

THE KENTUCKY LOGJAM

PROVIDING ENVIRONMENTAL, SAFETY, AND PROFESSIONAL INFORMATION TO
KENTUCKY'S TIMBER HARVESTING OPERATORS

Fall, Winter 2005 Volume 9 Issue 3

Endangered Species Alert



The blackside dace, a small creek chub look-a-like, is designated as a threatened species by both the feds and the state. This small fish is found in only eight counties in Kentucky and three in Tennessee. It occurs in headwater streams in these counties and poor logging operations around small streams can kill or harm this species, a violation of the Federal Endangered Species Act. Recently a logging operation near Barbourville has called attention to this issue by logging without proper BMPs and polluting a stream where this fish lives. Unfortunately, the mud and debris in the stream was significant enough that the U.S. Environmental Protection Agency (EPA) and U.S. Fish and Wildlife Service became involved. Both criminal and civil penalties are possible in this case.



M. Floyd, USFWS

Adult blackside dace from Kentucky - a federally protected species.

Page 2 has the details.....

OSHA Interest in Logging Heats Up ---Again.

Last year Kentucky OSHA indicated interest in inspecting logging operations in Kentucky. We reported this in the summer 2004 LogJam however, little enforcement action has been seen. This may change. On Nov. 30, the Kentucky Master Logger Partners (UK, KDF, and KFIA) were invited to a meeting at the Kentucky Department of Labor's office in Frankfort to discuss if whether more OSHA safety training can be offered. It was also indicated that the Department of Labor is interested in inspecting more logging operations. The Department of Labor's interest in logging is due to the higher than average number of logging fatalities this year, three in October alone. While we believe that this is a blip in an otherwise down trend in fatalities since 1994, it has caught the attention of the state agency responsible for OSHA

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■ **CE CREDIT AVAILABLE**
1 hr of CE credit towards your 6 hours can be obtained by taking the written test on page 7. This test is on the blackside dace article in this issue of the LogJam (see page 2-4 for article, page 7 for test).



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Blackside Dace and Logging in Kentucky

By Mike Floyd and Jeff Stringer

Kentucky's rivers and streams support about 20 species of federally listed mussels and fish. One of these species, the blackside dace (*Phoxinus cumberlandensis*) - a small minnow that lives in southeastern Kentucky - is very vulnerable to impacts from poor logging, because it needs high-quality water and occurs in small, headwater streams where logging is common. To promote the conservation of this species in Kentucky and to prevent negative impacts from logging, the U.S. Fish and Wildlife Service (Kentucky Ecological Services Field Office in Frankfort) has prepared the following discussion that summarizes the species' biology and distribution, describes potential threats to its existence, and lists the logging BMPs required for its protection and recovery.

What is a blackside dace?

The blackside dace is a small minnow, with a maximum length of about 3 inches that is restricted to headwater streams in southeastern Kentucky and north-eastern Tennessee. It has a pointed snout, an olive- or gold-colored back, a black stripe along its side, and sometimes has red or yellow markings around its mouth, gills, and fins. The U.S. Fish and Wildlife Service listed the blackside dace as a *threatened* species under the Endangered Species Act on June 12, 1987.



What counties does the dace call home?

Blackside dace are restricted to the upper Cumberland River basin, primarily above Cumberland Falls. At present, they occupy streams in eight Kentucky counties:

- Bell
- Harlan
- Knox
- Laurel
- Letcher
- McCreary
- Pulaski
- Whitley



and three Tennessee counties (Campbell, Claiborne, and Scott).

Photos courtesy of the authors unless otherwise noted.



What kind of stream does it live in?

Blackside dace inhabit cool, small, headwater streams with moderate flow. The species



is usually found in pools near undercut banks, large rocks, root mats, or other cover. The best populations of blackside occur in silt-free streams in heavily forested watersheds with stable stream banks and undisturbed riparian zones. The species requires silt-free gravel bottoms for spawning. In the absence of silt-free bottoms, the species often spawns (April to June) in nests of other fish species, such as creek chubs and stonerollers.

