

# **Final Listing - Threatened Species Status for the Kentucky Arrow Darter and Designation of Critical Habitat Questions and Answers**

## **What actions are being finalized?**

The U.S. Fish and Wildlife Service is finalizing the listing of the Kentucky arrow darter as threatened under the Endangered Species Act (ESA) with exemptions for certain activities under Section 4(d) of the ESA. The Service also is finalizing the designation of 38 units of critical habitat in Breathitt, Clay, Harlan, Jackson, Knott, Lee, Leslie, Owsley, Perry, and Wolfe Counties in eastern Kentucky. The Service proposed these actions in October 2015 and, after reviewing comments received on the listing and designation of critical habitat, is now finalizing these actions. The Service also made available a draft economic analysis that estimated the incremental impacts from the critical habitat designation. The probable incremental economic impacts of the darter's critical habitat designation are expected to be limited to additional administrative efforts on the part of federal agencies considering impacts to any proposed critical habitat from their activities.

## **Were there any major changes from what was proposed to what is being finalized?**

During the open comment period from October 8, 2015 to December 7, 2015, 47 substantive comment letters were received in response to the proposed listing rule, and 15 substantive comment letters were received in response to the proposed critical habitat designation. None of those comment letters objected to the proposed rules. All substantive information received was either incorporated into the final determination or addressed in the comment section of the final rule and final critical habitat designation. The only major change in the final listing package is the expansion of critical habitat Unit 6 downstream to the confluence of Middle Fork Quicksand Creek and Quicksand Creek, bordering Breathitt and Knott Counties. This was done in response to new occurrence information provided on the species. Critical habitat in Unit 6 was expanded by 2.7 stream kilometers or 1.7 stream miles.

## **What is the Kentucky arrow darter?**

The Kentucky arrow darter is a small, brightly-colored fish from the upper Kentucky River drainage in eastern Kentucky. It typically inhabits pools or transitional areas between riffles and pools (glides and runs) in moderate to high-gradient, first- to third-order (headwater) streams with rocky substrates.

## **Why is the Service listing the Kentucky arrow darter?**

The fish has been eliminated from about 49 percent of its historical streams, with almost half of those localized extirpations occurring since the mid-1990s. Historically, the Kentucky arrow darter was found in 74 streams of the upper Kentucky River drainage in eastern Kentucky. Now, the darter is found in 47 streams across 10 Kentucky counties: Breathitt, Clay, Harlan, Jackson, Knott, Lee, Leslie, Owsley, Perry, and Wolfe. Populations in only 23 of these streams are considered stable.

This action is part of a multi-year listing work plan under the Multi-District Litigation (MDL) Stipulated Settlement Agreement among the Service, WildEarth Guardians, and the Center for Biological Diversity submitted to the U.S. District Court for the District of Columbia. In an effort to improve implementation of the ESA, the Service created a plan that enables the agency to systematically review and address the needs of more than 250 species listed in the 2010 Candidate Notice of Review (CNOR), and to determine if they should be added to the federal list of endangered and threatened species. The darter was first identified as a candidate for protection under the Act in the Service's November 2010 Candidate Notice of Review.

## **Has the Kentucky arrow darter been the focus of any specialized conservation actions or protections before now?**

Yes. The Service is working with several state, federal, and private partners to initiate and implement several conservation actions. For example, the Service worked with the Kentucky Department of Fish and Wildlife Resources, Kentucky State Nature Preserves Commission, U.S. Geological Survey, Kentucky Division of Water, Daniel Boone National Forest, Conservation Fisheries, Inc., and the Appalachian Wildlife Foundation, Inc. to complete a conservation strategy for the darter in 2014. This conservation strategy was developed as a guidance document for conservation efforts.

In August 2015, the Service and the U.S. Forest Service signed a voluntary Candidate Conservation Agreement (CCA) to benefit the darter and its watersheds in the Daniel Boone National Forest. Some improvements under the CCA include replacing culverts impeding the Kentucky arrow darter's use of available habitat and developing a forest-wide monitoring program for the fish.

