

(d) *Performance standard for automated inspection measurement system.* The automated inspection measurement system must be capable of measuring and processing rail seat deterioration requirements that specify the following:

(1) An accuracy, to within  $\frac{1}{8}$  of an inch;

(2) A distance-based sampling interval, which shall not exceed five feet; and

(3) Calibration procedures and parameters assigned to the system, which assure that measured and recorded values accurately represent rail seat deterioration.

(e) *Exception reports to be produced by system; duty to field-verify exceptions.* The automated inspection measurement system shall produce an exception report containing a systematic listing of all exceptions to § 213.109(d)(4), identified so that an appropriate person(s) designated as fully qualified under § 213.7 can field-verify each exception.

(1) Each exception must be located and field-verified no later than 48 hours after the automated inspection.

(2) All field-verified exceptions are subject to all the requirements of this part.

(f) *Recordkeeping requirements.* The track owner shall maintain and make available to FRA a record of the inspection data and the exception record for the track inspected in accordance with this paragraph for a minimum of two years. The exception reports must include the following:

(1) Date and location of limits of the inspection;

(2) Type and location of each exception;

(3) Results of field verification; and

(4) Remedial action if required.

(g) *Procedures for integrity of data.*

The track owner shall institute the necessary procedures for maintaining the integrity of the data collected by the measurement system. At a minimum, the track owner shall do the following:

(1) Maintain and make available to FRA documented calibration procedures of the measurement system that, at a minimum, specify an instrument verification procedure that ensures correlation between measurements made on the ground and those recorded by the instrumentation; and

(2) Maintain each instrument used for determining compliance with this section such that it accurately measures the depth of rail seat deterioration in accordance with paragraph (d)(1) of this section.

(h) *Training.* The track owner shall provide annual training in handling rail

seat deterioration exceptions to all persons designated as fully qualified under § 213.7 and whose territories are subject to the requirements of § 213.234. At a minimum, the training shall address the following:

(1) Interpretation and handling of the exception reports generated by the automated inspection measurement system;

(2) Locating and verifying exceptions in the field and required remedial action; and

(3) Recordkeeping requirements.

Issued in Washington, DC, on March 24, 2011.

Joseph C. Szabo,  
Administrator.

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[Docket No. FWS-R4-ES-2008-0071;  
92220-1113-0000-C6]

RIN 1018-AW95

#### Endangered and Threatened Wildlife and Plants; Reclassification of the Okaloosa Darter From Endangered to Threatened and Special Rule

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), are reclassifying the Okaloosa darter (*Etheostoma okaloosae*) from endangered to threatened under the authority of the Endangered Species Act of 1973, as amended (Act). The endangered designation no longer correctly reflects the current status of this fish due to a substantial improvement in the species' status. This action is based on a thorough review of the best available scientific and commercial data, which indicate a substantial reduction in threats to the species, a significant habitat restoration in most of the species' range, and a stable or increasing trend of darters in all darter stream systems. We also establish a special rule under section 4(d) of the Act. This special rule allows Eglin Air Force Base to continue activities with a reduced regulatory burden and will provide a net benefit to the Okaloosa darter.

**DATES:** This final rule is effective May 2, 2011.

**ADDRESSES:** Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection, by appointment, during normal business hours at the Panama City Field Office, U.S. Fish and Wildlife Service, 1601 Balboa Avenue, Panama City, FL 32405.

You may obtain copies of this final rule from the address above, by calling 850/769-0552, or at the Federal eRulemaking Portal: <http://www.regulations.gov>.

**FOR FURTHER INFORMATION CONTACT:** Don Imm, Field Supervisor, at the Panama City Field Office (see **ADDRESSES**) (telephone 850/769-0552; facsimile 850/763-2177). Individuals who are hearing-impaired or speech-impaired may call the Federal Information Relay Service at 800/877-8339 for TTY assistance 24 hours a day, 7 days a week.

#### SUPPLEMENTARY INFORMATION:

##### Previous Federal Actions

We proposed listing the Okaloosa darter as endangered on January 15, 1973 (38 FR 1521) and listed the species as endangered under the Act (16 U.S.C. 1531 *et seq.*) on June 4, 1973 (38 FR 14678) due to its extremely limited range, habitat degradation, and apparent competition from a possibly introduced related species, the brown darter. We completed a recovery plan for the species on October 23, 1981, and a revised recovery plan on October 26, 1998.

On June 21, 2005, we provided notice in the **Federal Register** that we were initiating a 5-year status review under the Act for the Okaloosa darter (70 FR 35689). The 5-year status review was completed in July 2007, and is available on our Web site at [http://www.fws.gov/southeast/5yearReviews/5yearreviews/okaloosa\\_darterfinal.pdf](http://www.fws.gov/southeast/5yearReviews/5yearreviews/okaloosa_darterfinal.pdf).

On February 2, 2010, we published a proposed rule to reclassify the Okaloosa darter from endangered to threatened and a proposed special rule under section 4(d) of the Act (75 FR 5263). We requested that all interested parties submit comments and information concerning the proposed reclassification of the Okaloosa darter. We provided notification of the publication of the proposed rule through e-mail, facsimile, telephone calls, letters, and news releases sent to the appropriate Federal, State, and local agencies; county governments; elected officials; media outlets; local jurisdictions; scientific organizations; interest groups; and other interested parties. We also posted the proposed rule on the Service's Panama

City Field Office Internet Web site following the rule's publication. We accepted public comments on the proposed rule for 60 days, ending April 5, 2010.

### Background

The Okaloosa darter, *Etheostoma okaloosae*, is a member of the family Percidae. It is a small, perch-like fish (maximum size is 49 millimeters (mm) (1.93 inches (in.)) Standard Length) that is characterized by a well-developed humeral spot, a series of five to eight rows of small spots along the sides of the body, and the first anal spine being longer than the second. General body coloration varies from red-brown to green-yellow dorsally, and lighter ventrally, although breeding males have a bright orange submarginal stripe on the first dorsal fin (Burkhead *et al.* 1992, p. 23).

The endemic Okaloosa darter is known to occur in only six clear stream systems that drain into two Choctawhatchee Bay bayous in Walton and Okaloosa Counties in northwest Florida. Okaloosa darters are currently found in the tributaries and the main channels of the following six streams: Toms, Turkey, Mill, Swift, East Turkey, and Rocky Creeks. Approximately 90 percent of the 457 square kilometer (176 square mile) watershed drainage area that historically supported the Okaloosa darter is under the management of Eglin Air Force Base (AFB), and we estimate that 98.7 percent of the stream length in the darter's current range is within the boundaries of Eglin AFB. Eglin AFB encompasses the headwaters of all six of these drainages, and the remainder of the these streams flow out of Eglin AFB into the urban complex of the Cities of Niceville and Valparaiso (USAF 2006, p. 3–1).

Longleaf pine-wiregrass-red oak sandhill communities dominate the vegetation landscape in Okaloosa darter watershed basins. These areas are characterized by high sand ridges where soil nutrients are low and woodland fire is a regular occurrence. Where water seeps from these hills, acid bog communities develop of *Sphagnum* sp. (sphagnum moss), *Sarracenia* sp. (pitcher plants), and other plants adapted to low nutrient soils. In other areas, the water emerges from seepage springs directly into clear flowing streams where variation of both temperature and flow is moderated by the deep layers of sand. The streams support a mixture of *Mayaca fluviatilis* (bog moss), *Scirpus etuberculatus* (bulrush), *Orontium aquaticum* (golden club), *Sparganium americanum* (burrweed), *Potamogeton diversifolius*

(pondweed), *Eleocharis* sp. (spikerush), and other aquatic and emergent plants.

Okaloosa darters typically inhabit the margins of moderate- to fast-flowing streams where detritus, root mats, and vegetation are present. Historic densities averaged about two darters per meter (3.28 feet) of stream length while more recent abundance estimates show an increase to an average of 2.9 darters per meter (Jordan and Jelks 2004, p. 3; USAF 2006, p. 3–1). They are only rarely collected in areas where there is no current or in open sandy areas in the middle of the stream channel. The creeks with Okaloosa darters are generally shaded over most of their courses, with temperatures ranging from 7 to 22 degrees Celsius (°C) (44 to 72 degrees Fahrenheit (°F)) in the winter (Tate 2008, pers. comm.; Jelks 2010, pers. comm.) to 22 to 29 °C (72 to 84 °F) in the summer (Mettee and Crittenden 1977, p. 5; Jelks 2010, pers. comm.).

Okaloosa darters feed primarily on fly larvae (*Diptera* sp.), mayfly nymphs (*Ephemeroptera* sp.), and caddis fly (*Trichoptera* sp.) larvae (Ogilvie 1980, as referenced in Burkhead *et al.* 1992, p. 26). The breeding season extends from late March through October, although it usually peaks in April. Spawning pairs have been videographed attaching one or two eggs to vegetation, and observed attaching eggs to woody debris and root mats (Collete and Yerger 1962, p. 226; Burkhead *et al.* 1994, p. 81). Ogilvie (1980, as referenced in Burkhead *et al.* 1992, p. 26) found a mean of 76 ova (unfertilized eggs) and 29 mature ova in 201 female Okaloosa darters, although these numbers may under-represent annual fecundity as the prolonged spawning season is an indication of fractional spawning (eggs develop and mature throughout the spawning season). Estimates of longevity range from 2 to 5 years (Burkhead *et al.* 1992, p. 27; Jordan 2010, pers. comm.).

### Recovery

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. The Act directs that, to the maximum extent practicable, we incorporate into each plan:

(1) Site-specific management actions that may be necessary to achieve the plan's goals for conservation and survival of the species;

(2) Objective, measurable criteria, which when met would result in a determination, in accordance with the provisions of section 4 of the Act, that

the species be removed from the list; and

(3) Estimates of the time required and cost to carry out the plan.

However, revisions to the list (adding, removing, or reclassifying a species) must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is endangered or threatened (or not) because of one or more of five threat factors. Therefore, recovery criteria must indicate when a species is no longer endangered or threatened by any of the five factors. In other words, objective, measurable criteria, or recovery criteria contained in recovery plans, must indicate when we would anticipate an analysis of the five threat factors under 4(a)(1) would result in a determination that a species is no longer endangered or threatened. Section 4(b) of the Act requires the determination made be "solely on the basis of the best scientific and commercial data available."

Thus, while recovery plans are intended to provide guidance to the Service, States, and other partners on methods of minimizing threats to listed species and on criteria that may be used to determine when recovery is achieved, they are not regulatory documents and cannot substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. Determinations to remove a species from the list made under section 4(a)(1) of the Act must be based on the best scientific and commercial data available at the time of the determination, regardless of whether that information differs from the recovery plan.

In the course of implementing conservation actions for a species, new information is often gained that requires recovery efforts to be modified accordingly. There are many paths to accomplishing recovery of a species, and recovery may be achieved without all criteria being fully met. For example, one or more recovery criteria may have been exceeded while other criteria may not have been accomplished, yet the Service may judge that, overall, the threats have been minimized sufficiently, and the species is robust enough, that the Service may reclassify the species from endangered to threatened or perhaps delist the species. In other cases, recovery opportunities may have been recognized that were not known at the time the recovery plan was finalized. These opportunities may be used instead of methods identified in the recovery plan.