Violations of the Endangered Species Act can carry a maximum penalty of \$25,000 and 6 months in jail for impacts to a threatened species, such as the blackside dace.

What do blackside dace eat?

Blackside dace eat algae, diatoms, and small invertebrates (insects).

Why should loggers care and protect blackside dace?

First, sensitive species such as blackside dace serve as important indicators of overall stream health – as stream water quality and habitat conditions improve, dace num-

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bers tend to increase. Declines in their population tell us that we are damaging our soil, forest, and streams. Blackside dace are an important and unique species in headwater streams of the upper Cumberland River basin. They occur nowhere else on Earth. Their conservation should be encouraged, not dismissed or ignored.

Second, federal law (the Endangered Species Act [ESA] of 1973) requires protection of this and other threatened and endangered species. Violations of the ESA can carry a maximum penalty of \$100,000 and one year in jail for impacts to an endangered species and a maximum penalty of \$25,000 and six months in jail for impacts to a threatened species, such as the blackside dace.

Finally, Kentucky state law provides for the protection of streams (Outstanding State Resource Waters) that support federally endangered or threatened species including the blackside dace (401 KAR 5:030 and 401 KAR 5:031). Violations of water quality standards in these streams are handled by the Kentucky Division of Water, which maintains a list of these streams on their web site (<http://www.water.ky.gov/>). As soon as the list of Kentucky's blackside dace streams has been updated and available, we will include it in the next edition of the LogJam. The revised Timber Harvesting BMP Field Guide will also include information on the blackside dace.

Can logging harm blackside dace?

Yes, if proper BMPs are not followed. Improper or poorly constructed stream crossings, poor road and skid trail construction and maintenance, poor water control, destruction of the streamside zone, and operation of equipment in the stream channel can cause excessive siltation

that directly harms blackside dace and destroys their living space (habitat). Improper crossings can also block the stream channel, preventing the natural upstream and downstream movement of blackside dace. These actions would likely cause violations of the ESA and state water quality standards for which the logger would be liable.

Can logging and blackside dace coexist?

Absolutely. If proper BMPs are followed, potential impacts from sediment and habitat disturbance can be avoided or minimized. As opposed to other activities, such as coal mining, logging does little to affect water quality if conducted appropriately. If proper BMPs are implemented, impacts are negligible and short-term.

What are other threats to blackside dace?

Coal mining, road construction, agriculture, and other activities cause siltation of streams and destruction of blackside dace habitat. Coal mining, in particular, often contributes metals and other dissolved solids that permanently affect water quality. If proper BMPs are implemented during these activities, potential impacts can be avoided or minimized. Excessive siltation destroys instream habitat, degrades water quality, and adversely impacts blackside dace and other aquatic species.

What BMPs are most important for protecting blackside dace?

The U.S. Fish and Wildlife Service believes that Kentucky's timber harvesting BMPs (as found in *Field Guide to Best Management Practices for Timber Harvesting in Ken-*

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Logging pollution in stream near Barbourville containing blackside dace.



Above: Landing to the left next to stream in SMZ and soil pushed into channel.



Above: Skid trail running downhill into flat next to stream. Notice flow of muddy water coming down skid trail from uphill seep. Water bar or other water control was needed to divert this flow before it gets to the bottom next to the stream.



Right: Muddy water due to skidding in stream above this point.

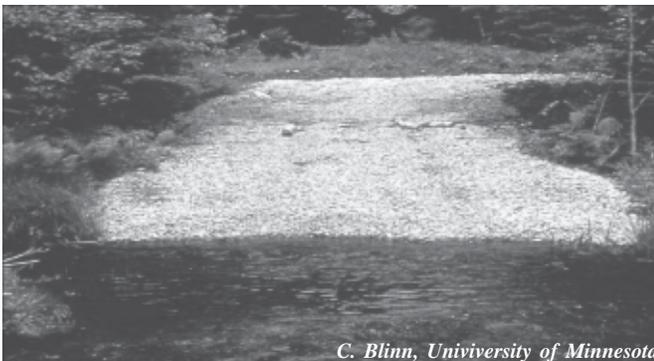
Photos courtesy of L. Lowe, Kentucky Division of Forestry

tucky, specifically BMPs 1, 2, 3, and 5, are very useful for protecting the blackside dace and its habitat.

