Wildlife Preservation Canada
RECOVERY ▪ CONSERVATION ▪ KNOWLEDGE

On The Edge

Fall 2011, Vol 23, Issue II

British Columbia - A Biodiversity Hot Spot

Oregon Spotted Frog

The southern part of British Columbia is a biodiversity hotspot, with a higher concentration of species at risk than any region of Canada except southern Ontario. It is also one of the most densely populated and fastest-growing regions in the country. Wildlife Preservation Canada has been active in southern B.C. throughout much of its existence, first as a contributor to the effort to save the Vancouver Island Marmot, and more recently as a participant in B.C.'s burrowing owl reintroduction program. Now, as more and more Canadian species are being pushed to the brink, WPC is contributing to the areas of greatest need – including southern B.C. We have recently partnered with the the Greater Vancouver Zoo and B.C. Conservation Foundation to save the endangered Oregon spotted frog through captive breeding and release into rehabilitated habitat. Andrea Gielens has been working with amphibians, specifically focused on OSF captive head-starting, for the past 8 years. Last year she worked in the Herpetology Department at Durrell Wildlife Conservation Trust and worked with amphibian head-starting and captive rearing for release programs there. She reports here.

Its an inconspicuous little frog, hard to see without waders, patience and a lot and a lot of searching but the Oregon spotted frog (OSF) is one of our disappearing treasures of the Pacific Northwest. As almost entirely aquatic and needing permanent water bodies throughout its life history OSF are unique in Pacific watersheds. This frog at approximately 4-10 cm with a ruddy back and a call that sounds like someone knocking at a door, is far from a tropical beauty but its connectivity with disappearing ecosystems, links to other threatened species and extreme rarity make it a crucial conservation priority both in BC and throughout its range. The latin name, *Rana pretiosa*, means "precious frog" which sums up well how we feel about this species!

WILLIAM LEONARD

OSF once ranged up the pacific coast from northern California up to populations that would have occurred through the Fraser river flood plain in BC. Wetlands throughout this area once abounded but have since been under intense pressure for development, both residential and agricultural. OSF was the first species to be emergency red-listed as critically

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Inside This Issue

ON THE EDGE is published three times a year by Wildlife Preservation Canada. Established in 1985, WPC is a nonprofit charitable organisation (Reg. #89171 0535 RP0001) dedicated to saving critically endangered animal species from extinction.
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Letter from the Executive Director

The busy field season is over and all our project leaders are now back at their desks busy analyzing their data and writing up reports. In this issue you will hear from three former Canada's New Noahs, including our most recent graduate, Kendra MacDonald, working with Atlantic piping plovers. We also highlight two new species projects added to WPC's growing Canadian Collection conservation program, the Oregon spotted frog pilot captive breeding and release program and the Atlantic piping plover pilot captive rearing project. These two endangered species form part of a growing group of over 40 species which WPC's Conservation Committee has identified as priority species that could benefit from the kind of hands-on recovery work WPC is known for. WPC's Conservation Strategy identifies the need to expand our conservation program over the next five years in order to meet the needs of the growing number of species at risk in Canada.

In this issue former Canada's New Noah and WPC Project Leader, Christina Davy reports on her freshwater turtle work with six of Ontario's eight turtle species, including the endangered spotted turtle. Another former New Noah, Tara Imlay is filling Jessica Steiner's maternity leave as our Species at Risk Recovery Biologist and reports on the eastern loggerhead shrike recovery program. And in case you are wondering, on August 16, Jessica gave birth to a healthy 7lb 6oz boy, Quinn Emerson Callender.

I would like to close by welcoming WPC's new President, Chris Boynton, and thanking Alec Monro for the almost eight years he served WPC as President and for his capable leadership and commitment to WPC's mission of saving endangered species from extinction. Finally, I'd like to thank you, our donor, for your support.

Best wishes,

Elaine Williams

Elaine Williams
Executive Director

East Coast Endangered Shorebirds

Piping Plover Eggs Saved

Kendra MacDonald

Kendra MacDonald, Wildlife Preservation Canada's 21st New Noah, has spent the last six month applying the skills she acquired working with our organization and the Mauritius Wildlife Foundation last winter, to a species much closer to home. Through a partnership project between Parks Canada, The Magnetic Hill Zoo and Wildlife Preservation Canada, Kendra has been tasked with developing the protocols for and coordinating the captive rearing of piping plovers in Atlantic Canada.