Likewise, information on the species may be learned that was not known at

the time the recovery plan was finalized. The new information may change the extent that criteria need to be met for recognizing recovery of the species. Overall, recovery of species is a dynamic process requiring adaptive management, planning, implementing, and evaluating the degree of recovery of a species that may, or may not, fully follow the guidance provided in a recovery plan.

Thus, while the recovery plan provides important guidance on the direction and strategy for recovery, and indicates when a rulemaking process may be initiated, the determination to remove a species from the Federal List of Endangered and Threatened Wildlife is ultimately based on an analysis of whether a species is no longer endangered or threatened. The following discussion provides a brief review of recovery planning for the Okaloosa darter as well as an analysis of the recovery criteria and goals as they relate to evaluating the status of the species.

The recovery plan for the Okaloosa darter was approved on October 23, 1981 (Service 1981, 18 pp.), and revised on October 26, 1998 (Service 1998, 42 pp.). The recovery plan identifies a recovery objective of downlisting, and eventually delisting, the Okaloosa darter by enabling wild populations capable of coping with natural habitat fluctuations to persist indefinitely in the six stream systems they inhabit by restoring and protecting stream habitat, water quality, and water quantity. The Okaloosa darter may be considered for reclassification from endangered to threatened (downlisted) when:

(1) Instream flows and historical habitat of stream systems have been protected through management plans, conservation agreements, easements, or acquisitions (or a combination of these);

(2) Eglin AFB has and is implementing an effective habitat restoration program to control erosion from roads, clay pits, and open ranges;

(3) The Okaloosa darter population is stable or increasing and comprised of two plus age-classes in all six stream systems for 5 consecutive years;

(4) The range of the Okaloosa darter has not decreased at all historical monitoring sites; and

(5) No foreseeable threats exist that would impact the survival of the species.

For more information on the recovery plan for the Okaloosa darter, a copy of the plan is posted on our Web site at [http://ecos.fws.gov/docs/recovery\\_plan/970407.pdf](http://ecos.fws.gov/docs/recovery_plan/970407.pdf).

Each of the above criteria for downlisting the Okaloosa darter to

threatened has been met, as described below.

*Downlisting Criterion (1): Instream flows and historical habitat of stream systems have been protected through management plans, conservation agreements, easements, or acquisitions (or a combination of these).*

The management plans of several agencies apply to streams in the range of the Okaloosa darter and are being implemented to protect this fish's water quality and quantity and its overall habitat. Probably the most influential of these is Eglin's integrated natural resources management plan (INRMP) (USAF 2007; USAF 2009), including the Threatened and Endangered Species Component Plan (USAF 2006). The INRMP is updated annually and re-confirmed every 5 years in consultation with the Service and the Florida Fish and Wildlife Conservation Commission (FWC) (see Factor D. under the Summary of Factors Affecting the Species section, below, for further detail and description of Department of Defense (DOD) protections, and the Available Conservation Measures section, below, for Act protections). The INRMP defines goals and specific objectives for managing natural resources on the base. The primary goal of Okaloosa darter management on Eglin AFB is to provide the highest level of capability and flexibility to the military testing and training mission while meeting the legal requirements of the Act, the Clean Water Act (CWA; 33 U.S.C. 1251 *et seq.*), and other applicable laws. Another goal of the 2009 INRMP is to maintain or restore hydrologic processes in streams, floodplains, and wetlands when feasible. The specific objectives of Okaloosa darter management on Eglin AFB include:

(1) Downlist the Okaloosa darter from endangered to threatened by the end of 2010, and delist the darter by the end of 2015;

(2) Annually restore 2 fish passage barriers from the 20 identified sites in Okaloosa darter drainages as funding allows;

(3) Develop a public information and awareness program for endangered and threatened species on Eglin AFB that have greater potential to be impacted by public activities, such as Okaloosa darters;

(4) Complete a program by 2010 that would include an Air Armament Academy (A3) class (combined with Endangered Species Act class), informational brochures, and portable display boards;

(5) Cooperate with the City of Niceville, Okaloosa County, and private

landowners adjacent to Eglin AFB to recover the Okaloosa darter;

(6) Identify and rehabilitate 150 soil erosion sites that have the potential to impact endangered and threatened species (Gulf sturgeon (*Acipenser oxyrinchus desotoi*) and Okaloosa darter) habitat by 2011; and

(7) Train and use Okaloosa darter monitoring crews and aquatic monitoring crews to survey and report the presence of invasive, nonnative plants and animals during their regular monitoring activities and treat invasive, nonnative plants as necessary.

Instream flows and historical habitat have been protected through Eglin AFB's removal of fish passage barriers (INRMP Objective 2) and rehabilitation of soil erosion sites that are impacting endangered and threatened species (INRMP Objective 6). Further recovery efforts to benefit stream flows and historic habitat have been planned, including training darter monitoring crews to report invasive species found during regular survey efforts (INRMP Objective 7).

In 2005, the Service, Eglin's Natural Resources Branch, The Nature Conservancy (TNC), and the FWC signed an agreement to cooperate in the stewardship of aquatic systems on lands of the Gulf Coastal Plain Ecosystem Partnership (GCPEP) in western Florida. GCPEP's Aquatic Team agreed to initially assign priority to strategies and projects that contribute to the recovery of the Okaloosa darter. We are working with GCPEP to use stream restoration techniques and management actions that have been established for Okaloosa darter watersheds on partner lands.

The Three Rivers Resource Conservation and Development Council (Council) is a nonprofit organization set up to conserve the natural resources for, and to improve the overall economic condition of, rural and urban citizens. The Council is composed of representatives from the county Commissions and Soil and Water Conservation Districts, and includes three members at large from Escambia, Santa Rosa, Okaloosa, Walton, Bay, Washington, and Holmes Counties in Florida. The Council has developed an Area Plan (2003–2008), which includes:

(1) A natural resources goal of encouraging proper management use and protection of the natural resource base;

(2) An objective to assist local military bases in conservation planning efforts;

(3) A strategy to continue a non-point project to control erosion with Eglin AFB; and

(4) A strategy for habitat restoration, including four recently completed

projects that replaced or rehabilitated undersized or improperly placed culverts as well as eliminated sedimentation from roadway runoff.

The Eglin golf course dominates land use in the Mill Creek Basin. Along with West Long Creek in the Rocky Creek Basin, these are the same drainages where monitoring suggests darter numbers have been declining in recent years. The Service and Eglin AFB have recently completed a habitat restoration project in the portion of Mill Creek that runs through the Eglin golf course. Work is ongoing to assess causes of declines in East Turkey and West Long Creeks.

The Choctawhatchee Basin Alliance (a citizen's group), along with supporting State and Federal agencies, is implementing a program called "Breaking New Ground," which is a set of place-based air and watershed action plans for the Choctawhatchee River and Bay watershed. These plans address water quality monitoring, point and non-point source pollution, growth management, water supply, education, and citizen involvement in all Choctawhatchee Bay watersheds, including the darter drainages. This planning effort has resulted in the funding of studies to assess point and non-point source water pollution in the basin, including darter watersheds, and is expected to continue to assist in identifying and addressing potential long-term water quality and supply issues in the watershed, which is a positive step towards securing permanent protections for Okaloosa darter water quality and quantity.

In addition, the Northwest Florida Water Management District (NFWFMD) (in conjunction with the Florida Department of Environmental Protection (DEP) has a Surface Water Improvement and Management (SWIM) Plan that addresses water issues in the Choctawhatchee River and Bay System, including the projected water supply needs of the coastal portions of Okaloosa and Walton Counties. Protecting water-dependent endangered species and their habitats are integral components of the SWIM Plan. In its water supply plan for the counties that encompass the range of the darter, the NFWFMD examines the water sources that could supply growing human water demands in the region (Bartel *et al.* 2000). Depending on its magnitude and spatial distribution, substantial new use of the Sand and Gravel Aquifer could diminish stream flow in the darter streams; however, the potential well fields that the NFWFMD identified are located south and west of the darter drainages.

The opportunities for easements or acquisitions or both to protect the Okaloosa darter are limited, because over 90 percent of its historic range is on Federal land. The Service is currently working with FWC and a private landowner to secure a conservation easement for the portion of East Turkey Creek between the Eglin AFB boundary and Choctawhatchee Bay. This easement would help to secure nearly all of East Turkey Creek inhabited by Okaloosa darters outside the boundaries of Eglin AFB. Because Eglin AFB and others have demonstrated a commitment to recovery of the Okaloosa darter through natural resources management planning and coordination with the Service, we consider this downlisting criterion to be satisfied.

*Downlisting Criterion (2): Eglin AFB has (and is implementing) an effective habitat restoration program to control erosion from roads, clay pits, and open ranges.*

Accomplishments have been made in recovering Okaloosa darter habitat, and the Service continues to work with Eglin AFB, the City of Niceville, and Okaloosa and Walton Counties to restore additional habitat through the removal and replacement of road crossings and impoundments throughout the darter's range.

Eglin AFB is implementing an effective habitat restoration program to control erosion from roads, borrow pits (areas where materials like sand or gravel are removed for use at another location), and cleared test ranges. Since 1995, Eglin AFB has restored 317 sites covering 196.2 hectares (ha) (484.8 acres (ac)) that were eroding into Okaloosa darter streams. All 38 borrow pits within Okaloosa darter drainages are now stabilized (59.3 ha; 146.5 ac) (USAF 2005, p. 3–18). The other 279 sites (136.9 ha; 338.3 ac) included in the total area are characterized as non-point sources (pollution created from larger processes and not from one concentrated point source, like excess sediment from a construction site washing into a stream after a rain) of stream sedimentation. Eglin AFB estimates that these efforts have reduced soil loss from roughly 69,000 tons per year in darter watersheds in 1994, to approximately 2,500 tons per year in 2010 (Pizzolato 2010, pers. comm.). As of 2006, Eglin AFB had completed about 95 percent of the erosion control projects identified for the darter watersheds (USAF 2006, p. 3–5). Restoration activities began earlier in the Boggy Bayou drainages. Accordingly, darter numbers increased in the Boggy Bayou drainages earlier

than in the Rocky Bayou drainages. Increases in darter numbers over the past 10 years generally track the cumulative area restored during that timeframe (Jordan and Jelks 2004, p. 9).

Many road crossing structures have been eliminated as part of Eglin AFB's restoration activities. Of the 152 road crossings that previously existed in Okaloosa darter drainages, 57 have been eliminated: 28 in Boggy Bayou streams, and 29 in Rocky Bayou streams. Most of these were likely barriers to fish passage or problems for stream channel stability, and removing them has improved habitat and reduced population fragmentation. We have determined that 21 of the remaining road crossings are barriers to fish passage. Many of these are culverts with the downstream end perched above the stream bed, precluding the upstream movement of fish during normal and low-flow conditions. Ten of the 21 barriers are of little to no adverse consequence to darter habitat connectivity because they occur on the outskirts of the current range or are immediately adjacent to another barrier or impoundment. However, darters downstream of the 11 remaining barriers cannot move upstream during normal and low-flow conditions. To date, 7 of these have been removed or replaced with appropriate structures and the remaining 4 will be removed in 2011.

Impoundments may also fragment darter habitat and populations. As of 2005, there were 32 impoundments within the darter's range. Most of these are the result of beaver activity at road-stream crossings, and some are located within reaches from which darters are extirpated or in headwater regions of streams where darters are typically found only in low densities. As part of the road-stream crossing rehabilitation work, Eglin has prioritized restoration or replacement of road-stream crossings where beaver activity has impounded stream flow. Major projects under this program include multi-partner stream restoration efforts in Little Rocky Creek and Toms Creek. These projects required removal of historical railroad crossings that had been impounded by beavers and included greater than 100 meters of natural channel design and construction.

