

Amphibian Voice



Vol. 11 No. 3

Fall 2001

Cattail Control...Life in a Cemetery Pond

By: Shari Goodland

Have you ever seen a beautiful pond fringed with cattails, only to have the view obscured or the open water disappear a few years later by the overgrowth of those same cattails? Cattails provide cover and nesting sites for birds, especially Red-winged blackbirds, but they can become a problem for species such as, wetland plants, frogs and turtles that like open water and the sun.

Gary Palmer contacted the Toronto Zoo from Highland Memory Gardens cemetery about just such a

problem. Although the cemetery's pond is not completely overtaken by cattails, there is a lot of undesired growth that restricts areas. Gary has been a participant in the Adopt-A-Pond programme for many years and encourages local students to use this pond as a resource in wetland studies.

Control is not easy. Cattails spread by two methods: by air-borne seeds produced en-masse and by the spreading of rhizomes (the root system) under the surface. In the past herbicides were used as a chemical control, but other methods are available such as burning and mowing. Fire is a natural disturbance, simulating lightning strikes or the setting of fires by

aboriginal peoples, whereas mowing of the cattails mimics the behaviour of a large muskrat population cutting the cattails for food (Ball

1990). Subsequent flooding of the exposed cut or burnt off ends has been shown to yield the best results for controlling the cattails. The rhizomes require oxygen and by flooding of the shoot 'stubble', the oxygen transport to the rhizomes is cut off. Cutting the cattail shoots 2-3" below the water line has the same effect and the plants 'drown'. This method however is effective only if the water level is maintained for a long period of time.

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The pond, roughly 40'x70' in an oblong oval shape, is home to fish, turtles and breeding toads and the cattails provide nesting areas for Red-winged blackbirds. Unfortunately the cattails are threatening to take over the east side of the pond.

Continued from page 1

If the water level drops below the level at which the cattails were cut, oxygen exchange can be re-established and the rhizomes will again spread. Another method of control, and the only mechanical method, is to use a backhoe with a long boom and dig out the root system. This method is labour intensive and the use of heavy equipment may damage the landscape. Adopt-A-Pond has used this method to help students deepen a cattail-choked pond for toads. After obtaining any necessary approvals this is best done in the winter when the ground is frozen to reduce impacts on the wetland and wildlife.

(<http://www.aquaticsystems.net/cattails.html>)



While visiting the pond at Highland Memory Gardens, a very young painted turtle was seen basking in the sun on a stick at the edge of the water. There was another turtle sitting on the fountain in the middle of the north end of the pond. While walking on the west side of the pond there appeared to be insects hopping around the shoreline but on closer inspection it was discovered that they were newly emerged toadlets. With these signs of life it would be a shame to try mechanical control of the cattails and risk disturbing the habitat. Cutting of the cattails below the water surface level to drown them appears the best method to attempt.

Perhaps in the future, with continued good health of the pond, frog species will move in and join the breeding American Toads in using this beautiful habitat. Adopt-A-Pond thanks Gary Palmer for his ongoing support and his dedication to his wetland habitat.

References

Ball, John P. 1990. *Influence of Subsequent Flooding Depth on Cattail Control by Burning and Mowing*. Journal of Aquatic Plant Management 28: 32-36.

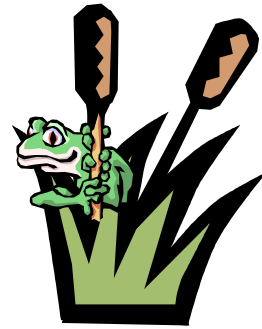
Aquatic Systems Inc. 1998. *Cattail Control*. Available at: <http://www.aquaticsystems.net/cattails.html>

Lily Pads and Cattails

Adopt-A-Pond Programme updates

By Sarah Ingwersen

This summer the Adopt-A-Pond programme had four summer students working on a variety of projects. Candace Jones, Phung Tran, Matt Rudisi and Shari Goodland, university students from across the province, contributed their knowledge, skills and enthusiasm to their projects. These positions were supported by the Canadian Museums Association, Human Resources Development Canada and the Toronto Zoo.