Existing regulatory mechanisms, such as the Clean Water Act, have provided for some improvements in water quality and habitat conditions across the darter's range, but these laws and regulations have been insufficient in protecting the species' habitat, which continues to be degraded. The darter has been identified as a threatened species by the Commonwealth of Kentucky, but this state designation conveys no legal protection for the species or its habitat.

## **Are there other species of darters in eastern Kentucky and what is their status?**

Yes, several other darter species occupy streams in eastern Kentucky. On October 8, 2015, the Service concluded ESA protection was not warranted for one of those species, the Cumberland arrow darter, which occupies headwater streams in the upper Cumberland River drainage in eastern Kentucky and Tennessee. The fish has benefited from management actions associated with the Daniel Boone National Forest's Land and Resource Management Plan, as well as field work completed by the Kentucky Department of Fish and Wildlife Resources and Kentucky State Nature Preserves Commission. Recent surveys determined that the Cumberland arrow darter occupies 98 streams, a large increase compared to a previous record of 60 streams. It also benefits from existing laws and regulations designed to protect other listed fishes in those streams. The Cumberland arrow darter's status is also bolstered because of its frequent occurrence in streams on public lands, including the Daniel Boone National Forest, Cumberland Gap National Historical Park, and various state preserves and wildlife management areas.

## **Is the Service under a deadline to complete these actions?**

Yes. This is a final listing. The proposed listing/Critical Habitat determination met the MDL deadline by being submitted by the end of September, 2015. We are required to finalize proposed rules within a year of their publication. We are, therefore, meeting our statutory deadline with the publication of this final action.

## **What specific threats have been identified as impacting the survival of the Kentucky arrow darter?**

Habitat loss and degradation represent the most significant threats to the species. Resource extraction (e.g., coal mining, logging, oil and gas well development), land development, agricultural activities, and inadequate sewage treatment have all contributed to the degradation of streams within the range of the darter. These land use activities have led to chemical and physical changes to stream habitats that have adversely affected the species. Threats to the darter are ongoing and range-wide.

## **What would happen to coal mining as a result of this listing?**

If the fish is designated as a threatened species, coal mining could occur in Kentucky arrow darter watersheds provided that the proposed mining operation is in compliance with Sections 7 and 9 of the ESA, as well as threatened and endangered species provisions of the Surface Mining Control and Reclamation Act of 1977 (SMCRA). To ensure ESA and SMCRA compliance, the applicant will be required to develop a protection and enhancement plan for the Kentucky arrow darter that includes species-specific protective measures. The Service and the SMCRA State Regulatory Authority (Kentucky Department for Natural Resources) will work cooperatively to assist coal mining applicants in developing these measures. Typically, the inclusion of these measures will also satisfy consultation requirements of other federal and state agencies that may be involved in permitting the project, thereby reducing consultation timeframes.

## **What about transportation projects? How would road and bridge construction be affected?**

Federal agencies, including the Federal Highway Administration, regularly work with the Service when their projects may affect other federally listed species. There are more than 30 wildlife species, as well as 10 plants that are federally listed in Kentucky. The Service is working with partners to implement the best conservation measures for the fish. Along with the finalization of this listing and critical habitat designation, the Service is including provisions under Section 4(d) of the ESA that will exempt a number of specific activities from ESA prohibitions, including bridge and culvert replacement or removal that will eliminate barriers to the fish's movement.

## **Are there any locations where populations of the darter appear to be doing well?**

Twenty-three of the species' remaining streams appear to support stable populations and are located at least partially within the Daniel Boone National Forest and the University of Kentucky's Robinson Forest. Despite this, the darter has a limited range and fragmented distribution, with small or declining population sizes. The separation of some of these populations restricts the natural exchange of genetic material between them, increasing the species' vulnerability.

## **What is critical habitat?**

Under the ESA and subsequent case law, any species that is determined to be threatened or endangered requires critical habitat to be designated to the maximum extent prudent and determinable. Critical habitat is defined as the specific area(s) within the geographic range of a species at the time of listing that contain the physical or biological features essential to the conservation of the species and which also may require special management considerations or protection. Critical habitat also may include areas that are not occupied by the species at the time of listing and are essential for its conservation. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal funding or authorization needed.