The piping plover is an endangered shore bird that nests along the eastern coast of Canada. Over the last two decades, non-governmental organizations (NGOs) and governmental agencies in Atlantic Canada have invested countless hours and resources to develop volunteer stewardship programs to protect piping plover nesting habitat. A great deal of this work has focused on public outreach to educate beach goers about the negative impact their presence can have in areas where Piping plover nests are present. Disturbances such as all terrain vehicle (ATVs) and dogs on the beach often destroy plover nests or cause the parents to abandon otherwise healthy eggs. In addition, garbage left behind can attract predators to nesting beaches, with depredation being one of the biggest threats. As a result of these public outreach and education efforts, disturbances to piping plover habitat has decreased and great improvements have been seen.

Despite these intense recovery actions and public outreach & education efforts, piping plovers remain a highly management-dependent endangered species. As such, the Parks Canada Agency (Halifax, NS), Magnetic Hill Zoo (Moncton, NB) and Wildlife Preservation Canada have joined efforts in a pilot research project to develop the protocols and methods to successfully captive rear Atlantic piping plovers from abandoned eggs. These protocols will act as another tool in the recovery tool box to help this endangered bird. My spring was spent looking at what was done in year one of the study and improving protocols and working out the kinks where needed. I was also busy coordinating the monitors and zoo staff to make sure everything translated smoothly on the ground coming breeding season.

During the 2011 breeding season eggs were collected from abandoned nests at national parks in Prince Edward Island and New Brunswick. The eggs were transported to the Magnetic Hill Zoo in insulated coolers where they were placed in incubators until hatching occurred. The chicks spent approximately the first two weeks of their lives between indoor brood boxes and an outdoor pen at the zoo. When the chicks were big and strong enough to be transported they were brought to Kouchibouguac National Park in New Brunswick, where a specially designed aviary was waiting for them. This aviary was built to introduce the chicks to their natural environment and foraging ground, while still giving them plenty of room to learn how to fly. I spent the month of August caring for the chicks on a daily basis, including feeding and observing the chicks three times a day. Once the chicks were able to fly and were responding naturally to the presence of predators, it was time for the big release. The chicks were released into an area of the beach which was closed to visitors, so they could acclimatize to their new home without human disturbance.

In total five healthy piping plover chicks were released into the population which otherwise would have been lost. I am now working on producing a formal protocol document outlining the do's and don'ts of piping plover captive rearing which will become another tool in the recovery tool box of conservationists working with this endangered bird. Though this year was considered a success, biologists have realized that captive rearing is not enough to sustain the population, and the real fate of the species relies on beach goers and landowners to help give these birds a quiet place to nest.

Eastern Loggerhead Shrike Update

A Challenging Season

Tara Imlay

Once present throughout Manitoba, Ontario, Quebec, and into the Maritimes, the eastern loggerhead shrike is now down to only a handful in a few isolated pockets in Ontario. The recovery program, led by Wildlife Preservation Canada, has been monitoring the wild population and working on building a sustainable population in Ontario since 2001. The 2011 field season has drawn to a close and our dedicated field teams have left their temporary summer homes in the fields near the outdoor aviaries, where they spent their summer caring for captive shrikes and monitoring wild birds. The field season was full of highs and lows. Tara Imlay, WPC's Species-at-Risk Recovery Biologist and supervisor of this year's team reports here.

Wild population

The wild population still remains low after it dropped significantly from 32 pairs in 2009 to 23 pairs in 2010. Only 21 pairs were confirmed in 2011: 13 in Carden, 7 in Napanee and 1 in Pembroke. Two shrikes were observed at the same site in Manitoulin in early April, but a late snowstorm in April shortly after the birds were observed likely disrupted any breeding behaviour – the last breeding pair in Manitoulin was observed in 2000. The majority of wild pairs successfully bred, fledgling at least 48 young.

Interestingly at least 22 single shrikes were reported in Ontario this year by field staff and volunteers. Hopefully next year these single birds will be able to find each other and produce young.

Three captive-reared birds returned to Ontario this year. One of the birds bred in Carden with a wild female and successfully produced at least three young. This bird was bred at the Toronto Zoo in 2010 and released in Carden, an alternative release approach called "hacking". This is our first returning hacked bird! We'll be experimenting more with hacking in future years as a way to increase the number of young for release.

The other two returning birds were released from the Dyer's Bay field site in 2007 and 2010, and both returned there this year. This is the second year that one of those returning males showed up at our field site. Unfortunately both birds were male and despite their best attempts to court the captive females in our breeding enclosures they did not produce young.

Shrike fledgling in WPC's specially designed outdoor aviary.

