DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2017–0017; 4500030113]

RIN 1018–BB45

Endangered and Threatened Wildlife and Plants; Threatened Species Status for Yellow Lance

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list a mussel species, the yellow lance (*Elliptio lanceolata*), as endangered or threatened under the Endangered Species Act of 1973, as amended (Act). After review of the best available scientific and commercial information, we find that listing the yellow lance is warranted, and accordingly we propose to list the yellow lance as a threatened species under the Act. The yellow lance is a freshwater mussel native to Maryland, Virginia, and North Carolina. If we finalize this rule as proposed, the final rule would add the yellow lance to the List of Endangered and Threatened Wildlife and extend the Act's protections to this species.

DATES: We will accept comments received or postmarked on or before June 5, 2017. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by May 22, 2017.

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal:

http://www.regulations.gov. In the Search box, enter FWS–R4–ES–2017–0017, which is the docket number for this rulemaking. Then, in the Search panel on the left side of the screen, under the Document Type heading, check the Proposed Rules box to locate this document. You may submit a comment by clicking on ''Comment Now!''

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R4–ES–2017–0017, U.S. Fish and Wildlife Service, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see *Public Comments,* below, for more information).

FOR FURTHER INFORMATION CONTACT: Pete Benjamin, Field Supervisor, U.S. Fish and Wildlife Service, Raleigh Ecological Services Field Office, 551F Pylon Drive, Raleigh, NC 27606; telephone 919–856–4520; or facsimile 919–856–4556. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for the yellow lance. The SSA team was composed of U.S. Fish and Wildlife Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the yellow lance. The SSA report underwent independent peer review by scientists with expertise in mussel biology, habitat management, and stressors (factors negatively affecting the species) to the species. The SSA report and other materials relating to this proposal can be found on the Southeast Region Web site at *https://www.fws.gov/southeast/* and at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2017–0017.

Information Requested

Public Comments

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other concerned governmental agencies, Native American tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of this species, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for this species, its habitat, or both.

(2) Factors that may affect the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors.

(3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

(4) Additional information concerning the historical and current status, range, distribution, and population size of this species, including the locations of any additional populations of the species.

(5) Information on activities which might warrant being exempted under section 4(d) of the ESA. The Service is considering proposing such measures before the final listing determination is published, and will evaluate ideas provided by the public in considering whether such exemptions are necessary and advisable for the conservation of the species.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act (16 U.S.C. 1531 *et seq.*) directs that determinations as to whether any species is an endangered or a threatened species must be made ''solely on the basis of the best scientific and commercial data available.''

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via *http://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the Web site. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov.*

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov,* or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Raleigh Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Public Hearing

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received by the dates specified above in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994, (59 FR 34270) and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we sought the expert opinions of 13 appropriate specialists regarding the SSA report for the yellow lance, which informed this proposed rule. The purpose of peer review is to ensure that our listing determination is based on scientifically sound data, assumptions, and analyses. The peer reviewers have expertise in mussel biology, habitat, and stressors (factors negatively affecting the species) to the species. We invite any additional comment from the peer reviewers during this public comment period.

Previous Federal Actions

We identified the yellow lance as a Category 2 candidate species in our November 21, 1991, Animal Candidate Review for Listing as Endangered or Threatened Species (56 FR 58804). Category 2 candidates were defined as taxa for which we had information that listing was possibly appropriate, but conclusive data on biological vulnerability and threats were not available to support a proposed rule at that time. The species remained a Category 2 candidate in a subsequent Candidate Notice of Review (CNOR) (59 FR 58982; November 15, 1994). In the February 28, 1996, CNOR (61 FR 7596), we discontinued the designation of species as Category 2 candidates; therefore, the yellow lance was no longer a candidate species.