## **What are the details of the critical habitat that is being proposed for the species?**

Approximately 398 stream kilometers or 248 stream miles will be designated as critical habitat in Breathitt, Clay, Harlan, Jackson, Knott, Lee, Leslie, Owsley, Perry, and Wolfe Counties, Kentucky. Land ownership includes federal, state, and private lands. The critical habitat units include the stream channels of the creeks within the ordinary high water line. In Kentucky, landowners own the land under non-navigable streams (e.g., the stream channel or bottom), but the water is under state jurisdiction. The Service does not include any lands above the ordinary high water line, or the adjacent uplands, in the critical habitat designation. For more information, please go to the Federal Rulemaking Portal at <http://www.regulations.gov>, under docket number FWS-R4-ES-2015-0133..

## **How do Section 4(d) exemptions work and do they always provide for conservation of the species?**

For species listed as threatened, the Service has discretion to issue regulations that it finds necessary and advisable under the law. Sometimes the activities directly benefit the listed species. In other instances, an exemption recognizes that an activity can occur under certain conditions without negatively impacting the species' population status. Exemptions for this species will allow for certain activities to be exempt from "take" under the ESA provided those activities abide by the conservation measures in the rule, are otherwise legal, and conducted in accordance with applicable state, federal, and local laws and regulations. Examples of exempted activities are channel reconfiguration and restoration, bank stabilization, bridge and culvert replacement or removal to remove migration barriers, and Daniel Boone National Forest stream crossing repairs. The exempted activities should maintain connectivity of darter habitats, minimize instream disturbances, and maximize the amount of instream cover available for the species. Acknowledging that some of these activities may have some minimal level of mortality, harm, or disturbance to the species, they are not expected to adversely affect the species' conservation and recovery efforts. In fact, these actions are expected to have a net beneficial effect on the darter.

These exemptions are voluntary. If landowners prefer to not use the exemptions, they will need to consult with the Service on their activities if there is a potential to impact the fish. Other activities not included in these exemptions may be authorized through other means provided by the ESA.

## **What types of activities has the Service determined would result in "take" of the species?**

Unauthorized collecting, handling, possessing, selling, delivering, carrying or transporting of the species; unauthorized modification of the channel or water flow of any stream in which the darter is known to occur; unauthorized discharge of chemicals, contaminants, or fill material into any waters supporting the darter; and unauthorized releases of biological control agents that attack any life stage of the darter.

## **What are the next steps?**

The public comment period also covered the proposal to designate critical habitat as well as the draft economic analysis. The Service is making these final determinations (listing as a threatened species with 4(d) provisions and designating critical habitat) based solely on the best scientific and commercial data available for the species. The final rules are being published in the DATE *Federal Register* and protections under the ESA will take effect on November 4, 2016.

## Where are the critical habitat units located?

A table outlining the 38 critical habitat units is provided below. A map also follows.

TABLE 1. Location, Ownership, and Lengths for Kentucky Arrow Darter Critical Habitat Units

Unit	Stream	County	Ownership – skm (smi)			Total Length skm (smi)
			Private	Federal	State	
1	Buckhorn Creek and Prince Fork	Knott	1.1 (0.7)	0	0	1.1 (0.7)
2	Eli Fork	Knott	1.0 (0.6)	0	0	1.0 (0.6)
3	Coles Fork and Snag Ridge Fork	Breathitt, Knott	0	0	11.0 (6.8)	11.0 (6.8)
4	Clemons Fork	Breathitt	0.1 (0.1)	0	6.9 (4.3)	7.0 (4.4)
5	Laurel Fork Quicksand Creek and Tributaries	Knott	19.8 (12.4)	0	0	19.8 (12.4)
6	Middle Fork Quicksand Creek and Tributaries	Knott	25.2 (15.6)	0	0	25.2 (15.6)
7	Spring Fork Quicksand Creek	Breathitt	2.2 (1.4)	0	0	2.2 (1.4)
8	Hunting Creek and Tributaries	Breathitt	15.6 (9.7)	0	0	15.6 (9.7)
9	Frozen Creek and Tributaries	Breathitt	26.4 (16.4)	0	0	26.4 (16.4)
10	Holly Creek and Tributaries	Wolfe	18.3 (11.5)	0	0	18.3 (11.5)
11	Little Fork	Lee,Wolfe	3.8 (2.3)	0	0	3.8 (2.3)
12	Walker Creek and Tributaries	Lee, Wolfe	25.0 (15.5)	0	0	25.0 (15.5)