Geolocators

One of the males returning to the Dyer's Bay site this year was released with a geolocator in 2010. He was caught, the device was removed, but once again the device had malfunctioned and only the initial, very early migratory movements in Ontario had been recorded. This is more data than was retrieved in 2010, but still a disappointing result. Geolocators represent our best chance to learn more about the migration routes and wintering grounds of this species – a big knowledge gap that is currently hindering recovery efforts.

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Canada's Endangered Freshwater Turtles

Saving Ontario's Turtles

Christina Davy

In Ontario, the turtle crisis gets scant attention. In 1999, the world became aware of the crisis facing Asian turtles - rare, endangered and in some cases unknown to science - as they were slaughtered for the food market. Since then, freshwater turtle numbers in Southeast Asia and around the world have declined drastically and continue to worsen. In 2010 Conservation International reported that at least one-third of the world's 288 turtle species, including most of those in Southeast Asia, are in imminent danger of extinction. Yet, Ontario's eight turtle species, which represent about 3 percent of the world total, are also in crisis. Each year, hundreds of turtles are killed - by cars , boat propellers and hundreds more illegally taken from the wild to be sold into the pet or food trade. Over the last 10 years declines of more than 30 percent have occurred in some Ontario populations. So many of us are not even aware of the important species we are losing right here in our own backyard. Wildlife Preservation Canada has supported turtle research and hands-on conservation since 2004. Former Canada's New Noah Christina Davy reports here on her work this past season.

When it comes to turtles, 2011 was a summer to remember! The season started slowly with cold, rainy days, but my team and I bundled up and headed out into the marshes at my study site to meet the turtles as they emerged from hibernation. The first ones out were the Spotted turtles, basking in the sunshine as soon as the water thawed enough for them to emerge. They were followed closely by Blanding's turtles, Snapping, Painted and Map turtles and Spiny Softshells, and as the migratory birds also returned, the marshes became filled with life.

Each turtle we met was checked to see if it was already marked. Some were old friends - turtles we had marked in previous years. Others were new to us – turtles which had avoided capture so far, but are now marked and a part of my study. After hours of wading through the deep marshes, the data we have collected will provide an estimate of the size of the turtle populations at the site. This is important information for conservation and management planning. It also makes it possible to track changes in populations, and determine how they are reacting to modifications to their habitat. We marked hundreds of turtles this summer, and thanks to WPC, we were even able to use PIT tags to begin marking Softshell turtles at the site, which will allow us for the first time to estimate their population size as well.

By the time the weather warmed up the turtles were ready to nest. This season was late due to the cold

Juvenile spiny softshell turtle

spring, but it got busy quickly! My intrepid team – Ashley, Suzanne, Dan, Melissa, Chris and Pedro – deserves special mention for the long, difficult hours they spent surveying the nesting sites. This summer's unpredictable weather included thundershowers, rain, blazing sun, hail and several tornado warnings (not to mention clouds of mosquitoes), but they persevered through it all, making sure we got to the nests before

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Oregon Spotted Frog (continued from page 1)

endangered in BC in the early 90's after populations were discovered having once been believed to be extirpated from the province. Currently 3 populations exist in BC, as well as populations in Oregon and Washington.

Because OSF are so closely linked with permanent wet areas they are particularly vulnerable to habitat destruction or modification. Changes to their habitat often leaves this species without anywhere to retreat and leads to fairly quick eradication of local populations. As well, introduction of invasive species, like American bullfrogs, increase predation risk and competition in permanent wetlands and the proliferation of invasive canary reed grass can clog the water ways and decrease useable habitat.

Since the formation of the OSF Recovery Team in the early 90's, with a mandate to down-list the species and recover populations, intensive work has been going on both in captivity and in the field. We have created wetlands, restored wetlands, tracked frogs with telemetry, monitored egg masses, done mark-recapture analysis, monitored the spread of bullfrogs, educated the public on amphibians and reared thousands of frogs for release, among so many other tasks.

This year was our first year working in partnership with Wildlife Preservation Canada, specifically focused on our captive head-starting for release program. For the past 10 years we have been removing selected eggs from wild breeding sites and rearing the tadpoles in captivity, over the course of 5 months every summer. This is an intense and expensive effort requiring many helping hands and a lot of food for growing frogs. These tadpoles are maintained in a predator free environment, fed nutritious food and monitored for heath and proper development and are marked with a colored tag, measured and released in early September. These captive reared frogs avoid early predation pressures from invasives and it is hoped that they boost the local numbers and maintain the three existing populations in a healthy standing. This year as well brought the first rearing of captive bred tadpoles. Frogs held at the Vancouver Aquarium bred in captivity, a first time event for this species, and the eggs were reared at the head-starting facility at Greater Vancouver zoo. This is very exciting news as it allows us an additional source of tadpoles for establishing new populations.