On April 20, 2010, we were petitioned to list 404 aquatic species, including yellow lance, in the southeastern United States. In response to the petition, we completed a partial 90-day finding on September 27, 2011 (76 FR 59836), in which we announced our finding that the petition contained substantial information that listing may be warranted for the yellow lance. On April 15, 2015, the Center for Biological Diversity (CBD) filed a complaint against the Service (1:15–CV–00229–EGS) for failure to complete a 12-month finding for the yellow lance in accordance with statutory deadlines. On September 9, 2015 the Service and the CBD filed stipulated settlements in the District of Columbia, agreeing that the Service would submit to the **Federal Register** a 12-month finding for the yellow lance no later than March 31, 2017 (*Center for Biological Diversity* v. *Jewell,* case 1:14–CV–01021–EGS/JMF). We conducted a status review for the species, and this proposed listing rule constitutes our 12-month petition finding for the yellow lance. We intend to publish a proposal to designate critical habitat for the yellow lance under the Act in the near future.

Background

A thorough review of the taxonomy, life history, and ecology of the yellow lance is presented in the Species Status Assessment Report for the yellow lance (*Elliptio lanceolata*) Version 1.2 (Service, 2017). The yellow lance is a freshwater mussel found in eight drainages from the upper Chesapeake River Basin in Maryland to the Neuse River Basin in North Carolina. The yellow lance was described in Bogan et al. (2009, p. 9) from seven river basins, from the Patuxent River Basin, the lower Chesapeake Bay basins (Rappahannock, York, James), the Chowan River Basin, and the Tar and Neuse River basins in North Carolina. There are also historical occurrences of the species recorded in the Potomac River Basin, although the accuracy of one of these records is unclear (Villela 2006, p. 11).

The yellow lance is a bright yellow, elongate mussel with a shell over twice as long as tall, usually no more than 86 millimeters (mm) (3.4 inches (in)) in length. They are omnivores that primarily filter feed on a wide variety of microscopic particulate matter suspended in the water column, including phytoplankton, zooplankton, bacteria, detritus, and dissolved organic matter (Haag 2012, p. 26). Juveniles likely pedal feed in the sediment, whereas adults filter feed from the water column. Like most freshwater mussels, they have a unique life cycle that relies on fish hosts for successful reproduction. Following release from the female mussel, floating glochidia (larvae) attach to the gills and scales of host minnows.

The yellow lance is a sand-loving species (Alderman 2003, p. 6) often found buried deep in clean, coarse to medium sand and sometimes migrating with shifting sands (NatureServe 2015, p. 6), although it has also been found in gravel substrates. The species is dependent on clean (*i.e.,* not polluted), moderate flowing water with high dissolved oxygen content in riverine or larger creek environments. Most freshwater mussels, including the yellow lance, are found in aggregations (mussel beds) that vary in size and are often separated by stream reaches in which mussels are absent or rare (Vaughn 2012, p. 983). Genetic exchange occurs between and among mussel beds via sperm drift, host fish movement, and movement of mussels during high flow events.

Summary of Biological Status and Threats

The Act directs us to determine whether any species is an endangered species or a threatened species because of any factors affecting its continued existence. The SSA report documents the results of our comprehensive biological status review for the yellow lance, including an assessment of the potential stressors to the species. The SSA report does not represent a decision by the Service on whether the yellow lance should be proposed for listing as an endangered or threatened species under the Act. The SSA report, however, provides the scientific basis that informs our regulatory decision, which involves the further application of standards within the Act and its implementing regulations and policies. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found on the Southeast Region Web site at *https://www.fws.gov/southeast/* and at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2017–0017.

Summary of Analysis

To assess yellow lance viability, we used the three conservation biology principles of resiliency, representation, and redundancy (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years); representation supports the ability of

the species to adapt over time to long-term changes in the environment (for example, climate changes); and redundancy supports the ability of the species to withstand catastrophic events (for example, droughts, hurricanes). In general, the more redundant and resilient a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we used the conservation biology principles of resiliency, redundancy, and representation (together, the 3Rs) to evaluate the yellow lance's life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the yellow lance arrived at its current condition. The final stage of the SSA involved making predictions about the species' response to positive and negative environmental and anthropogenic influences. This process used the best available information to characterize viability as the ability of the yellow lance to sustain populations in the wild over time. We utilize this information to inform our regulatory decision in this 12-month finding and proposed rule.