Manmade structures accounted for 12 of the 32 impoundments in Okaloosa darter watersheds. Working with the Service, the Council, FWC, and the Mid-Bay Bridge Authority (MBBA), Eglin AFB has removed six recreational impoundments, including all impoundments in the Turkey Creek watershed. Two major stream restoration projects have been

conducted on Eglin AFB, both utilizing natural channel design to eliminate impoundments and fish passage barriers while promoting public recreation.

In FY 2007, Eglin AFB restored portions of Mill Creek within the Falcon and Eagle golf course. Staff from Eglin Natural Resources, the Eglin golf course, and the Service determined that it was feasible to restore all impoundments upstream of Plew Lake, the largest impoundment on the system, to free-flowing streams and to remove all but one of the culverts that convey the stream underneath fairways on the golf course. Present in the smallest of the six darter watersheds, the darter population in Mill Creek is probably most vulnerable to extirpation. Within one year of completion, Okaloosa darters had colonized the entire restoration project and recruitment had been observed. We anticipate that restoration at Mill Creek will help maintain a viable population in the Mill Creek system.

In 2009, a partnership including Eglin AFB, the Service, FWC, and MBBA initiated a restoration of Anderson Pond and the adjacent campground and recreation area. As part of this project, the impoundment was removed, and over 1000 meters of stream channel were constructed. A new pond was excavated in a portion of the original impoundment to accommodate fishing and other recreational activities. This project has reconnected darters isolated in the headwater reaches of Anderson Branch with the Turkey Creek population and re-established habitat for an estimated 1,500 to 2,000 darters. Both the Mill Creek and Anderson Pond projects accomplished stream restoration while promoting outdoor recreation and education opportunities for the public.

Based on the observations shared above, Eglin AFB has effectively implemented this downlisting criterion and continues to make additional progress in reducing remaining erosion problems on the base. These actions appear to be associated with identifiable increases in Okaloosa darter numbers and occupied range. We will continue to partner with Eglin AFB to find similar opportunities like Mill Creek and Anderson Pond to restore habitat. Because Eglin AFB and others have demonstrated a commitment to recovery of the Okaloosa darter through natural resources management planning and coordination with the Service, we consider this downlisting criterion to be satisfied.

*Downlisting Criterion (3): Okaloosa darter population is stable or increasing and comprised of two plus age-classes in all six stream systems for 5 consecutive years.*

We had no estimate of population size at the time of listing, although the historic range of the Okaloosa darter is fairly well documented. Relative abundance estimates were determined annually from 1987–88 to 1998 at Eglin AFB. Bortone (1999, p.15) compared the relative abundance (number per sampling hour) of darters at 16 to 18 stations over 10 sampling seasons. The mean number of Okaloosa darters per sample (in those samples that yielded darters) was slightly lower in the earlier sampling period (1987 to 1991), higher during the middle sampling years (1992 to 1997), and distinctly lower in 1998 and 1999. Bortone (1999, p. 9) concluded that this may not have indicated an overall trend in the reduction in Okaloosa darters as much as it may be indicative of changes that specifically reduced preferable habitat and increased sampling effectiveness at certain sites, as several sites were altered by beaver activity while others became more rooted with undergrowth. Generally, the data do not indicate any overall major trends in decline or increase during the 10-year sampling period (Bortone 1999, p.10).

The U.S. Geological Survey (USGS) and Loyola University New Orleans has surveyed between 12 and 60 sites for Okaloosa darters annually since 1995 (Jordan and Jelks 2004, p. 2). Their methodology has evolved into counting darters in 20-m (66-ft) segments using mask and snorkel visual surveys, and includes collection of habitat conditions such as water depth, stream discharge, substrate type, and canopy cover. Collectively, Jordan and Jelks' data show an almost tripling of darter numbers in a 10-year timeframe, from an average of about 20 darters per 20-m (66-ft) segment sampled in 1995, to about 55 darters per segment in 2004. Dips in Okaloosa darter densities occurred in 2001–02 and in 2009, which corresponded with years of regional drought conditions. Even during these years, however, darter numbers were almost double those of 1995 and 1996.

The current rangewide total population estimate, estimated by applying Jordan and Jelks (2004, p. 3) study area-wide density estimate of 3.1 darters per meter (m) (or per 3.28 feet) to our estimates of occupied stream length in each of the six Okaloosa darter basins, is 802,668 darters with an estimated 625,279 mature individuals (Service 2007, Table 2). In order to expand the surveyed range of the species, 69 sites were seine surveyed in 50-m (164-ft) segments by the Service in 2004–05, with many of those being outside the area surveyed by Jordan and Jelks (2004). Observed segment densities

were transformed to local abundance estimates based upon the Jordan *et al.* (2008, pp. 316–318) comparison of seine versus visual counts and depletion sampling. These surveys produced an overall density estimate of 1.28 darters per meter (or per 3.28 ft) and an abundance estimate of 259,355 mature individuals (Service 2007, Table 3). This estimate is very conservative because seining typically only recovers about a third of the Okaloosa darters detected visually (Jordan *et al.* 2008, p. 318) For more information on sampling methods, see the Service's 2007 5-year status review of the Okaloosa darter (Service 2007).

Standardized sampling since the status review continues to show robust numbers of Okaloosa darters. A visual survey conducted in 2009 showed an average density of  $3.1 \pm 2.3$  Okaloosa darters per linear meter (Jelks pers. comm. 2010).

Downlisting criterion number (3) is further defined in Appendix A of the Okaloosa darter recovery plan to include a specific standardized sampling methodology. An operational definition of a "stable" population is also provided in Appendix A of the recovery plan. The definition of a "stable" population applies to 26 long-term monitoring sites and has three parts:

- (1) Okaloosa darter numbers remain above 1.75 standard deviations below the cumulative long-term average at each of the monitoring sites;
- (2) The long-term trend in the average counts at each monitoring site is increasing, or neutral; and
- (3) The range that the species inhabits is not decreased by more than a 500-meter (1,640.4-ft) stream reach within any of the six stream systems.

Although the darter meets the criterion for a stable population, the validity of the criteria in the operational definition of "stable" has come into question since 1998, when the recovery plan was prepared. As identified in our 2007 5-year status review of the Okaloosa darter (Service 2007, p. 6), monitoring has shown that natural variation coupled with sampling method (seining versus visual survey) might result in a variation greater than 1.75 standard deviations while still maintaining a stable or increasing trend. Therefore, we have found that this operational definition may no longer reflect the true status of the species. We plan to revise the recovery criteria to incorporate advances in population assessment that use variation at specific localities while incorporating adjustments for sampling error.

Current estimates of Okaloosa darter numbers were calculated using two different methods of standardizing monitoring and survey data. The first method used visual surveys in 28 20-m (66-ft) segments of stream encompassing the six principal basins; a study area-wide density estimate was applied to the known occupied stream length for a 2004 total population estimate of 802,668 darters with 95 percent confidence interval (CI) ranging from 503,457 to 1,323,597 (Service 2007, Table 2). The second method transformed seine sample density estimates to local abundance estimates, based upon the Jordan *et al.* (2008) comparison of seine versus visual counts and depletion sampling, to calculate a 2004–05 population estimate of 259,355 with 95 percent CI ranging from 216,120 to 302,590 darters (Service 2007, Table 3). Acknowledging the greater error likely associated with the seine-based calculations, they provide a more conservative population estimate; however, both estimates are large given the naturally small range of the species.

As identified in our 2007 5-year status review (Service 2007, p. 6–7), the long-term trend in the average counts at each monitoring site indicated that the four smallest darter watersheds (Toms, Swift, Mill, and East Turkey), as well as West Long Creek and East Long Creek, were decreasing while the watersheds of Rocky Creek and Turkey Creek were increasing. However, sampling conducted since restoration activities on Mill Creek were completed indicates that darter numbers are now increasing. Using the estimated length of occupied habitat for these creeks, darter numbers are stable or increasing in 86 percent of their current range and decreasing in 14 percent of their current range. All of the declining trends were sampled by seining, not visual surveys, and may reflect variable sampling efficiency over time. For example, one site has become almost impossible to seine due to the exposure of tree roots resulting from stream bed degradation. Because seining detects only about 32 percent as many Okaloosa darters as visual surveys (Jordan *et al.* 2008, p. 313), the long-term trends in darter counts at sites sampled by seine may not reflect actual trends. Furthermore, there appears to be a reduction in numbers at many of the sites in 1998 to 2000, prior to which counts appear to be relatively consistent or generally increasing, which correspond to a drought that began in 1998. Following 1998, the darter counts at these sites follow a stable or increasing trend at reduced densities (Service 2007, Figure 6). Because

recovery criteria were based on data collected in years with normal rainfall, variation associated with droughts could not be accounted for and strict interpretation of criteria is likely not biologically appropriate.

The range of the Okaloosa darter is represented as the cumulative stream length of occupancy in a basin. However, the annual monitoring identified in the recovery plan is not specifically designed to measure the length of a range reduction. Therefore, we are unable to determine whether part (3) of the operational definition of “stable” (A population will be considered stable if \* \* \* (3) the range that the species inhabits is not decreased by more than a 500-meter (1,640.4-ft) stream reach within any of the six stream systems) has been met. Further, as noted previously, seining has been shown to detect only about 32 percent as many darters as visual surveys (Jordan *et al.* 2008, p. 313), increasing the probability of incorrectly concluding that darters are absent when using this survey method. Therefore, we do not feel that this aspect of the definition of “stable” is appropriate.

Okaloosa darters population numbers have increased since 1995, and have remained consistently stable at all sites where current sampling techniques are utilized. Annual population monitoring by USGS and Loyola University New Orleans has detected young-of-the-year and adult fish in all six stream systems for the past 13 years (Service 2007). Okaloosa darters appear to have expanded their range in Mill Creek following habitat restoration activities in 2007, and have been collected in the southern/western tributary of Toms Creek previously thought to be uninhabited. We have not observed extirpation at any of the monitoring sites since 1998, and sampling conducted in 2009 continues to show robust numbers of Okaloosa darters. Acknowledging the limitations in the criteria outlined in Appendix A of the recovery plan, we consider this downlisting criterion to be satisfied.

*Downlisting Criterion (4): The range of the Okaloosa darter has not decreased at all historical monitoring sites.*

As noted above, trends in the range of the Okaloosa darter are difficult to interpret. Darters have expanded their range in Mill Creek as a result of habitat restoration. A recent collection of darters from the southern/western tributary of Toms Creek may represent an additional range expansion; however, additional field surveys will be necessary to determine the extent and stability of the occupied habitat. If

Okaloosa darters are established in this tributary, this would represent a range expansion of about 2.25 kilometers (1.4 miles). The Okaloosa darter has been extirpated from about 9 percent of the 402 km (249.8 mi) of streams that comprise its total historical range. Nearly all of these impacts occurred prior to the original recovery plan in 1984, and most were likely prior to the species listing in 1973. The Swift Creek monitoring site is the only established monitoring site where an extirpation appears to have occurred. This is evidenced by a single collection of 2 individuals in 1987; otherwise Okaloosa darters have not been collected at this site. Because local extirpation occurred more than 20 years ago, the darter has expanded its range in Mill Creek and Toms Creek, and we have not witnessed a reduction in range since the revision of the recovery plan in 1998, we consider this criterion to be met.