However, to ensure that an Endangered Species Act violation does not occur, extra care is warranted. In some cases this means that measures above and beyond the minimum BMP requirements should be used. The main thing is still the main thing - keep soil and debris out of streams, don't traffic in streams with blackside dace, and limit stream crossings and make sure they are crossed correctly. The following are recommendations from the U.S. Fish and Wildlife Service.

Recommendation 1. Limit crossings of intermittent and perennial streams to bridges or FORDS. The BMP minimum requires that bridges and culverts should be used to cross streams and channels where feasible. However, for blackside dace culverts can be a problem, especially if they are not installed so that the fish can swim easily through the culvert. While this is not impossible to install culverts that allow for the three inch fish to move freely it is difficult in many situations. Because of this bridges are the best bet. If fords are used, limit their number and protect the approaches with rock or other material to stop erosion. Fords should always be on hard bottom.

Proper ford with gravelled approach and portable bridge in use below.



C. Blinn, University of Minnesota



Recommendation 2. Do not use stream channels as roads and do not operate equipment in the stream. The BMP minimum requirement indicates that channels can be used if there is no other way to get to the property. This allows timber to be removed if



Blackside dace swimming next to a creek chub nest.

there is not other means of access. HOWEVER, when a threatened or endangered species, such as blackside dace, is in the stream, then killing or harming of them is prohibited even if this means that the timber can not be cut. The landowner needs to know that the stream contains blackside dace and that it is a violation of federal law to harm them.

Recommendation 3. Keep yards and landings outside of Streamside Management Zones (SMZs) and do not push soil (sediment) or logging slash in the stream channel.

Recommendation 4. Revegetate roads, trails, landings, disturbed areas around crossings, and any other disturbed areas that could wash mud into the stream. While BMP inspections are completed to see if seeding has been done, the blackside dace requires that little sediment enters the stream, this means that seeding in critical areas needs to be successful.

Recommendation 5. Maintain 25-foot or 55 stream buffers with 50 percent of the over-story intact (for regular perennial streams) and ALL STREAM BANK TREES SHOULD BE LEFT. While leaving all creek bank trees is not a BMP minimum requirement in Kentucky, in the case of blackside dace streams, the U.S. Fish and Wildlife Service strongly recommends that creek bank trees be left so that the banks are disturbed as little as possible.

Recommendation 6. Do not block the stream channel with tree debris slash. The BMP minimum requirement must be thoroughly adhered to. Also remove potential pollutants from equipment (oil, etc.) from the site and dispose of properly. Remove all garbage from the site and dispose of properly. 🗑️

If you have questions about blackside dace or other listed species in Kentucky, please feel free to contact Dr. Michael Floyd, U.S. Fish and Wildlife Service's, Kentucky Ecological Services Field Office in Frankfort, (502) 695-0468 or mike_floyd@fws.gov.

OSHA HIGHLIGHTS

compliance. The end result was that KY OSHA will be developing four CE programs for next year, which is a good thing. We have suggested that they are full six hour courses that would involve some indoor presentations as well as a mock inspection of an active logging operation. This would allow you to see first hand exactly what they will be looking for when they show up on a job site. Bob Bauer with KFIA also suggested that they develop a CE program for the Wood Expo. We believe both of these CE programs will happen. We also believe there is a good indication that more spot OSHA inspections will start to occur - time will tell.

The following are a few reminders about OSHA inspections.

- Only jobs that have employees will be inspected. An employee is anyone that is not an owner and takes direct supervision on the job. If all workers on the site are true partners, then they are not considered employees and the job will not be inspected. If a contractor is taking direct supervision from the logging firm, then that person is considered an employee.

- Compliance officers are unmarked (no uniforms or official vehicles). They will carry an official KY Dept. of Labor I.D. and will be glad to show it to you.