To evaluate the current and future viability of the yellow lance, we assessed a range of conditions to allow us to consider the species' resiliency, representation, and redundancy. For the purposes of this assessment, populations were delineated using the eight river basins that yellow lance mussels have historically occupied (*i.e.,* Patuxent, Potomac, Rappahannock, York, James, Chowan, Tar, and Neuse River basins). Because the river basin level is at a very coarse scale, populations were further delineated using management units (MUs). MUs were defined as one or more HUC10 (hydrologic unit code) watersheds that species experts identified as most appropriate for assessing population-level resiliency.

To assess resiliency, we analyzed occurrence, recruitment, and abundance data (''population factors'') as well as four habitat elements that influence the species: Water quality, water quantity, substrate, and habitat connectivity (''habitat elements''). We then assessed the overall condition of each population. Overall population condition rankings were determined by combining the three population factors and four habitat elements. For a more detailed explanation of the condition categories, see Table 1, below.

Representation for the yellow lance can be described in terms of river basin variability (known from eight historical river basins), physiographic variability (Mountains, Piedmont, and Coastal Plain), and latitudinal variability (Maryland south to North Carolina). High redundancy for yellow lance is defined as multiple resilient populations (inclusive of multiple, resilient MUs) distributed throughout the species' historical range. That is, highly resilient populations, coupled with a relatively broad distribution, have a positive relationship to species-level redundancy.

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Table 1. Population and habitat characteristics used to create condition categories for resiliency assessment.

Condition Category	POPULATION FACTORS			HABITAT ELEMENTS			
	Occupancy Decline	Approximate Abundance	Reproduction	Water Quality	Water Quantity/Flow	In-stream substrate	Habitat Connectivity
High	<30% decline	Cumulative numbers at high end of known range (over 300 individuals observed over time); >100 individuals observed in past 10 years	More than 50% of sites with recent (past 10 years) documentation of reproduction (gravidity) or presence of small individuals	Very few (if any) known impairment or contaminant problems (<5 miles impaired streams; no major discharges, <20 non-major discharges)	Optimal flowing water conditions to remove fine sediments, allow for food delivery, and maximize reproduction; no known flow issues; isolated low flow/drought periods; not flashy flow regime	Predominantly natural (>70% forested) ARA; <5% impervious surfaces in HUC10 watershed	Very little (if any) known habitat fragmentation issues (<10 dams per MU; avg # of Road Crossings <300 per MU)
Moderate	31–50% decline	Moderate numbers (101 to 300) of individuals observed over time; 51–100 live individuals observed in past 10 years	25–50% of sites with recent documentation of reproduction or presence of small individuals	Impairment or contaminants known to be an issue, but not at a level to put population at risk of being eliminated (5–50 miles impaired streams; 1–3 major discharges; 10–25 non-major discharges)	Water flow not sufficient to consistently remove fine sediments; drying conditions which could impact both food delivery and successful reproduction; moderate flow issues, including 2 to 4 years of consecutive drought or moderately flashy flows	20–70% forested ARA; 6–15% impervious surfaces in HUC10 watershed	Some habitat fragmentation issues (10–30 dams per MU; Avg # of Road Crossings 300–500 per MU)
Low	51–70% decline	Low numbers (13–100) of individuals observed over time; 11–50 live individuals observed in past 10 years	Fewer than 25% of sites with documentation of recent reproduction or presence of small individuals	Impairment or contaminants at levels high enough to put the population at risk of being eliminated (>50 miles impaired streams; >4 major discharges; 25+ non-major discharges)	Water not flowing – either inundated or dry; severe flow issues; more than 4 consecutive years of drought; flashy flow regime	<20% forested ARA; >15% impervious surfaces in HUC10 watershed	Habitat severely fragmented (30+ dams in MU; 500+ Avg Road Crossings per MU)
Very Low	>70% decline	Very few (less than 10) individuals observed over time; 10 or fewer live individuals observed in past 10 years	Reproduction data are older than 10 years	Impairment or contaminant levels that cannot support species survival	Flow conditions do not support species survival	Instream habitat unable to support species survival	Habitat extremely fragmented and unable to support species survival
Ø	Total Loss	Only shells observed over time (no live)	Population is extirpated or no data	N/A	N/A	N/A	N/A