*Downlisting Criterion (5): No foreseeable threats exist that would impact the survival of the species.*

At this stage of the recovery of Okaloosa darter, threats remain under Listing Factor A: the present or threatened destruction, modification, or curtailment of the species' habitat or range. Resource stewardship on Eglin AFB is generally reducing the threat of habitat destruction and range reduction from sedimentation from unpaved roads and areas adjacent to poorly designed or maintained paved roads. As of 2006, about 95 percent of the erosion control projects identified in darter watersheds had been completed (USAF 2007, pp. 3–5). Eglin AFB is continuing to fund these projects to completely eliminate the threat. We will continue to work with Eglin AFB to remove remaining erosion sources or point and non-point pollution sources in Okaloosa darter habitat. In addition, stream restoration projects have been completed, and new projects are being considered on Eglin AFB. We will work with Eglin AFB to ensure Okaloosa darter habitat is protected.

Although water quality issues associated with the Niceville landfill and sprayfield continue to threaten the darter, they are being examined in a research project, which began in 2007. We recently worked with the City of Niceville to improve its wastewater collection system and install more appropriate culverts at a number of road crossings. In addition, as stated above, a few of the Okaloosa darter's streams have been indicated as potentially impaired due to biological indicators. We will continue to work with Eglin AFB and the city of Niceville to

determine the causes of impairment and remove them.

Proposed plans to assign additional military forces to Eglin AFB may alter the military mission and could potentially impact Okaloosa darter populations; however, we do not anticipate any increase in threats from this action as the new ranges have been moved outside of Okaloosa darter habitat. Eglin AFB has also agreed to provide a 300-ft. buffer along all darter streams when conducting any troop maneuvers. On the smaller creeks, where we noted a general long-term decline in average counts, we will continue to investigate using survey protocols whether habitat attributes at these sites are the cause.

The Okaloosa darter was listed in 1973 as an endangered species. At the time of listing, the species faced significantly greater threats than it does today, as evidenced by the numerous recovery actions to date that have improved and restored its habitat conditions. These recovery actions include completing 95 percent of the erosion control projects identified in darter watersheds, thereby significantly reducing the most intense threat to the species (see the Summary of Factors Affecting the Species section below for further details). Now, more than 35 years after it was listed under the Act, the Okaloosa darter's overall status has improved. Given that the threats to the species have been significantly reduced, we have determined that the Okaloosa darter has recovered to the point where it now meets the definition of a threatened species—one that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” In other words, although some threats to the Okaloosa darter continue to exist, these threats are not likely to cause the species to become extinct throughout all or a significant portion of its range within the foreseeable future. Data collected on the distribution and abundance of the species indicate that the species' range has expanded and overall population numbers are increasing. The Okaloosa darter has met all five downlisting criteria in its recovery plan.

#### Summary of Comments and Responses

During the 60-day comment period on the proposed rule, which began on February 2, 2010, and ended on April 5, 2010 (75 FR 5263), we received only two written comments, both of which supported both reclassification of the Okaloosa darter from endangered to threatened and the special rule. The proponents of the reclassification

included the FWC and TNC. We received no public hearing requests. In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited independent opinions from three knowledgeable individuals who have expertise with the species and the geographic region where the species occurs and are familiar with conservation biology principles. We received comments from all three of the peer reviewers. The reviewers were affiliated with the State of Florida, a Louisiana university, and a Federal Government agency. Reviewers provided additional factual information, as well as minor corrections and input on our interpretation of existing information. In general, all peer reviewers concurred with the downlisting of the Okaloosa darter to threatened status and the special rule. We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding the proposed reclassification. Substantive comments we received during the comment period have been addressed below and, where appropriate, incorporated directly into this final rule. The comments are grouped below according to peer review or public comments.

#### Peer Review/State Comments

(1) *Comment:* One reviewer expressed concern for the population of Okaloosa darters in Shaw Still Branch, a tributary to Swift Creek, due to isolation resulting from College Pond and habitat degradation.

*Response:* We agree that the population in Shaw Still Branch should be closely monitored and that restoration of College Pond should be considered; however, the Okaloosa darter population and suitable habitat persist in this stream. In addition, there has been a stable or increasing trend of darters in all darter stream systems, including Swift Creek. We do not feel that the genetic isolation of the Shaw Still Branch darter population precludes reclassification from endangered to threatened, which is based on an assessment of the species' status and threats as a whole.

(2) *Comment:* Two reviewers expressed concern over the Mid-Bay Bridge Connector Road and long-term secondary and cumulative effects to the Okaloosa darter.

*Response:* We recently completed consultation under section 7(a)(2) of the Act on this road project and have updated the discussion of this project in this rule (see Summary of Factors Affecting the Species; *Factor A*. discussion). We found that the proposed

Mid-Bay Bridge Connector Road is not likely to jeopardize the continued existence of the Okaloosa darter. There are many conservation measures in place to minimize the impacts of the roadway, and the potential secondary and cumulative effects will be minimized through efforts to work with private property owners to protect floodplain and riparian habitat and reduce threats along Okaloosa darter streams. Given the specific extensive conservation measures included in the project, we do not consider the Mid-Bay Bridge Connector Road to be a significant threat to Okaloosa darters.

(3) *Comment:* Although the sand and gravel aquifer that feeds the darter drainages is not currently used for human consumption, one reviewer expressed concern that plans for wellfields have been proposed within Okaloosa darter drainages.

*Response:* We are not aware of any proposals to directly use the sand and gravel aquifer for human consumption. The NFWFMD has recently announced plans for an offline reservoir in the Shoal River (Yellow River watershed) to supply drinking water to Okaloosa County. This action will use surface water and is outside the primary recharge area for streams inhabited by the Okaloosa darter; therefore, we believe there will be little to no impact on Okaloosa darters related to this offline reservoir. Eglin AFB, the cities of Niceville and Valparaiso, and Okaloosa County have not indicated plans to establish wellfields in the foreseeable future.

(4) *Comment:* One reviewer expressed concern that the proposed rule recommended delisting by 2012.

*Response:* The proposed rule actually noted that Eglin AFB's INRMP goals for darter management recommended delisting by 2012. The proposed rule was updated to reflect the most recent annual update of the INRMP, which now recommends delisting by 2015. In any case, this is Eglin AFB's recommendation, and does not reflect the views of the Service. A determination to remove a species from the Federal List of Endangered and Threatened Wildlife is made by the Service and is based on an analysis of whether a species is no longer endangered or threatened.

(5) *Comment:* One reviewer was concerned that our population estimate was inflated because we assumed that all stream segments within the six darter drainages are suitable for Okaloosa darters.

*Response:* We did not assume that all stream segments within the six Okaloosa darter drainages are suitable



for Okaloosa darters when we derived the population estimate of 802,668 darters. A complete description of the methods we used to derive the amount of suitable habitat can be found in Service 2007, pages 16–18. In general, we calculated the total stream length within the Okaloosa darter drainages and then subtracted the impoundments and the segments that we believe no longer support Okaloosa darters from total stream length. However, we still believed that not all portions of the remaining stream length were necessarily suited for Okaloosa darters. To correct for this bias, we applied darter/habitat relationships to estimate the proportion of potential habitat that may be occupied. We estimated that for the roughly 365 km of potential darter habitat, about 261 km would be occupied, and estimated the population accordingly.

(6) *Comment:* One reviewer noted that the fixed station sampling methodology may only be capturing a localized density increase, not a true population increase.

*Response:* We agree with the reviewer that alternative study designs to fixed station sampling, such as random site selection, can provide more robust conclusions about population trends. The critique of fixed site sampling is that nonrepresentative data may be collected, thereby increasing the chance of incorrect conclusions. In the case of fixed station sampling of Okaloosa darters, we believe the chances of collecting nonrepresentative data are fairly low. The fixed stations occur across multiple sites in all six darter drainages. The number of sites has been high, with anywhere from 12 to 60 sites sampled annually since 1995, and collectively these data show an almost tripling of darter numbers in a 10-year timeframe. In addition, Okaloosa darters appear to have expanded their range in Mill Creek and possibly in a tributary of Toms Creek previously thought to be uninhabited. Therefore, we believe it is reasonable to conclude that the overall increasing trend in the fixed station sampling data is likely reflecting an increase in the Okaloosa darter population as a whole.

(7) *Comment:* One reviewer was concerned that the Service redefined recovery criteria so as to minimize the importance of population declines and extirpations in areas outside of Eglin AFB in order to expedite the reclassification process.

*Response:* This comment was first directed at the language under the Recovery section of the proposed rule (75 FR 5265; February 2, 2010) that describes how precise attainment of all

recovery criteria is not a prerequisite for downlisting. In addition, within each recovery criterion, the reviewer believes we have redefined the Okaloosa darter population to be those darters on Eglin AFB and thereby implied that the 1.3 percent of the current geographic range that is outside of Eglin AFB is of marginal importance. We do not agree with this comment because we manage the Okaloosa darter as a whole across its range and have to address its status and threats it faces across its range. A determination to reclassify a species' status on the Federal List of Endangered and Threatened Wildlife is ultimately based on an analysis of whether a species is no longer endangered or no longer threatened. Based on the best available scientific information, the population as a whole has increased, and its threats have decreased within 98.7 percent of its current range and 90 percent of its historic range. We agree with the reviewer that the populations of Okaloosa darters outside of Eglin AFB are important to the overall population resiliency and for full recovery and delisting of the species.

(8) *Comment:* One reviewer expressed concern that we did not use the best scientific data available because we did not rely on a recent unpublished study on the degree of genetic distinction in Okaloosa darters among streams. The study found that each of the six Okaloosa darter drainages support genetically unique populations. The reviewer felt that the populations outside Eglin AFB in Mill, Swift, and East Turkey creeks are in danger of extinction and recommended that the Service consider reclassifying only populations of Okaloosa darters in the Toms, Turkey, and Rocky creek drainages and leave populations in the Mill, Swift, and East Turkey creek drainages as endangered.

*Response:* We did not include the findings of this study in our analysis because at the time the proposed rule was published, this study was not available. The authors only very recently completed a final report and submitted it for publication in a peer-reviewed journal (Austin *et al.* 2010, unpublished data). In summary, the authors conducted mitochondrial and nuclear DNA analyses to determine the degree of genetic distinction among streams. They found that Toms Bayou, Boggy Bayou, and Rocky Bayou are three evolutionarily significant units and, to a lesser extent than the bayous, all six streams are genetically unique. They also found that robust historical genetic estimates of abundance and recent census estimates support the

decision to reclassify the Okaloosa darter to threatened.

Based on the subtly different genetic characteristics of these six streams, it is conceivable that extirpation of Okaloosa darters in any of the six streams would result in a loss of genetic variation. While we acknowledge there have been localized declines in the populations in Mill, Swift, and East Turkey creeks, we do not agree that darters are in danger of extirpation from these creeks. Darter populations in Mill Creek have been increasing since restoration was completed, and we expect this restoration will result in a viable, sustainable population. In addition, significant parts of all three of these streams are located on Eglin AFB, where resource stewardship and protection is generally reducing the threat of habitat destruction and range reduction. Outside of Eglin's borders, we are working with the City of Niceville and private landowners to reduce threats to Okaloosa darters. The status of the species as a whole has improved and threats have decreased in all six streams. We will continue to work with the authors as we work towards recovery of the Okaloosa darter.