- The compliance officers are inspecting to make sure that the OSHA logging rules are being adhered to. (OSHA logging regulations are in your KML 3-ring binder.) They will be looking for OSHA standards, such as ROPS and guards on equipment, hinge wood on stumps, PPE (helmet systems, chaps, hard hats, etc.) being worn, and proper work zones around equipment and tree felling are being adhered to, documentation of safety training, etc.

- REMEMBER, inspections by the Kentucky Division of Forestry for BMPs and Master Logger on-site are NOT OSHA inspections and the two are not related.

If inspections are initiated in earnest we will get more information to you on what they are looking for and what violations they have been finding. 🐿

Forest fire update - arson continues to plague the states timber resource.

Submitted by: Kentucky Interagency Wildfire Prevention Education Team

Eastern Kentucky has received less than one-third of its normal rainfall since September 1. With below normal rainfall, low relative humidity, and gusty winds, fire danger and occurrence has been on the rise this fall. While December signals an end to the fall fire season, it won't be long before warm spells in February and March usher in the spring fire season.

Arson is by far the leading cause of wildfires in the state. Though almost all wildfires in Kentucky are caused by humans, over 60 percent are a result of arson. Wildfires can pose not only a major threat to our communities and homes, but also to our natural resources.

Many forested areas in the state are repeatedly burned by arson-caused fires. Forest fire activity can therefore lead to decrease in timber quality over time. In areas where the southern pine beetle devastated stands of timber, downed trees and subsequent increased fuel loading is causing hotter and more dangerous fires. Wildlife habitat, soil and water quality, clean air, and our forest economy are also adversely affected by fires.

Community awareness and involvement is the key to preventing wildfires in the state. It is our personal responsibility to protect our forests so a continuous supply of high-quality timber and other forest resources are available. As landowners, loggers, and those involved in the wood products industry, we can help to decrease the amount of wildfires in the state. 🐿

**Please call the Arson Hotline at
1-800-27-ARSON (800-272-7766)
to report suspicious activity.
Tips can remain anonymous.**

NEED CE CREDIT TO RENEW YOUR CARD?

The KML program will be running a large number of CE courses in 06, many before July 15. The schedule will be out in January. Check www.masterlogger.org. You can also get up to 2 hours of CE credit through taking a test on an article in the LogJam. See page 7 for a test on this issue. One CE credit can be earned for each test taken. Contact the KML office if you need another article to get a second CE hour.



Having Problems with Logging Inspections

District Rangers are the persons at each district office of the Kentucky Division of Forestry that supervise the County Ranger Technicians that inspect your logging jobs. The District Rangers are the ones you need to contact if you are having difficulty with an inspection. For logger members of the Kentucky Forest Industry Association (KFIA) you can call Bob Bauer, Executive Director of KFIA at 800-203-9217.

The following is a list of District Rangers for the Kentucky Division of Forestry (as of December 2005), their phone numbers and the counties that they oversee.

Northeastern District – Morehead

Telephone: 606-784-7504 or 800-866-0052

District Forest Ranger Technicians: Ed McNeal or Tim Justice

Bath Clark Greenup Menifee Nicholas
Boyd Elliott Lewis Montgomery Robertson
Carter Fleming Mason Morgan Rowan

Eastern District – Betsy Lane

Telephone: 606-478-4495 or 800-866-0048

District Forest Ranger Technicians: James Workman e

Floyd, Lawrence, Martin, Johnson, Magoffin, Pike

Southeastern District – Pineville

Telephone: 606-337-3011 or 800-866-0504

District Forest Ranger Technicians: Bob Gaines or Trish Boles

Bell, Clay, Harlan, Jackson, Knox, Laurel, Leslie, McCreary, Rockcastle, Whitley

Kentucky River District – Hazard

Telephone: 606-435-6073 or 800-866-0503

District Forest Ranger Technicians: Jason Gabbard

Breathitt, Estill, Knott, Lee, Letcher, Owsley, Perry, Powell, Wolfe

Bluegrass District – Frankfort

Telephone: 502-573-1085 or 800-866-0876

District Forest Ranger Technician: Tim Metzger

Anderson, Boone, Bourbon, Bracken, Campbell, Carroll, Fayette, Franklin, Gallatin, Garrard, Grant, Harrison, Henry, Jessamine, Kenton, Madison, Oldham, Owen, Pendleton, Scott, Shelby, Trimble, Woodford