13	Hell Creek and Tributaries	Lee	12.0 (7.4)	0	0	12.0 (7.4)
14	Big Laurel Creek	Harlan	9.1 (5.7)	0	0	9.1 (5.7)
15	Laurel Creek	Leslie	0.7 (0.5)	3.4 (2.1)	0	4.1 (2.6)
16	Hell For Certain Creek and Tributaries	Leslie	11.4 (7.0)	4.4 (2.8)	0	15.8 (9.8)
17	Squabble Creek	Perry	12.0 (7.5)	0	0	12.0 (7.5)
18	Blue Hole Creek and Left Fork Blue Hole Creek	Clay	0	5.7 (3.5)	0	5.7 (3.5)
19	Upper Bear Creek and Tributaries	Clay	0.2 (0.1)	6.6 (4.2)	0	6.8 (4.3)
20	Katies Creek	Clay	1.7 (1.0)	4.0 (2.5)	0	5.7 (3.5)
21	Spring Creek and Little Spring Creek	Clay	3.6 (2.2)	5.6 (3.5)	0	9.2 (5.7)
22	Bowen Creek and Tributaries	Leslie	2.0 (1.2)	11.6 (7.3)	0	13.6 (8.5)
23	Elisha Creek and Tributaries	Leslie	3.0 (1.9)	6.6 (4.0)	0	9.6 (5.9)
24	Gilberts Big Creek	Clay, Leslie	2.0 (1.2)	5.2 (3.3)	0	7.2 (4.5)
25	Sugar Creek	Clay, Leslie	1.1 (0.7)	6.1 (3.8)	0	7.2 (4.5)
26	Big Double Creek and Tributaries	Clay	0	10.3 (6.4)	0	10.3 (6.4)
27	Little Double Creek	Clay	0	3.4 (2.1)	0	3.4 (2.1)
28	Jacks Creek	Clay	5.4 (3.4)	0.5 (0.3)	0	5.9 (3.7)
29	Long Fork	Clay	0	2.2 (1.4)	0	2.2 (1.4)
30	Horse Creek	Clay	3.0 (1.9)	2.0 (1.2)	0	5.0 (3.1)
31	Bullskin Creek	Clay, Leslie	21.3 (13.3)	0.4 (0.2)	0	21.7 (13.5)
32	Buffalo Creek and Tributaries	Owsley	23.2 (14.5)	14.9 (9.3)	0	38.1 (23.8)
33	Lower Buffalo Creek	Lee, Owsley	7.3 (4.6)	0	0	7.3 (4.6)
34	Silver Creek	Lee	6.2 (3.9)	0	0	6.2 (3.9)
35	Travis Creek	Jackson	4.1 (2.5)	0	0	4.1 (2.5)
36	Wild Dog Creek	Jackson, Owsley	4.3 (2.7)	3.8 (2.4)	0	8.1 (5.1)

37	Granny Dismal Creek	Lee, Owsley	4.4 (2.7)	2.5 (1.6)	0	6.9 (4.3)
38	Rockbridge Fork	Wolfe	0	4.5 (2.8)	0	4.5 (2.8)
Total			276.5 (172.0)	103.7 (64.7)	17.9 (11.1)	398.1 (247.8)

**Index Map: Critical Habitat for Kentucky Arrow Darter (*Etheostoma spilotum*)**