(9) *Comment:* One reviewer disagreed with how we defined "significant portion of the range," noting that if we considered the six drainages separately based on genetic differences noted in Austin *et al.* (2010, unpublished data), there is considerable likelihood that Okaloosa darter is in danger of extinction in a significant portion of its range due to the more pronounced threat in the areas outside of Eglin AFB.

*Response:* The Okaloosa darter was listed due to threats across its entire range. In our evaluation of significant portion of the range for this species, we assessed threats across the landscape to determine if any areas were experiencing unique impacts. We then determined if those areas were significant to the species as a whole as further described below in the Significant Portion of the Range section of this rule. In evaluating this comment, we determined that, although each drainage may possess slightly different genetics (Austin *et al.* 2010, unpublished data), the drainages are all subject to similar threats. The area outside of the Eglin AFB was not considered a significant portion of the range, because this area is small and is similar in structure to habitat found throughout the rest of the species' range. We have determined that there are no portions of the range that qualify as a significant portion of the range for the darter.



(10) *Comment:* One reviewer disagrees that almost all of the human activities that may affect the existing darter population are Federal actions.

*Response:* Of the darter's current range, 98.7 percent is on Federal lands, and the remaining 1.3 percent occurs downstream of the boundaries of Eglin AFB. We agree that there are human activities that impact the darter in the 1.3 percent of the darter's range outside of Eglin AFB; however, almost all of the darter's range is within Federal lands and subject to Federal statutes and regulations, including the Sikes Act and Sikes Improvement Act, the Act, and the CWA, as well as other applicable State laws. Furthermore, any State, local, and private projects outside of Eglin AFB that use Federal funds or require Federal permits must undergo section 7 consultation under the Act.

(11) *Comment:* One reviewer expressed concern for delisting by asking how the Okaloosa darter can be delisted given that the species was primarily listed due to a restricted geographic range and that will never change.

*Response:* The Service is not considering delisting the species at this time. The determination to remove a species from the Federal List of Endangered and Threatened Wildlife is based on an analysis of whether a species is no longer endangered or threatened by any of the five factors: (1) Habitat modification, destruction, or curtailment; (2) overutilization of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. The Okaloosa darter was initially listed not only due to its restricted range but also because of habitat degradation from roads, dams, and land clearing, and the threat of competition with brown darters. Delisting the species would involve a full assessment of these and other threats impacting the Okaloosa darter in consideration of its restricted range. As discussed throughout this rule, there has been a substantial reduction in threats to the species' habitat, and brown darters do not appear to be a significant threat to its recovery. There are still actions needed for the Okaloosa darter to continue to recover, including cooperative agreements to protect and restore habitat, water quality, and water quantity outside of Eglin AFB, and the continued improvement and maintenance of water quality and riparian habitat on Eglin AFB.

(12) *Comment:* One reviewer expressed concern regarding the enforcement of the Act as it relates to Okaloosa darter in areas that occur outside of Eglin AFB.

*Response:* All State, local, and private projects outside of Eglin AFB that use Federal funds or require Federal permits (for example CWA section 404 dredge-and-fill permits) must undergo section 7 consultation under the Act. In addition, under section 9 of the Act, "take" (defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct in section 3(19) of the Act) will still be prohibited on private lands as it was when the species was listed as endangered. The special rule under section 4(d) of the Act does not remove the prohibitions against take outside of Eglin AFB's habitat restoration projects. The Service also works proactively with the Florida Fish and Wildlife Conservation Commission and private landowners to facilitate darter habitat restoration off of Eglin AFB.

#### *Public Comments*

The following public comment addresses issues that were not raised by the peer reviewers. If an issue brought up by a peer reviewer was also raised by the public, it is discussed above in the peer review comment section rather than below.

(13) *Comment:* In relation to additional subpopulations of Okaloosa darters, one commenter suggested we conduct an assessment of other stream systems within the Rocky Bayou drainage that may have historically contained the Okaloosa darter. The commenter also described a stream restoration project in Puddin Head Lake, a steephead stream system adjacent to the Rocky Creek watershed, noting that this stream may have historically contained Okaloosa darters and recommended that the Service consider this stream restoration project as a current activity that may benefit the Okaloosa darter.

*Response:* We agree and plan to evaluate other streams within all three bayous that may have historically contained Okaloosa darters to locate suitable habitat and possible additional populations. Okaloosa darters do not occur in Puddin Head Lake, but we plan to evaluate restored habitat within the Puddin Head stream and other locations that may have historically contained Okaloosa darters as potential sites for reintroduction.

#### **Summary of Factors Affecting the Species**

Section 4 of the Act and its implementing regulations (50 CFR part 424) set forth the procedures for listing, reclassifying, or removing species from the Federal Lists of Endangered and Threatened Wildlife and Plants. "Species" is defined by the Act as including any species or subspecies of fish or wildlife or plants, and any distinct vertebrate population segment of fish or wildlife that interbreeds when mature (16 U.S.C. 1532(16)). Once the "species" is determined, we then evaluate whether that species may be endangered or threatened because of one or more of the five factors described in section 4(a)(1) of the Act. Those factors are: (1) Habitat modification, destruction, or curtailment; (2) overutilization of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. We must consider these same five factors in reclassifying or delisting a species. Listing, reclassifying, or delisting may be warranted based on any of the above threat factors, either singly or in combination.

For species that are already listed as endangered or threatened, this analysis of threats is an evaluation of both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following the delisting or downlisting.

The following threats analysis examines the five factors currently affecting, or that are likely to affect, the Okaloosa darter within the foreseeable future. For the purposes of this analysis, we will first evaluate whether the currently listed species, the Okaloosa darter, should be considered endangered or threatened throughout its range. Then we will consider whether there are any portions of the species' range where it is in danger of extinction or likely to become endangered within the foreseeable future.

#### *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range*

The Okaloosa darter was listed under the Act in 1973, because of its extremely limited range and potential problems resulting from erosion, water impoundment, and competition with brown darters. The Okaloosa darter has been extirpated from about 9 percent of the 402 km (249.8 mi) of streams that

comprise its total historical range. This historic loss of range is most likely due to physical and chemical habitat degradation from sediment and pollutant loading and the urbanization of the City of Niceville coupled with historic impacts originating on what is now Eglin AFB. Recent surveys in a southern/western tributary of Toms Creek, however, have established the darter's presence in a stretch of stream previously thought to be uninhabited. At present, all but 5 km (3.1 mi), or 1.3 percent, of the current range is also currently within Eglin AFB.

#### Sedimentation and Erosion

Sediment loading is perhaps the most intense and uniform factor continuing to threaten the Okaloosa darter. A report (Rainer *et al.* 2005, pp. 3–13) identified the following primary sources of sediment to aquatic ecosystems on Eglin AFB: accelerated streamside erosion, borrow pits, developed areas, land test areas, silviculture, and roads. Of these, the stream crossings of unpaved roads and subsequent bank erosion probably have the greatest impact because of their distribution on Eglin AFB, relative permanence as base infrastructure, and long-term soil disturbance characteristics. The largest remaining source of sediment input to darter streams is the unpaved road network. As of 2005, 87 percent (4,348 km or 2,701.7 mi) of Eglin's road network was unpaved.

As of 2010, Eglin AFB had completed about 95 percent of the erosion control projects identified in darter watersheds, substantially reducing runoff and sedimentation within the road network (USAF 2006, pp. 3–5; Pizzolato 2010, pers. comm.). From 1995 to 2004, 317 borrow pits and non-point erosion sites (485 ac) were rehabilitated and maintained. Although most of the erosion control projects have already been completed, Eglin has a continuing objective of identifying and rehabilitating an additional 150 soil erosion sites beyond the 317 sites that have already been restored. These soil erosion sites have the potential to impact endangered and threatened species like the listed Okaloosa darter. These remaining soil erosion sites pose a continuing threat to the darter and its habitat. For example, five road crossings in the Turkey Creek drainage have repeatedly exceeded State water quality standards for turbidity. Recent funding has been secured to replace or eliminate the remaining road-stream crossings identified as impairing waterways within the range of the Okaloosa darter on Eglin AFB. These projects are currently being designed or awaiting

permits, and all are scheduled for construction in 2011.

Of the 153 road crossings that previously existed in Okaloosa darter drainages, 57 have been eliminated: 28 in Boggy Bayou streams, and 29 in Rocky Bayou streams. Eglin AFB estimates that these and other restoration efforts have reduced soil loss from roughly 69,000 tons per year in darter watersheds in 1994, to approximately 2,500 tons per year in 2010 (Pizzolato 2010, pers. comm.).

Borrow pits were a major source of sediment loading to darter streams cited in the 1998 darter recovery plan. At that time, 29 of 39 borrow pits located within or immediately adjacent to Okaloosa darter drainages had been restored so that they no longer posed sedimentation threats. As of 2004, all of the remaining borrow pits within Okaloosa darter drainages have been restored and no longer pose sedimentation threats (Rainer *et al.* 2005, pp. 3–18).

While sedimentation and erosion problems still exist on Eglin AFB, they have been significantly reduced through improvements such as bottomless culverts, bridges over streams, and bank restoration and revegetation. There are other areas where sedimentation remains a higher magnitude threat to the continued existence of the Okaloosa darter. Primarily in the downstream-most portion of the darter's range, urban development and construction activity pose a threat to the darter due to poor stormwater runoff control and ineffective pollution prevention measures that degrade habitat and may pose potential barriers to movement between basins. This threat is present primarily in the 5 km (3.1 mi) of historic habitat located outside of Eglin AFB. With improvement and reduction of sediment erosion on Eglin AFB (98.7 percent of the darter's current range), we believe that we can continue to work with off-base partners in recovery efforts that will enable delisting of this fish.

#### Road Development Projects

Additionally, road development projects present new potential threats that may negatively impact the Okaloosa darter. The Northwest Florida Transportation Corridor Authority has proposed a new, high-speed, toll bypass road that crosses Eglin AFB, extending from U.S. 331 in Walton County to SR 87 in Santa Rosa County. It includes the MBBA's Mid-Bay Bridge Connector Road, a new road from the northern terminus of the Mid-Bay Bridge to SR 85 north of Niceville. In addition, the Florida Department of Transportation is planning a capacity improvement

project to expand SR 123 from two to four lanes across Toms and Turkey creeks. However, the roads would not prevent implementation of management actions for the Okaloosa darter in Eglin AFB's INRMP, which will continue to provide a benefit to the darter.

Eglin AFB has granted the MBBA conceptual agreement for the Mid-Bay Bridge Connector Road, and construction of Phase I of the project has begun. Although the remaining phases of the project cross darter drainages, the agreement includes 19 stipulations that will minimize impacts to darter drainages. For example, the project will use environmentally-sensitive bridge construction techniques, and conservation measures that minimize erosion and ground disturbance at each stream crossing and that maintain stream channel stability. By designing the bridges to maintain natural stream geomorphology, and with the use of appropriate methods to stabilize stream banks and erosion control measures along the stream, we do not anticipate long-term erosion and degradation of darter habitat.