South Central District – Campbellsville

Telephone: 270-465-5071 or 800-866-1007

District Forest Ranger Technician: Ronnie Kirkland or Ricky Marcum

Adair, Boyle, Casey, Clinton, Cumberland, Green, Lincoln, Marion, Mercer, Metcalfe, Monroe, Pulaski, Russell, Taylor, Washington, Wayne

Central District – Elizabethtown

Telephone: 270-766-5010 or 800-550-6601

District Forest Ranger Technicians: Dwayne Whitlock or Mark Spalding

Allen, Barren, Breckinridge, Bullitt, Edmonson, Grayson, Hancock, Hardin, Hart, Jefferson, Larue, Meade, Nelson, Simpson, Spencer, Warren

Green River District – Madisonville

Telephone: 270-824-7527 or 800-866-0770

District Forest Ranger Technician: Tom O'Daniel

Butler, Christian, Daviess, Henderson, Hopkins, Logan, McLean, Muhlenberg, Ohio, Todd, Union, Webster

Western District – Mayfield

Telephone: 270-247-3913 or 800-866-0802

District Forest Ranger Technician: Joe Curtis

Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, McCracken, Trigg

Kentucky Division of Forestry District Offices





**1 hour
CE Credit**

Your Name _____

Your KML card number _____ - _____ - _____

Check one answer for each question. Fill out your name, KML card number and send to the KML office (address at right). You will be notified of your 1 hour of credit if you correctly answer 80% of the questions.

**Send To: Kentucky Master Logger
Department of Forestry
University of Kentucky
Lexington, KY 40546-0073**

1. What type of stream does the blackside dace live in?

- _____ streams or rivers like the Cumberland or Kentucky
- _____ intermittent sized streams with adequate flow in the winter
- _____ small headwater streams
- _____ small ponds in southeast Kentucky

2. What is the average size of an adult blackside dace?

- _____ 1 inch _____ about the size of an adult catfish
- _____ 3 inch _____ 5 inch

3. The blackside dace is federally listed as:

- _____ endangered _____ species at risk
- _____ protected _____ threatened

4. Which county does the blackside dace not live in?

- _____ Wayne _____ Pulaski
- _____ Harlan _____ McCreary

5. What is the best description of conditions required for blackside dace spawning?

- _____ sediment free, cool water with a soft bottom
- _____ cool water with logs and undercut banks
- _____ sediment free, cool water with hard rock bottom
- _____ sediment free water with a gravel bottom

6. What species of fish does the blackside dace typically live with?

- _____ trout and other cold water fish
- _____ smallmouth and spotted bass
- _____ stonerollers and creek chubs
- _____ snail darters

7. What is the maximum penalty for harming the blackside dace?

- _____ \$100,000 and 10 years in jail
- _____ \$100,000 and 1 year in jail
- _____ \$25,000 and 6 months in jail
- _____ \$10,000 and 1 year in jail

8. What is the most common logging pollutant that affects the blackside dace?

- _____ organic debris _____ nutrients
- _____ silt _____ trash

9. Which logging activity is most likely to cause problems for blackside dace?

- _____ skid trails and haul roads located on the contour
- _____ improved stream crossings
- _____ unimproved stream crossings
- _____ cutoffs left at landings

10. What best describes the problem with culverts for use in blackside dace streams?

- _____ galvanized pipe causes chemical problems in the water
- _____ transition from light to dark in the culvert makes it difficult for blackside dace to move into the pipe
- _____ muddy water easily flows down skid trails and into streams at culvert crossings
- _____ it is difficult to install culverts to ensure that the dace can easily swim into and through the pipe

11. What practice involving SMZ's does the U.S Fish and Wildlife Service recommend?

- _____ normal 50% overstory removal is adequate
- _____ 100% of overstory should be left
- _____ increase the width of the zone and leave all creek bank trees
- _____ normal overstory can be removed except creek bank trees should be left

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Kentucky LogJam Newsletter

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College of Agriculture
Department of Forestry**

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