Candace worked on finalizing the development of our Toad Survival Game, turtle conservation resource materials, newsletters and interpretive signage for the Zoo site. Phung focused on webpage development for both Adopt-A-Pond and Pond Guardians and GIS mapping of amphibian distributions. Matt also worked on webpage development and several projects pertaining to the recovery of the Eastern Massasauga Rattlesnake. Shari took a lead role in the development of our Gray Treefrog Habitat Restoration Project on the Zoo site, data entry for FROGWATCH and developed several Adopt-A-Pond resource materials. All four students were involved in radio-tracking snapping turtles in the Rouge Valley.

Their contributions to the programme have been significant. With their help, the Adopt-A-pond programme has been able to develop new resource materials to help you continue to protect wetland habitat.

Making Footprints on a Friendlier Surface

A Switch to 100% Tree-Free Paper

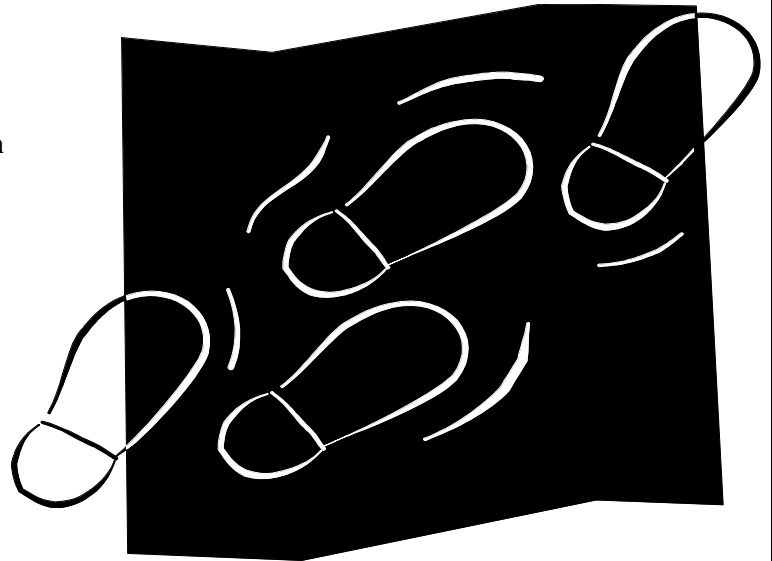
By Candace Jones

Like most publications, we have printed our newsletter on wood fibers-based paper. For a conservation programme such as Adopt-A-Pond it can be a constant battle. Often we are faced with weighing the consequences of getting the conservation message out in an efficient and cost effective way and setting an environmentally friendly example. There are alternatives to many of the resources that we use and many of these products need initiative to push them into the mainstream. Like any conservation programme we must raise our own funds, so we must carefully weigh our additive costs to deliver our programme. Two years ago, Adopt-A-Pond decided that it would switch to 100% vegetable based ink, to print "Amphibian Voice". We have been pleased with the product and will continue to use it. Because of our success with this alternative and our concern about the products we use, we have also decided to switch to an alternative source of paper.

We are proud to present a newsletter printed on a 100% tree-free paper! We will be trying different types of tree-free paper in the future, the first is a combination of hemp, flax and cotton and the second is a combination of hemp and bagasse (sugar cane). We hope that this can be used to showcase the available alternatives to wood fiber paper. The first paper we will be using is from Domtar Inc., and is called Domtar Weeds paper. It is a combination of hemp and bagasse (sugar cane) and is processed with environmentally sound dyes and is acid free.

Despite the slightly higher cost, when compared to wood paper, tree-free paper crops, such as hemp, take fewer chemicals, less energy to process and can be recycled more often. Hemp takes less pesticide or fertilizer than other crops, and it is considered to be a truly renewable resource, lending itself to sustainable agriculture. Many feel that its technical properties make it superior to wood pulp. (Hanks and Johnston, 1998) A concern of many about alternatives is that they are new and need time to be tested. However, tree free paper is certainly not new. Before our current methods of making pulp from wood chips, paper was made from natural fibers in old clothing such as hemp flax and cotton. (Hanks and Johnston, 1998) And of course, we have all heard of papyrus paper used in the Middle East. The move towards this type of

paper is from the recognition of the environmentally friendly properties that are associated with this process and not because it is a new product.