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Current Condition of Yellow Lance

The historical range of the yellow lance included streams and rivers in the Atlantic Slope drainages from the Patuxent River Basin south to the Neuse River Basin, with the documented historical distribution in 12 MUs within eight former populations. The yellow lance is presumed extirpated from 25 percent (3/12) of the historically occupied MUs. Of the remaining nine occupied MUs, 17 percent are estimated to have high resiliency, 8 percent moderate resiliency, and 67 percent low resiliency. At the population level, the overall condition of one of the eight populations (the Tar population) is estimated to have moderate resiliency, while the remaining six extant populations (Patuxent, Rappahannock, York, James, Chowan, and Neuse populations) are characterized by low resiliency. The Potomac population is presumed to be extirpated. An assessment of the habitat elements finds that 86 percent of streams that remain part of the current species' range are estimated to be in low or very low condition.

Once known to occupy streams in three physiographic regions (Mountain, Piedmont, and Coastal Plain), the species has lost occurrences in each physiographic region compared with historical occurrences, although it is still represented by at least one population in each region. We estimated that the yellow lance currently has reduced adaptive potential relative to historical potential due to decreased representation in seven river basins and three physiographic regions. The species retains most of its known river basin variability, but its distribution has been greatly reduced in the Rappahannock, York, Chowan, and Neuse River populations. In addition, compared to historical distribution, the species has declined by 70 percent in the Coastal Plain region and by approximately 50 percent in both the Piedmont and the Mountain regions. Latitudinal variability is also reduced,

as much of the species' current distribution has contracted and is largely limited to the southern portions of its historical range, primarily in the Tar River Basin.

While the overall range of the yellow lance has not changed significantly, the remaining occupied portions of the range have become constricted within each basin and the species is largely limited to the southern portions of its historical range. One population (the Tar population, the southernmost population) was estimated to be moderately resilient, but all other extant populations exhibit low resiliency. Redundancy was estimated as the number of historically occupied MUs that remain currently occupied. The species retains redundancy (albeit in low condition) within the Rappahannock, Chowan, and Neuse River populations, and one population (Tar) has multiple moderate or highly resilient management units. Overall, the species has decreased redundancy across its range due to an estimated 57 percent reduction in occupancy compared to historical levels.

Risk Factors for the Yellow Lance

Aquatic systems face a multitude of natural and anthropogenic factors that may impact the status of species within those systems (Neves et al., 1997, p. 44). Generally, these factors can be categorized as either environmental stressors (*e.g.,* development, agriculture practices, or forest management) or systematic changes (*e.g.,* climate change, invasive species, dams or other barriers). The largest threats to the future viability of the yellow lance relate to habitat degradation from stressors influencing water quality, water quantity, instream habitat, and habitat connectivity. All of these factors are exacerbated by the effects of climate change. A brief summary of these primary stressors is presented below; for a full description of these stressors, refer to chapter 4 of the SSA report for the yellow lance.

