensation Program when the program began in the late eighties.

Society president Stu Garland explained that the aim of the society is to preserve wilderness areas and habitat for fish and wildlife, which fits in well with the purpose of the compensation program.

The society has also participated in the area's Land Resource Management Plans, community-developed plans for provincial Crown land which attempt to balance various values and interests in provincial resources.

Wayne Sawchuk, past president of the society, was presented with the Minister's Environmental Award for his efforts in establishing the Muskwa-Kechika special management area, a vast wilderness in the northern Rockies.

As part of the Dawson Creek LRMP, the society has also been working on what could become the Pine/LeMoray protected area, a 33,000 hectare wilderness just southwest of Chetwynd.

The Chetwynd chapter of the Wilderness Watch program - The Foothills Recreation and Outdoors Association - has also played a role in the Peace Williston Fish and Wildlife Compensation Program. Wilderness Watch is a joint initiative of the B.C. Wildlife Federation and the Ministry of Environment, Land and Parks to assist conservation officers.

Activities of the group include providing needy families with meat from road kills, picking up orphaned and injured animals for rehabilitation, putting up signs for fishing restrictions, providing hunters with regulations and sending samples of teeth from dead animals to the ministry for analysis.

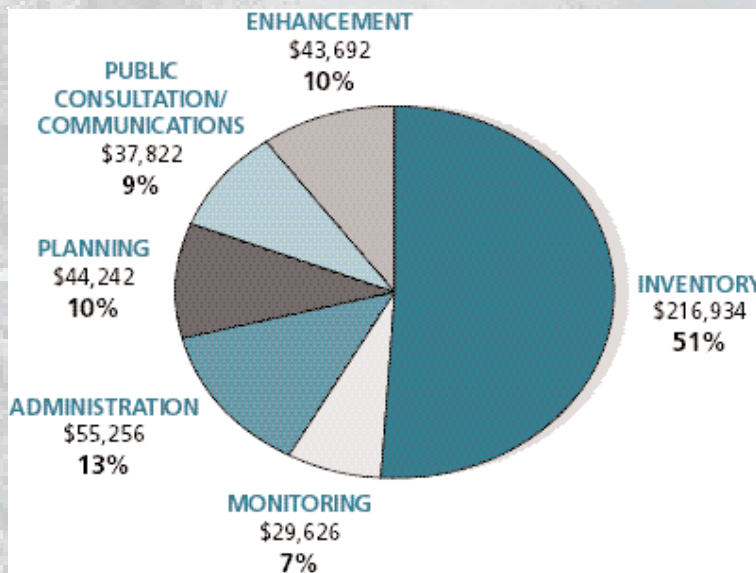
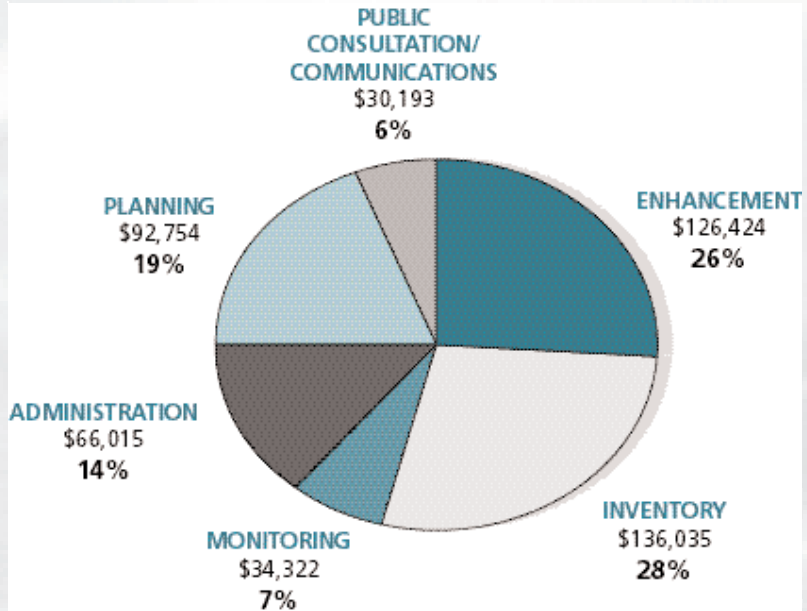
Last summer three members of the association helped compensation biologists transport trout to Simpson Lake. "The people involved are very knowledgeable and I enjoyed working with them," said Wayne Crossland who heads the 10-member association.

He added that if the compensation program were better known, more residents would contribute with information and ideas.

In 1996 Crossland, as an interested individual, helped senior wildlife biologist Mari Wood capture 50 Rocky Mountain elk near Chetwynd in preparation for transport to the Ingenika area at the north end of the Williston Reservoir.

"I learned a lot," he said. "It was an exciting project, just the kind we need to keep the area rich in animal life." ■

Fish expenditures for 1998/99



Wildlife expenditures for 1998/99

Interested in knowing more about fish and wildlife research and enhancement activities in the Williston Reservoir watershed?

Try our web site at <http://www.bchydro.bc.ca/environment/pwcp>

To be placed on the mailing list for the free newsletter *Natureline*, contact:
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