Product Comparison

DOMTAR REGULAR

100% recycled, 1000	\$31.44
20% post consumer, 1000	\$31.44

DOMTAR WEEDS

85% bagasse(sugar cane), 15% hemp

	Cost
Weeds 24lb, 1000	\$42.63
Weeds 80lb, 1000	\$66.05

ECOSOURCE PAPER

40% hemp, 40% flax, 20% cotton

	Cost
50/20lb 8 1/2 x 11, 1000, natural	\$38.00
60/24lb, 8 1/2 x 11, 1000, natural	\$45.00

For more information about alternative paper contact:

Domtar at 1-800-267-2040 or visiting their website at www.creativetoolkit.com

Ecosource Paper at 1-800-665-6944 or visiting their website at www.islandnet.com/~ecodette/ecosource.htm

Kid's Corner

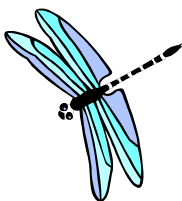
WORD FIND

ADOPT-A-POND
CATTAIL
CRICKETFROG
DRAGONFLY
GRAYTREE FROG

GREEN FROG
MARSH
MUDPUPPY
NEWT
SALAMANDERS

SWAMP
TOAD
TURTLE
VERNAL POOL
WATERLILY

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Update on the Adopt-A-Pond Wetland Curriculum Resource...

By Phung Tran

Thank you to all those who responded to our 1999 Adopt-A-Pond Wetland Conservation Programme Evaluation. We received many positive comments about the Wetland Curriculum Resource and some very useful suggestions. As a result of the many comments made about Unit 11 "Curriculum Links" in the Resource, we have updated the links and expectations to match the new Ontario Curriculum.

Unfortunately, until we do a complete reprint, Unit 11 will remain in the Resource. However, the updated information will be available as an insert. This insert is a summary of the overall expectations for each elementary school grade level and a new high-school summary has also been added. The new summary will include references to Science and Technology for elementary school grades. The new high-school insert will have references to Science, English, Canadian and World Studies and Mathematics. Also included will be a table for each activity section. These tables are to indicate which activity will suit each subject and relevant grade.

The inserts will be available in September on request for those who already have the Wetland Curriculum Resource. The curriculum resource will also be available on-line in the near future. Visit www.torontozoo.com/adoptapond and click on "curriculum links". For those who do not have the Wetland Curriculum Resource, the inserts will be included with the package. When we mail it out to you, simply re-cycle the old curriculum section, and replace it with our 3-hole punched insert!

We hope that this update will help teachers involve their classrooms in studies on the importance of wetland ecology! For further information or questions/comments about the new inserts, please do not hesitate to contact the Adopt-A-Pond office.

Call'um of the Wild: Our Backyard Pond

By Mike and Lesley Price

Getting started in 1999

Three years ago our pond was just a dream and a line on the ground where we thought it should be. Then our teenage son decided it was a great idea and next day the hole was dug. While the hole was larger than we intended, in hindsight it was a good mistake. Ponds should not be too small. Ours is approximately 2m by 4m and shaped like an irregular oval. All our property drains to the pond which means we have self-contained storm water management. This includes a rain barrel as well.



It was built mostly from second hand material with only the water pump, filter and waterfall rocks being purchased new. The liner was from an old swimming pool and the rocks were mostly donated.

Since the pond is designed to have fish winter over on the bottom, the water is 1m deep at one point. The remainder has 2 shelves that are 0.2m and 0.3m deep for the various plants.

To keep the pond clean and provide aeration we installed a pump with a filter to allow water to cascade down a waterfall. The pump and filter are removed and stored in the winter. An air bubbler was also added that runs year

round to put air into the water and help prevent freezing in the winter. During the winter we have to break the ice around the bubbler air line to ensure the methane gas from the rotting vegetation on the bottom does not build up under the ice and kill the fish.

Adding the plants and landscaping

The fun part was wading around in the hot summer weather placing rocks in strategic places then artistically potting and securing the water plants in place.