The project also includes specific stream restoration projects to improve currently degraded habitat conditions in Okaloosa darter basins including Mill Creek, Swift Creek, East Turkey Creek, Turkey Creek, and Toms Creek. Importantly, the potential secondary and cumulative effects of a new roadway, including threats to Okaloosa darter from new development, will be addressed through discussions with private property owners regarding easements and agreements to protect floodplain and riparian habitat and reduce threats along Okaloosa darter streams.

We recently completed consultation under the Act on this project and found that the proposed Mid-Bay Bridge Connector Road is not likely to jeopardize the continued existence of the Okaloosa darter. Most direct and indirect effects will occur within the 122-meter (400-foot) study corridor and are considered temporary and reversible. Given the specific extensive conservation measures included in the project, we do not consider the Mid-Bay Bridge Connector Road to be a significant threat to Okaloosa darters. As plans progress for the other road projects, the applicants will need to consult with the Service under section 7 of the Act to avoid and minimize impacts to the Okaloosa darter and other federally protected species, and assure that the species' continued existence and recovery is not jeopardized.

## Eglin AFB and Its Programs

Eglin AFB is a military training facility and is divided into 37 land test areas where weapons testing and training operations are conducted, 12 of which are wholly or partially within darter drainages (SAIC 2001, pp. 2 and 7). Eglin AFB maintains large portions of the test areas in an early stage of plant succession with few mature trees and varying degrees of soil disturbance as a result of maintenance or military missions. Since 1998, only one section 7 consultation with Eglin AFB (related to test area activities) has resulted in the issuance of an incidental take statement.

There is a proposal to increase the military personnel and use at Eglin AFB through the 2005 Defense Base Realignment and Closure (BRAC). The BRAC action involves establishing the Joint Strike Fighter Integrated Training Center and relocating the Army 7th Special Forces Group (Airborne) to Eglin AFB, increasing the number of personnel present on base, the number of test ranges, and the frequency of test area activities. The Service has provided preliminary comments on the military's Notice of Intent to Prepare an Environmental Impact Statement under the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) and completed a formal consultation for other species but not the Okaloosa darter. We do not anticipate any increase in threats to the Okaloosa darter from this action, as the new ranges have been moved outside of Okaloosa darter habitat and Eglin AFB has agreed to provide a 300-ft. buffer along all darter streams when conducting any troop maneuvers.

While poorly designed silvicultural programs can result in accelerated soil erosion and stream sedimentation, Eglin AFB has designed its silviculture program within darter habitat to avoid and minimize impacts to the aquatic ecosystems such that the program is not likely to adversely affect the Okaloosa darter.

## Pollution

Pollution other than sedimentation poses a potential threat to darters in six stream segments. While no streams in the darter's range are designated by DEP as impaired, 6 of the 13 segments sampled using three biological indicators were considered potentially impaired and are on the "3c planning list," which means that "enough data and information are present to determine that one or more designated uses may not be attained according to the Planning List methodology." One stream site has been characterized as

"severely limited by pollutants from the landfill."

Using comparable aquatic insect sampling methods, the Service (Thom and Herod 2005, Table 4–1) found 12 out of the 42 sites sampled within the darter's range to be impaired. An impaired water body is one where the biological integrity of the system as determined through indicators has been compromised because of pollutants, indicating that Okaloosa darter habitat is degraded. Based on these data, it appears likely that the wastewater treatment sprayfields located near the headwaters of East Turkey Creek and Swift Creek are adversely affecting water quality. Although water quality issues associated with the Niceville landfill and sprayfield continue to threaten the darter, they are being examined in a research project.

## Water Withdrawals

Water withdrawals for human consumption in and around the range of the Okaloosa darter are presently served by wells that tap the Floridan Aquifer, which is declining substantially in the most populated areas near the coast. However, at this time, there is no evidence that pumping from the Floridan Aquifer has reduced flows in darter streams. The darter drainages are spring-fed from a shallow sand and gravel aquifer that is not used for human consumption. Additionally, the low permeability of the Pensacola Clay confining bed probably severely limits hydraulic connectivity between the two aquifers (Fisher *et al.* 1994, p. 86). Therefore, we do not anticipate that local population growth would adversely affect water flows in the darter's drainages.

## Climate Change

The Intergovernmental Panel on Climate Change (IPCC) concluded that warming of the climate system is unequivocal (IPCC 2007a, p. 30). Numerous long-term changes have been observed including changes in arctic temperatures and ice, and widespread changes in precipitation amounts, ocean salinity, wind patterns, and aspects of extreme weather including droughts, heavy precipitation, heat waves, and the intensity of tropical cyclones (IPCC 2007b, p. 7). While continued change is certain, the magnitude and rate of change is unknown in many cases.

The currently occupied range of the darter is restricted to approximately 402 km (249.8 mi) of streams in Walton and Okaloosa Counties, Florida. While we acknowledge the general scientific consensus that global scale increases in temperatures have occurred, we do not

have sufficient data to determine that climate change poses a significant threat to the Okaloosa darter. Streams within the Okaloosa darter's range are spring-fed, and thus many are thermally moderated. However, thermal mediation varies considerably among nearby Okaloosa darter streams (Jordan 2010, pers. comm.), and some streams that support Okaloosa darters may be affected by increases in air temperature. We lack the data to evaluate whether increased temperatures in some streams will adversely affect Okaloosa darters. The information currently available on the effects of climate change and the available climate change models do not make sufficiently accurate estimates of location and magnitude of effects at a scale small enough to apply to the range of the Okaloosa darter. At present, we have insufficient data to determine that climate changes observed to date have had any adverse impact on the Okaloosa darter or its habitat.

## Summary of Factor A

About 51,397 hectares (127,000 acres), or 457 square kilometers (176 square miles), of the darter's drainage basins (90 percent) are managed by Eglin AFB, while 485.6 hectares or 12,000 acres (10 percent) of the drainage basins are situated within the Niceville-Valparaiso urban complex. Urban runoff continues to degrade darter habitat in 1.3 percent of the linear stream distance that occurs outside of Eglin AFB through pollution and sedimentation. Additionally, there is a continued threat of further development in the darter's drainages outside of Eglin AFB.

The military mission or mandate of Eglin AFB, which holds 98.7 percent of the darter's current range and 90 percent of the drainage basins for the darter, will lead to foreseeable actions that could impact the darter's range. Potential impacts resulting from a road development project within the darter's range have been minimized, and that project is not considered a significant threat to the species. However, the growing coastline human population in Florida that is pressing into the boundaries of Eglin AFB will have foreseeable needs that could cross Eglin AFB's boundaries and impact the darter's range.

Stream sedimentation and erosion control problems still exist on Eglin AFB, and we will continue to cooperatively work with our partner to resolve these. Habitat restoration efforts completed on the base to date have reduced 95 percent of the sedimentation into streams occupied by the Okaloosa darter, nearly eliminating the largest threat to the species.

At present, we do not have data to indicate that climate change poses a significant threat to the Okaloosa darter.

Okaloosa darter populations are stable or increasing in the majority of the species' range. The current rangewide population is estimated at 802,668 darters with an estimated 625,279 mature individuals (Service 2007, Table 2). Therefore, we believe the rangewide threat of habitat destruction, modification, or fragmentation over this large area from sources like sedimentation and pollution has been reduced to a point where the Okaloosa darter no longer meets the definition of an endangered species. We find that the present or threatened destruction, modification, or curtailment of its habitat or range is not likely to place the Okaloosa darter in danger of extinction throughout all or a significant portion of its range. However, although the threats under this factor have been reduced, they have not been entirely eliminated. Accordingly we find that the Okaloosa darter meets the definition of a threatened species because it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

*Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

Overutilization for commercial, recreational, scientific, or educational purposes is not, nor has it ever been, a significant threat to the Okaloosa darter anywhere within the species' range. Any utilization for recreational purposes is limited to the occasional mistaken use as a bait fish. Therefore, we find that this factor is not likely to cause the Okaloosa darter to become an endangered species within the foreseeable future throughout all or a significant portion of its range. We do not have any data to suggest that this threat will increase in any portion of the darter's range now or within the foreseeable future.

*Factor C. Disease or Predation*

Neither disease nor predation is considered a threat to the Okaloosa darter. The six basins of the darter's range are relatively free of introduced aquatic predators, and the native predators, such as the largemouth bass, are relatively low in numbers due to the generally low productivity of the groundwater-fed streams. We have no indications that terrestrial predation is a problem. It is possible that diseases or parasites were indirectly associated with the extirpation of the darter from various stream segments as a result of physical or chemical habitat

degradation. However, apart from this potential association, we do not otherwise suspect that disease or predation unduly limits the distribution or abundance of the darter. Therefore, we find that this factor is not likely to cause the Okaloosa darter to become an endangered species within the foreseeable future throughout all or a significant portion of its range. We do not have any data to suggest that this threat will increase in any portion of the darter's range now or within the foreseeable future; however, vigilance for nonindigenous predators is needed as potential introductions of flathead catfish or cichlids might prove to be problems for the Okaloosa darter in the future.

*Factor D. The Inadequacy of Existing Regulatory Mechanisms*

The Act requires that any State, local, and private project outside of Eglin AFB that uses Federal funds or requires a Federal permit must undergo section 7 consultation to ensure that the species is not jeopardized. In addition, the State of Florida has listed the Okaloosa darter as an endangered species under its protected species statute since 1976. Recently, the FWC incorporated the IUCN Red List Criteria (<http://www.iucnredlist.org>) in its procedures for classifying species (Florida Administrative Code 68A-27.0012), but the FWC has not yet evaluated the Okaloosa darter using the new procedures (Knight 2010, pers. comm.). Our application of the Red List Criteria classifies the darter as "near threatened" (Service 2007, p. 43).

In addition, land management on DOD lands is governed by the Sikes Act (16 U.S.C. 670 *et seq.*) and the Sikes Improvement Act, which provide for the conservation and rehabilitation of natural resources and require DOD to periodically prepare an INRMP in consultation with the Service and the applicable State wildlife agency. Because the Okaloosa darter's current range occurs almost exclusively on Eglin AFB, the species is afforded considerable protections from large-scale habitat disturbance. Its habitat is further conserved and rehabilitated, through fish and wildlife and land management actions, consistent with the use of the military installation, as required by the Sikes Act, as amended by the Sikes Act Improvement Act. Federal actions must also comply with the National Environmental Policy Act, the CWA, and applicable State laws. These laws also help with avoiding or minimizing impacts to the Okaloosa darter and its habitat.

Department of Defense Instruction (DODI) 4715.3, Environmental Conservation Program, is the overarching instruction for DOD natural and cultural resources management, and is the primary agent for implementing policy (including the Sikes Act), assigning responsibility, and prescribing procedures for the integrated management of natural and cultural resources on DOD properties. In compliance with these programs, Eglin AFB has taken a proactive role in the recovery of the Okaloosa darter by managing its lands to provide for the recovery of the darter and assuring that the species' recovery is integrated with the military training purposes of the base.

Air Force Policy Directive (AFPD) 32-70, Environmental Quality, establishes policy to responsibly manage natural and cultural resources on Air Force properties, clean up past environmental damage, meet current environmental standards, plan future activities to minimize impacts, and eliminate pollution from Air Force activities whenever possible. Under this Directive, an Air Force Environmental Quality Program was developed. This program includes the following activities: Cleanup, compliance, conservation, and pollution prevention. Additionally, this directive states that the Air Force will pursue adequate funding to meet environmental legal obligations. Compliance with this directive has resulted in funding and implementation of considerable erosion control measures and fish barrier removals, which have significantly reduced runoff and sedimentation in Okaloosa darter streams and expanded the range of the species.