Environmental Stressors

Development: Development refers to urbanization of the landscape, including (but not limited to) land conversion for urban and commercial use, infrastructure (roads, bridges, utilities), and urban water uses (water supply reservoirs, wastewater treatment, etc.). The effects of urbanization may include alterations to water quality, water quantity, and habitat (both in-stream and stream-side) (Ren et al., 2003, p. 649; Wilson 2015, p. 424). Yellow lance adults require clear, flowing water with a temperature less than 35 degrees Celsius (°C) (95 degrees Fahrenheit (°F)) and a dissolved oxygen greater than 3 milligrams per liter (mg/L). Juveniles require very specific interstitial chemistry to complete that life stage: Low salinity (similar to 0.9 parts per thousand (ppt)), low ammonia (similar to 0.7 mg/L), low levels of copper and other contaminants, and dissolved oxygen greater than 1.3 mg/L.

Impervious surfaces associated with development negatively affect water quality when pollutants that accumulate on impervious surfaces are washed directly into the streams during storm events. Storm water runoff affects water quality parameters such as temperature, pH, dissolved oxygen, and salinity, which in turn alters the water chemistry and could it make it unsuitable for the yellow lance. Concentrations of contaminants, including nitrogen, phosphorus, chloride, insecticides, polycyclic aromatic hydrocarbons, and personal care products, increase with urban development (Giddings et al., 2009, p. 2; Bringolf et al. 2010, p. 1311).

Urban development can lead to increased variability in streamflow, typically increasing the amount of water entering a stream after a storm and decreasing the time it takes for the water to travel over the land before entering the stream (Giddings et al. 2009, p. 1). Stream habitat is altered either directly via channelization or clearing of riparian areas, or indirectly via high streamflows that reshape the channel and cause sediment erosion (Giddings et al. 2009, p. 2). Impervious surfaces associated with increased development cause rain water to accumulate and flow rapidly into storm drains, thereby becoming superheated, which can stress or kill these mussel species when the superheated water enters streams. Pollutants like gasoline, oil, and fertilizers are also washed directly into streams and can kill mussels and other aquatic organisms. The large volumes and velocity of water combined with the extra debris and sediment entering streams following a storm can stress, displace, or kill the yellow lance, and the host fish species that it depends on.

A further risk of urbanization is the accompanying road development that often results in improperly constructed culverts at stream crossings. These culverts act as barriers, either as flow through the culvert varies significantly from the rest of the stream, or if the culvert ends up being perched above the stream bed, and host fish (and, therefore, the yellow lance) cannot pass through them. This leads to loss of access to quality habitat, as well as fragmented habitat and a loss of connectivity between populations of the yellow lance. This can limit both genetic exchange and recolonization opportunities.

All of the river basins within the range of the yellow lance are affected by development, from 7 percent in the Tar River basin to 25 percent in the Patuxent River basin (based on the 2011 National Land Cover Data). The Neuse River basin in North Carolina contains one-sixth of the entire State's population, indicating heavy development pressure on the watershed. The Nottoway MU (in the Chowan population) contains 155 impaired stream miles, 4 major discharges, 32 minor discharges, and over 3,000 road crossings, affecting the quality of the habitat for the yellow lance. The Potomac River basin is currently made up of 12.7 percent impervious surfaces, changing natural streamflow, reducing appropriate stream habitat, and decreasing water quality throughout the population. For complete data on all of the populations, refer to appendix D of the SSA report.

Agricultural Practices: The main impacts to the yellow lance from agricultural practices are from nutrient pollution and water pumping for irrigation. Fertilizers and animal manure, which are both rich in nitrogen and phosphorus, are the primary sources of nutrient pollution from agricultural sources. Excess nutrients impact water quality when it rains or when water and soil containing nitrogen and phosphorus wash into nearby waters or leach into the water table/ground waters causing algal blooms. These algal blooms can harm freshwater mussels by suffocating host fish and decreasing available oxygen in the water column.

It is common practice to pump water for irrigation from adjacent streams or rivers into a reservoir pond, or to spray the stream or river water directly onto crops. If the water withdrawal is excessive or done illegally, this may cause impacts to the amount of water available to downstream sensitive areas during low flow months, resulting in dewatering of channels and stranding of mussels, leading to desiccation and death. In the Rappahannock River basin, for example, the upper watershed supports largely agricultural land uses. Sedimentation is a problem in the upper watershed, as stormwater runoff from the major tributaries (Rapidan and Hazel rivers) leaves the Rappahannock River muddy even after minor storm events. According to the 2011 National Land Cover Data, all of the watersheds within the range of the yellow lance are affected by agricultural land uses, most with 20 percent or more of the

watershed having been converted for agricultural use.