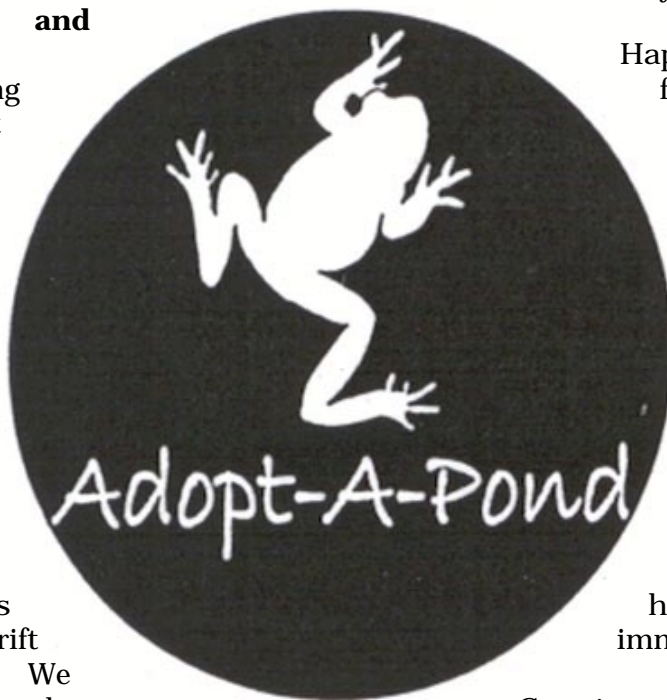
Currently we have lilies, irises, reed grass, cattails, water plantain, arrowheads, mint, marsh marigolds and oxygenating plants like hornwort which drift around under water. We have achieved our goal -we have a very natural look!

Around the sides of the pond we have large rocks or stones to create an edge and allow people to stand without falling in. Both around and between these rocks we have aromatic plants, like the thymes, that cascade over the edge of the pond.

Once the water had cleared from the planting and disturbance, we bought some small gold fish and floating plants to provide shade and help clean the water. The floating plants spread rapidly and soon covered the whole surface of the pond!

Soon we had other creatures moving in! While the raccoons checked out the pond, we did not appear to loose any critters. The frog population was the most interesting with green and leopard frogs were the predominate species. By the end of the first summer we had up to 13 frogs resident. Our favourite pastime was to sit in our lawn

chairs right beside the pond and watch the frogs catch their food. At night we could hear their deep croaking voices as they called to each other. With fish and frogs around, we have a biological control of any mosquitoes breeding in our pond. As residents, the frogs re-appear very early in the spring and we think they overwinter in the pond.



Happily the fish survived the first winter. Now in 2001 our fish have grown in size and number and we have over 20 of mixed colours and variety. They must be breeding as we have several small fry and some intermediate sized ones. The green and leopard frogs are back but in fewer numbers. We have seen tadpoles and now have a home grown large immature frog.

Creating our pond was the best project we have undertaken in the garden. It has given us hours of enjoyment and is a great stress reliever.

What's New: It is Time for a Change!

By Phung Tran and Matt Rudisi

The Adopt-A-Pond web-site is ready for a major makeover. We are in the process of giving the site a new look and allowing our users to have more fun with our programme web page.

Why are we changing? Our Adopt-A-Pond family is growing! Not only do we have increased community and public interest in Adopt-A-Pond but we also have a few new things to add to the programme including a new logo and the Pond Guardians addition. The new site should be up and running by the fall of 2001 so check it out and tell us what you

think! Visit www.torontozoo.com/adoptapond

Coming soon...

The Adopt-A-Pond team is excited to introduce Pond Guardians to our new web-site. This new programme will be a Canada wide registry designed to promote wetland awareness, stewardship and protection.

OK, a registration page does not sound too exciting, so what's the fun part, you ask? Well, you are the guardian of the pond and we want to know all about it! As a Pond Guardian, you will register and describe your "adopted" pond. Visitors to the site will experience your pond by reading about your stories, experiences, wildlife sightings, restoration techniques, protection efforts and photos, if you include them. The Adopt-A-Pond team loves reading your stories and who knows, your pond may be featured in our newsletter, *Amphibian Voice*! Guardians will also be able search and view other registered wetlands and share comments and suggestions in a Bulletin Board section. With this new resource, communities can help communities by sharing their techniques for saving and restoring wetlands. Guardians and Frogwatchers will also be kept up-to-date about the programme with the "What's New" and "Calendar of Events" sections.

Check us out! We cannot wait to hear all about your ponds!