Air Force Instruction (AFI) 32-7064, Integrated Natural Resources Management, implements AFPD 32-70 and DODI 4715.3. This instruction provides details on how to manage natural resources on Air Force installations to comply with applicable Federal, State, and local laws and regulations. The current INRMP and Threatened and Endangered Species Component Plan for Eglin AFB identify management practices to benefit the Okaloosa darter. The purpose of the INRMP for Eglin AFB is to provide interdisciplinary strategic guidance for the management of the base's natural resources, while the primary objective of the Air Force Natural Resources Program is to ensure continued access to land and air space required to accomplish the Air Force mission while maintaining these resources in a healthy condition. The INRMP for Eglin AFB facilitates compliance with Federal,

State, and local environmental requirements. These requirements deal with analysis of: Potential environmental impacts, water and air quality, wetlands, endangered species, marine mammals, migratory birds, other wildlife, forest and fire management, and public access and recreation. The INRMP and Threatened and Endangered Species Component Plan also identify conservation objectives for the Okaloosa darter as described under Downlisting Criterion 1 under item (2) in the Recovery section above.

#### Summary of Factor D

We estimate that 98.7 percent of the darter's current range is within the boundaries of Eglin AFB; the remaining 1.3 percent of the range is downstream of Eglin AFB. For this reason, almost all human activities that may affect the existing darter population are Federal actions, including actions implemented, funded, or approved by the DOD. The INRMP prepared for Eglin AFB under the Sikes Act and Sikes Improvement Act requires habitat improvements that will continue to benefit the darter. Federal actions must also comply with the National Environmental Policy Act, the CWA, and applicable State laws. These regulatory mechanisms will remain in place when the Okaloosa darter is downlisted to threatened. Therefore, the existing regulatory mechanisms are substantial, and they will be adequate to protect the darter and its habitat in the majority of its range now and within the foreseeable future. We do not have any data to suggest that this threat will increase in any portion of the darter's range now or within the foreseeable future.

#### Factor E. Other Natural or Manmade Factors Affecting The Species' Continued Existence

Okaloosa darters were not adversely affected by the active hurricane and storm seasons of 2004 and 2005, which brought numerous severe storm events to the southern boundaries of Eglin AFB (Jordan and Jelks 2009, p. 9). Darter numbers declined slightly during the recent 2007–2008 drought affecting much of Florida; however survey data from previous droughts suggest resilience to these events with elevated recruitment during wet years (Jordan and Jelks 2009, p. 2).

Two natural factors are identified in the recovery plan as possibly affecting the Okaloosa darter: the brown darter as an introduced competitor species, and the beaver as an agent adversely modifying darter habitat.

#### Brown Darter

In 1964, a potential competitor of the Okaloosa darter, the brown darter (*Etheostoma edwini*), was found in the lower reaches of Swift Creek. The brown darter is a widespread species in drainages that surround the streams containing the Okaloosa darter, but had not previously been documented in any Okaloosa darter drainages. Early indications were that the brown darter may have been introduced into Okaloosa darter drainages from releases from bait buckets by fishermen or by incidental stocking with game fish from fish hatcheries (Burkhead *et al.* 1992, pp. 23–30). Others thought that brown darters dispersed from Eagle Creek along the shoreline of Choctawhatchee Bay and were simply overlooked in early collections (Jelks 2010, pers. comm.). Recent genetics analyses of the brown darter shows high genetic structure, and little support for introductions from eastern Florida (Austin 2007, pers. comm.), supporting the theory that they were overlooked in early collections.

Although annual monitoring (1995–2004) of Okaloosa and brown darter populations shows a weak negative correlation between the abundance of the two species, the relative abundance of Okaloosa darters at sites where both species occur has generally increased or remained constant in this timeframe, and the range of the brown darter has not expanded (Jordan and Jelks 2004, p. 3). Earlier comparisons of microhabitat use found little evidence of competitive displacement (Burkhead *et al.* 1994, p. 60). Therefore, at this time, we do not believe the brown darter is an introduced species or that it poses a significant threat to the recovery of the Okaloosa darter because it has not been shown to impair Okaloosa darter populations.

#### Beavers

Okaloosa darters do not appear to tolerate impounded conditions and are generally absent in the relatively still water upstream of manmade dams, beaver dams, culverts, and other instream obstructions that act like dams. Jordan and Jelks (2004, p. 29) observed the effects of a beaver dam and a culvert at two locations on Rogue Creek that supported Okaloosa darters before these structures were placed in the stream. Both structures had similar effects on darters and important darter habitat features, including increased water temperature, accumulation of flocculent substrate, loss of typical microhabitat features, and virtual elimination of darters in the impounded areas.

However, Jordan and Jelks (2004, p. 29) also observed that darters returned to these locations within a year following removal of the beaver dam and the culvert, the former by Eglin AFB resource managers and the latter by a hurricane.

Because beavers often alter areas in a manner contrary to human intentions for those areas, and also because beaver ponds displace Okaloosa darter habitat, resource managers, with the assistance of the U.S. Department of Agriculture's Wildlife Services, control beaver numbers in some areas on Eglin AFB (USAF 2007, pp. 1–6). Although a nuisance in the urban environment, beavers are a natural feature of the landscape in the range of the Okaloosa darter. It is possible that impacts from beavers may be more pronounced than they were historically given that the natural predators of beavers may be greatly reduced. Beaver dams are also problematic when they are constructed upstream of poorly designed river crossings and culverts because they result in more permanent impoundments.

While the waters impounded behind a beaver dam do not support Okaloosa darters, darter densities in "beaver meadows" were among the highest observed in monitoring surveys. Beaver meadows occur in the vicinity of beaver ponds where the dam and pond induces the stream to assume a braided (multi-channel) form, sometimes in the pond itself following dam blowout or removal. Floodplain trees are killed by the year-round high water level maintained near the pond and by the beavers themselves, and herbaceous vegetation thrives in the resulting open canopy, which apparently creates favorable habitat conditions for the darter as aquatic macrophytes thrive under the open canopy and in higher nutrient substrates. We suspect that a beaver meadow supports as many or more darters than were displaced from the beaver pond itself.

Beaver dams are not permanent structures and may be broken by the high flows associated with hurricanes and other major storm events. The organic matter that accumulates in a beaver pond is suddenly released when the dam blows out, which provides a pulse of nutrients in the otherwise nutrient-poor darter streams. The pond is gone immediately, of course, and over time the braided channel through the beaver meadow returns to a single channel form. This channel is eventually shaded by riparian trees and shrubs, and the concentrated patch of darter habitat that the meadow provided is also gone. Given the balance of the

effects beavers have on their habitats, we do not know at this time whether their numbers pose a threat to Okaloosa darters. However, even if they do pose localized impacts, we do not believe these to be significant to the Okaloosa darter rangewide.

#### Summary of Factor E

Okaloosa darters appear not to be affected by hurricanes and seem to be resilient to droughts. While brown darters may not impact the Okaloosa darter and beavers may pose only localized impacts, there is no evidence indicating that these impacts are significantly affecting the species on a rangewide or population level. Therefore, we find that this factor is not likely to cause the Okaloosa darter to become an endangered species within the foreseeable future throughout all or a significant portion of its range. We do not have any data to suggest that this threat will increase in any portion of the darter's range now or within the foreseeable future.

#### Conclusion of the 5-Factor Analysis

In developing this rule, we have carefully assessed the best scientific and commercial data available regarding the threats facing this species, as well as the ongoing conservation efforts.

Under section 3 of the Act, a species is "endangered" if it is in danger of extinction throughout all or a significant portion of its range and is "threatened" if it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. For the purposes of this rule, the word "range" refers to the range in which the species currently exists, and the word "significant" refers to the value of that portion of the range being considered to the conservation of the species. The "foreseeable future" is the period of time over which events or effects reasonably can or should be anticipated, or trends extrapolated.

As identified above, only one of the five listing factors currently poses a known threat to the Okaloosa darter, namely, Factor A—the present or threatened destruction, modification, or curtailment of its habitat or range. Eglin AFB manages the vast majority of the Okaloosa darter's current range, 98.7 percent. We have seen substantial progress on Eglin AFB addressing threats to the darter's habitat under the base's INRMP and general ongoing habitat restoration. Resource stewardship on Eglin AFB is generally reducing the threat of habitat destruction and range reduction (for example, restoring erosive, near-stream borrow pits). Eglin AFB is addressing

the threat of sedimentation from unpaved roads and from areas adjacent to poorly designed and maintained paved roads. Similarly, restoration of Mill Creek on the Eglin Golf Course, which had been substantially altered by culverts and manmade impoundments, has been completed. As the smallest of the six darter watersheds, the darter population in Mill Creek is probably most vulnerable to extirpation. We anticipate that restoration at Mill Creek will secure a viable population in this system. Eglin has worked diligently to generally improve habitat quality within its boundaries. Outside of Eglin's borders, we have been working with the City of Niceville to improve their wastewater collection system and install more appropriate culverts at a number of road crossings. However, additional improvements are necessary before this threat of sedimentation and pollution is completely removed.

Brown darters and habitat loss from beaver activity were identified as other natural and manmade factors affecting the continued existence of darters. After several years of monitoring and recent genetics work, it does not appear that the brown darter is either expanding its range or displacing Okaloosa darters in most sympatric areas. The overall effect of beaver activity on the darter is poorly understood. However, even if brown darters and habitat loss from beaver activity do pose localized threats, we do not believe these to be significant to the Okaloosa darter rangewide.

The 1998 Recovery Plan for the Okaloosa darter identifies five downlisting criteria. We believe that the intent of all five of the downlisting criteria have been fulfilled; however, the delisting criteria have not been met at this time. Specifically, while significantly reduced, sedimentation and pollution, as well as development, remain a threat in portions of the darter's range.

Based on the analysis above and given the substantial reduction in threats to its habitat, the Okaloosa darter does not currently meet the definition of endangered in that it is not "in danger of extinction throughout all or a significant portion of its range." Instead, it meets the definition of threatened in that it is "likely to become endangered in the foreseeable future throughout all or a significant portion of its range." Actions still needed for the Okaloosa darter to continue to recover (for example, actions to remove threats to the point that the species no longer meets the definition of threatened) include:

(1) Cooperative agreements to protect and restore habitat, water quality, and

water quantity for the Okaloosa darter outside of Eglin AFB to protect the species in the foreseeable future; and

(2) Improved and maintained water quality and riparian habitat on Eglin AFB, minimizing erosion at clay pits, road crossings, and steep slopes to the extent that resembles historic, predisturbance conditions.

#### Significant Portion of the Range

Having determined that the Okaloosa darter is no longer endangered throughout its range as a consequence of the threats evaluated under the five factors in the Act, we must next consider whether there are any significant portions of its range where the species is currently endangered. A portion of a species' range is significant if it is part of the current range of the species and is important to the conservation of the species because it contributes meaningfully to the representation, resiliency, or redundancy of the species. The contribution must be at a level such that its loss would result in a decrease in the ability to conserve the species.

The first step in determining whether a species is endangered in a significant portion of its range is to identify any portions of the range that warrant further consideration. The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that are not reasonably likely to be significant and endangered. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be significant, and (2) the species may be in danger of extinction there. In practice, a key part of this analysis is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats applies only to portions of the range that are not significant to the conservation of the species, such portions will not warrant further consideration.