Currently we have many graduate students working in the field developing models for the continuation of our program as well as mapping and defining habitat. For these studies the individuals raised by the captive head-starting program and the information gained during the rearing process is critical to helping us understand this species both in captivity and in the wild.

Oregon spotted frog fitted with a transmitter and below, the Oregon spotted frog team monitors the captive-breeding ponds.

Ontario's Freshwater Turtles (continued from page 5)

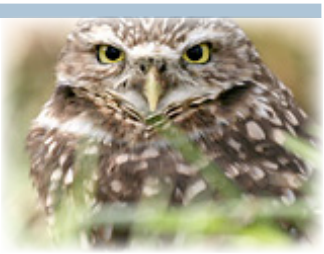
the raccoons found them. Often, this was a close race! One Blanding's turtle was found on her back next to her still-uncovered nest, flipped over by a raccoon which was getting ready to munch on her freshly-laid eggs! Those eggs were moved to safety for incubation, along with over 800 others. After one particularly heavy storm during which the waves came most of the way up the nesting site, we found a single egg rolling in the surf. We knew that it had most likely drowned and that the chances of it being viable after such rough treatment were slim, but decided to give it a try and incubate it anyway – and after about 65 days, out hatched a perfectly formed painted turtle, ready to take off into the wild.

Our nests began hatching in early August, and one of the most exciting moments of the season was the hatching of not just one but three sets of Spiny Softshell twins! Each hatchling turtle was painstakingly measured and marked so that we will be able to recognize them when we meet them again. They were then released at their nest site, so that they enter the wild at the site their mother chose. We have released hundreds of marked hatchlings so far this year, and our last few nests (those laid late in the season) will hatch over the next few weeks.

Juvenile Blanding's turtle

Finally, support from WPC has allowed us to develop genetic markers for Spiny Softshell and Snapping Turtles. I will use these to investigate population connectivity of these two species in Ontario. We know very little about the genetics of these two turtles in Ontario. These markers will help us to answer important questions for conservation and management, including questions about dispersal, mating patterns and paternity. My hope is for this project to contribute to the survival of Ontario turtles for generations to come. Although this turtle season is winding down, we are still hard at work learning more about our turtles and how we can best protect them, thanks to the generosity of WPC and its donors.

YES, I want to save endangered animals!



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I am enclosing a cheque marked VOID for the account from which I authorize Wildlife Preservation Canada to receive the amount indicated on the first day of each month. I understand I will receive a tax receipt for the full amount at the end of the year. I understand that I can change or cancel my agreement at any time by calling Ellen Reinhart, Member & Donor Relations.

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We sometimes trade names with like-minded organisations. If you do NOT wish to receive their mailings, check here ☐

Eastern Loggerhead Shrike Update (continued from page 4)

Sixteen birds were released with geolocators this year. The birds were equipped with a silver band over a red band on the left leg and no bands on the right. Please keep your eyes peeled next spring and report all shrike sightings to us! (1-800-956-6608, admin@wildlifepreservation.ca)

Captive population

93 fledglings were produced by captive birds in 2011 and 21 young were released. This is a lower than previous years and is due to a higher than normal level of mortality among our captive young this year. We are working with veterinarians from the Toronto Zoo and Ontario Veterinary College to determine the cause of this mortality. The deaths do not appear to be due to an infectious disease.

We also retained a large number of the young for our captive population as breeding stock for the future. Almost half our captive population is composed of birds within a few years of the end of their reproductive years. The retained young from 2011 will provide an infusion of young breeders that can produce large numbers of young for the next 8-10 years and enhance the genetic integrity of our captive population.

New partners in recovery

In 2011 the Mountsberg Raptor Centre at Mountsberg Conservation Area - Halton Conservation built a new facility that will house 12 shrikes over the winter and provide space for 6 breeding pairs next summer. This facility represents our best knowledge around shrike enclosure design and housing. Extra-wide enclosures and hawthorns are available for the shrikes in their pens. The 12 shrikes spending the winter at Mountsberg this year were transferred on September 9th and staff were very excited to meet their new charges!

In difficult years, the support of the community either as a landowner, volunteer or donor is even more important. We greatly appreciate the support of everyone who continues to be involved in the recovery of this unique songbird!

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