Ribbet's Review

By Matt Rudisi

Frog and Toad are friends

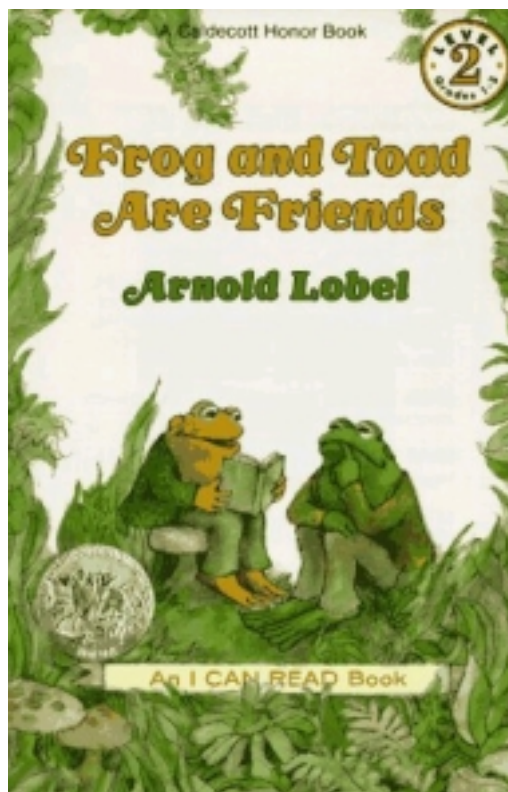
Arnold Lobel

Published by Caldecott Honor

Frog and Toad are friends is a storybook written for children in grades 1 to 3. The book, of course, is based on the friendship between a frog and a toad. It contains five short stories about their adventures and focuses on friendship. The stories in *Frog and Toad are friends* are short and easy to read making them perfect for children of this grade

level. The author attempts to involve some aspects of amphibian life in the stories as well.

The first story titled *Spring*, tells of the hibernation that amphibians go through during the winter months. It does well to bring across the point that hibernation lasts a very long time. The story starts in April when Frog and Toad should be emerging from hibernation. Frog is the first to emerge and visits Toad, only to find that Toad is too sleepy to come out of hibernation. Toad tells Frog to return and wake him "half past May". Frog is quite unsettled by this idea, so proceeds to rip the months of November to April off of Toad's Calendar. He again wakes Toad, who believes he has overslept, and they start their spring adventures together.



One of these adventures is told in a story called *A Lost Button*. In this story, Toad loses a button off his jacket. The two friends backtrack and find a black button in the grass, but Toad's button was white. As they continue to look, a sparrow flies down with a two-holed button and asks if it is Toad's. Toad says his button had four holes. Next, a raccoon finds a square button for Toad, but Toad's button was round. After a couple more episodes and false hopes, Toad goes home and

realizes that the button was at home the whole time. He then takes all the other buttons that he and Frog found that day and sews them onto a jacket. Toad gives this jacket to Frog to thank him for all his help looking for his lost button.

This is a very entertaining book that I would recommend for teachers of grades 1 to 3. The stories are interesting and fun and even contain a little information about the life of amphibians. The illustrations that accompany the stories are very well done and immerse you in the story. It is a very entertaining book with many other *Frog and Toad* books in the series that you may wish to add to your library.



From our success with our switch to vegetable based ink, we have decided to make a switch to a 100% tree free paper. For our next few issues we will be trying out two different types of tree free paper. The first, and the type of paper this newsletter is printed on, is called Domtar Weeds paper and is made up of 85% bagasse (sugar cane) and 15% hemp. The second product is made up of 40% hemp, 40% flax and 20% cotton. For more information on these products please contact Domtar at 1-800-267-2040 or visit www.creativetoolkit.com, or contact Ecosource paper at 1-800-665-6944 or visit www.islandnet.com/~ecodette/ecosource.htm. Thanks for helping to make footprints on a friendlier surface.

REMEMBER IT'S YOUR NEWSLETTER!

Send your submissions to Adopt-A-Pond Programme
Attn' AMPHIBIAN VOICE NEWSLETTER

Submit an article about someone that has inspired you to do something for the environment, or someone who has taught you about amphibians and wetlands and we will feature them in our next newsletter!

Also send drawings, poems, cute quotes from kids, fascinating amphibian photographs, community wetland issues, questions, articles, and stories pertaining to wetlands, wildlife and conservation.

Articles and submissions may be edited.

Volume 11, No. 3

Amphibian Voice is a student/teacher and community newsletter, distributed to schools and communities participating in the Adopt-A-Pond programme, to assist with their efforts to conserve amphibians and wetland habitats.

Send in your stories, drawings and photographs to the address below and we will "hoppily" include them in future issues.

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Human Resources Development
Canada

Adopt-A-Pond is a non-profit wetlands education programme. Costs to produce this newsletter, and other resources, are funded by grants and private donations.

We welcome support of our programme! Please make cheques out to "Toronto Zoo" and send to the following address. Thank you!

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