If we identify any portions that warrant further consideration, we then determine whether in fact the species is endangered in any significant portion of its range. Depending on the biology of the species, its range, and the threats it faces, it may be more efficient for the Service to address the significance question first, and in others the status question first. Thus, if the Service determines that a portion of the range is

not significant, the Service need not determine whether the species is endangered there. Conversely, if the Service determines that the species is not endangered in a portion of its range, the Service need not determine if that portion is significant.

The threats identified above are fairly uniform throughout the range of the Okaloosa darter. In a small percentage of the range that occurs outside the Eglin AFB (10 percent of the drainage area, and 1.3 percent of the instream habitat), the threat of urbanization is more pronounced. However, this is a small portion of the total range of the species, is similar to the rest of the species' habitat, and does not appear in other ways to have a significant impact on the overall status of the species. Therefore, we have determined that there are no portions of the range that qualify as a significant portion of the range in which the darter is in danger of extinction.

In summary, the threats to Okaloosa darter habitat have been significantly reduced as a result of Eglin AFB implementing habitat improvement measures on the AFB's lands. Okaloosa darter populations remain stable throughout most of their range, and have even expanded their range in some areas. Based on the darter's improved status throughout its range and the reduction in threats, we have determined that none of the threats result in the darter being in danger of extinction throughout all or a significant portion of its range. However, certain threats to the darter and its habitat remain. We have determined that, based on the status of the species and these remaining threats, the Okaloosa darter meets the definition of threatened in that it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Therefore, we are reclassifying the darter's status from endangered to threatened under the Act.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing increases public awareness of threats to the Okaloosa darter, and promotes conservation actions by Federal, State, and local agencies; private organizations; and individuals. The Act provides for possible land acquisition and cooperation with the State, and provides for recovery planning and implementation. The protection required of Federal agencies and the

prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to the Okaloosa darter. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. If a Federal action may affect the Okaloosa darter or its habitat, the responsible Federal agency must consult with the Service to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of the Okaloosa darter. Federal agency actions that may require consultation include: Eglin AFB mission activities, new construction, culvert replacements, stream restoration, sediment control projects, vegetation control, and right-of-way permitting for pipelines and cables; U.S. Army Corps of Engineers involvement in projects such as dredge-and-fill permits for roads, bridges, and culverts; and Federal Highway Administration road projects.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered and threatened wildlife. These prohibitions, codified at 50 CFR 17.21 and 50 CFR 17.31, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken in violation of the Act. Certain exceptions apply to Service agents and agents of State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered and threatened species under certain circumstances. Regulations governing permits are codified at 50 CFR part 13 and at 50 CFR 17.32 for threatened wildlife species. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and for incidental take in the course of otherwise lawful activities. For threatened species, permits are also available for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

Because the Okaloosa darter's extant range occurs almost exclusively on Eglin AFB, the species is afforded considerable protections from large-

scale habitat disturbance. Those protections have already been discussed under Factor D. above, and are added here by reference.

Questions regarding whether specific activities will constitute a violation of section 9 of the Act and applicable regulations should be directed to Don Imm, Field Supervisor, Panama City Field Office (*see FOR FURTHER INFORMATION CONTACT*). Requests for copies of the regulations regarding listed species and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Ecological Services Division, 1875 Century Boulevard, Suite 200, Atlanta, GA 30345; telephone (404) 679-7313; facsimile (404) 679-7081.

#### Special Rule

The information presented above generally applies to threatened species of fish and wildlife. However, the Service has the discretion under section 4(d) of the Act to issue special regulations for a threatened species that are necessary and advisable for the conservation of the species. Threatened species implementing regulations at 50 CFR 17.31 incorporate the prohibitions of section 9 of the Act for endangered species, except when a "special rule" is promulgated under section 4(d) of the Act for a particular threatened species. A special rule for a particular threatened species defines the specific take prohibitions and exceptions that apply for that species rather than incorporating all of the prohibitions of section 9 of the Act. The prohibitions under section 9 of the Act currently make it illegal to import, export, take, possess, deliver, receive, carry, transport, ship in interstate commerce, or sell or offer for sale in interstate or foreign commerce species listed under the Act. Take, as defined in section 3 of the Act, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Threatened species that have special rules under section 4(d) of the Act are listed in our regulations at 50 CFR 17.40 through 17.48.

Because we originally listed the Okaloosa darter as endangered, we did not promulgate a special rule. However, now that we are reclassifying the darter to threatened status, a special rule is appropriate to provide for the continued conservation of the species. Therefore, a special rule is included as part of this reclassification from endangered to threatened status.

Although the range of the species is small, it is almost entirely (98.7 percent) on Eglin AFB Federal lands. Darter drainages comprise 24 percent of Eglin



AFB, subjecting almost all actions undertaken on 24 percent of the base to the interagency cooperation requirements of section 7 of the Act, including habitat management and restoration specifically targeted at darter conservation and as required by the Sikes Act and Sikes Improvement Act through the Eglin INRMP. This special rule:

(1) Recognizes the positive recovery efforts and accomplishments of Eglin AFB and the DOD in recovering the Okaloosa darter to the extent that the darter no longer meets the definition of endangered;

(2) Provides increased regulatory and mission flexibility for Eglin AFB;

(3) Helps streamline or eliminate review and permitting requirements for habitat management and restoration activities, thus providing a net benefit to the Okaloosa darter; and

(4) Enables the Service and Eglin AFB to better target limited resources to other, more vulnerable areas or species.

Therefore, under section 4(d) of the Act, we determine, through this special rule, that it is necessary and advisable to provide for the conservation of the Okaloosa darter by allowing the take in accordance with applicable Federal, State, and local laws, during the following activities on Eglin AFB that are consistent with a Service-approved INRMP and the Threatened and Endangered Species Component Plan:

(1) Prescribed fire for land management to promote a healthy ecosystem;

(2) Instream habitat restoration;

(3) Unpaved range road stabilization;

(4) Removal or replacement of culverts for the purpose of road decommissioning, improving fish passage, or enhancing stream habitat; and

(5) Scientific research and monitoring activities consistent with an approved Okaloosa darter recovery plan, or otherwise approved by the Service, both on and off of Eglin AFB.

All other activities resulting in take of Okaloosa darter remain prohibited.

This special rule provides for the continued conservation of Okaloosa darter by reducing the regulatory burden under the Act, and thereby encouraging further recovery efforts on DOD lands. Minor adverse impacts to the Okaloosa darter that are consistent with provisions of this final 4(d) special rule will not appreciably diminish the likelihood of recovery of the Okaloosa darter.

### Effects of This Rule

This rule will revise our regulations at 50 CFR 17.11(h) to reclassify the Okaloosa darter from endangered to threatened throughout its range on the Federal List of Endangered and Threatened Wildlife. This rule formally recognizes that this species is no longer in imminent danger of extinction throughout all or a significant portion of its range. However, this reclassification does not significantly change the protection afforded this species under the Act. The regulatory protections of section 9 and section 7 of the Act remain in place. Anyone taking, attempting to take, or otherwise possessing an Okaloosa darter, or parts thereof, in violation of section 9 of the Act is still subject to a penalty under section 11 of the Act, unless their action is covered under a special rule under section 4(d) of the Act. Under section 7 of the Act, Federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of the Okaloosa darter.

Recovery actions directed at the darter will continue to be implemented as outlined in the recovery plan for the Okaloosa darter (Service 1998), including:

(1) Restoring and protecting habitat in the six Okaloosa darter stream watersheds;

(2) Protecting water quality and quantity in the six Okaloosa darter streams;

(3) Monitoring and annually assessing populations and habitat conditions of Okaloosa and brown darters, and water quality and quantity in the streams; and

(4) Establishing a public information and education program and evaluating its effectiveness.

### Required Determinations

#### Section 7 Consultation

A special rule under section 4(d) of the Act is included in this downlisting rule. The Service is not required to consult on this rule under section 7(a)(2) of the Act. The development of protective regulations for a threatened species are an inherent part of the section 4 listing process. The Service must make this determination considering only the "best scientific and commercial data available." A necessary part of this listing decision is also determining what protective regulations are "necessary and advisable to provide for the conservation of [the] species."

Determining what prohibitions and authorizations are necessary to conserve the species, like the listing determination of whether the species meets the definition of endangered or threatened, is not a decision that Congress intended to undergo section 7 consultation.

#### National Environmental Policy Act

We have determined that we do not need to prepare an Environmental Assessment, or an Environmental Impact Statement, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), in connection with regulations adopted under section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

#### References Cited

A complete list of the references used to develop this rule is available upon request from Don Imm, Field Supervisor, Panama City Field Office (*see* **FOR FURTHER INFORMATION CONTACT**).

#### Author

The primary author of this document is Karen Herrington of the Panama City Field Office (*see* **ADDRESSES**).

#### List of Subjects in 50 CFR Part 17

Endangered and Threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

#### Regulation Promulgation

We amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

#### PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Public Law 99–625, 100 Stat. 3500; unless otherwise noted.

■ 2. Amend § 17.11(h) by revising the entry for "Darter, Okaloosa" under "FISHES" in the List of Endangered and Threatened Wildlife to read as follows:

#### § 17.11 Endangered and threatened wildlife.

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*		*
FISHES	.....	.....	.....		.....	.....	.....
Darter, Okaloosa	<i>Etheostoma okaloosae</i>	U.S.A. (FL)	Entire	T	6, 787	NA	17.44(bb)
*	*	*	*	*	*		*

■ 3. Amend § 17.44 by adding a paragraph (bb) to read as follows:

**§ 17.44 Special rules—fishes.**

\* \* \* \* \*

(bb) Okaloosa darter (*Etheostoma okaloosae*).

(1) Except as noted in paragraphs (bb)(2) and (bb)(3) of this section, all prohibitions of 50 CFR 17.31 and exemptions of 50 CFR 17.32 apply to the Okaloosa darter.

(i) No person may possess, sell, deliver, carry, transport, ship, import, or export, by any means whatsoever, any Okaloosa darters taken in violation of this section or in violation of applicable State fish and wildlife conservation laws or regulations.

(ii) It is unlawful for any person to attempt to commit, solicit another to

commit, or cause to be committed, any offense listed in this special rule.

(2) The following activities, which may result in incidental take of the Okaloosa darter, are allowed on Eglin Air Force Base (AFB), provided that the activities occur in accordance with applicable Federal, State, and local laws, and are consistent with a Service-approved Integrated Natural Resources Management Plan by Eglin AFB and with Eglin AFB's Threatened and Endangered Species Component Plan:

- (i) Prescribed fire for land management to promote a healthy ecosystem;
- (ii) Instream habitat restoration;
- (iii) Unpaved range road stabilization; and
- (iv) Removal or replacement of culverts for the purpose of road

decommissioning, improving fish passage, or enhancing stream habitat.

(3) Scientific research and monitoring activities that may result in incidental take of the Okaloosa darter are allowed, provided these activities are consistent with a Service-approved Okaloosa darter recovery plan, or otherwise approved by the Service, whether those activities occur on or off of Eglin AFB.

(4) Take caused by any activities not listed in paragraph (bb)(2) and (bb)(3) of this section is prohibited.

Dated: March 21, 2011.

**Rowan W. Gould,**  
Acting Director, Fish and Wildlife Service.  
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