Forest Management: Silviculture activities when performed according to strict forest practices guidelines (FPGs) or best management practices (BMPs) can retain adequate conditions for aquatic ecosystems; however, when FPGs/BMPs are not followed, these practices can also contribute to the myriad of stressors facing aquatic systems in the Southeast. Both small- and large-scale forestry activities have been shown to have a significant impact upon the physical, chemical, and biological characteristics of adjacent small streams (Allan 1995, p. 107). The clearing of large areas of forested wetlands and riparian systems can eliminate shade provided by these canopies, exposing streams to more sunlight and increasing the in-stream water temperature. The increase in stream temperature and light after deforestation has been found to alter the macroinvertebrate and other aquatic species richness and abundance composition in streams (Couceiro et al. 2007, p. 272; Kishi et al. 2004, p. 283; Caldwell et al. 2014, p. 3). As stated above, the yellow lance is sensitive to changes in temperature, and sustained temperature increases will stress and possibly lead to mortality for the species.

Further, many forestry activities do not require a permit for wetland or stream fill, as many silviculture activities are exempted from permit requirements (USACE 2016, entire; USEPA 2017, p. 1). Forestry activities often include the construction of logging roads through the riparian zone, and this can directly degrade nearby stream environments (Aust et al. 2011, p. 123). Roads can cause point source pollution and sedimentation, as well as sedimentation traveling downstream into more sensitive habitats. These effects lead to stress and mortality for the yellow lance, as discussed in ''*Development,*'' above. While BMPs are widely adhered to, they were not always common practice. The most recent surveys of Southeastern U.S. States show that the average implementation rate is at 92 percent; so while improper implementation is rare, it can have drastic negative effects on sensitive aquatic species like freshwater mussels.

Systematic Changes

Climate Change: Aquatic systems are encountering changes and shifts in seasonal patterns of precipitation and runoff as a result of climate change. While mussels have evolved in habitats that experience seasonal fluctuations in discharge, global weather patterns can have an impact on the normal regimes (*e.g.,* El Niño or La Niña). Even during naturally occurring low flow events, mussels become stressed either because they exert significant energy to move to deeper waters or they may succumb to desiccation. Because low flows in late summer and early fall are stress-inducing, droughts during this time of year result in stress and, potentially, an increased rate of mortality. Droughts have impacted all river basins within the range of the yellow lance, from an ''abnormally dry'' ranking for North Carolina and Virginia in 2001 on the Southeast Drought Monitor scale to the highest ranking of ''exceptionally dry'' for the entire range of the yellow lance in 2002 and 2007. The 2015 drought data indicated the entire Southeast ranging from ''abnormally dry'' to ''moderate drought'' or ''severe drought.'' These data are from the first week in September, indicating a very sensitive time for drought to be affecting the yellow lance. The Middle Neuse tributaries of the Neuse River basin had consecutive drought years from 2005–2012, indicating sustained stress on the species over a long period of time. Sedentary freshwater mussels have limited refugia from disturbances such as droughts and floods, and they are completely dependent on specific water temperatures to complete their physiological requirements. Changes in water temperature lead to stress, increased mortality, and also increase the likelihood of extinction for the species (Poff et al. 2002, pp. ii–v). Increases in the frequency and strength of storms events alter stream habitat. Stream habitat is altered either directly via channelization or clearing of riparian areas, or indirectly via high streamflows that reshape the channel and cause sediment erosion (Giddings et al. 2009, p. 2). The large volumes and velocity of water, combined with the extra debris and sediment entering streams following a storm, stress, displace, or kill yellow lance and the host fish species on which it depends.

Invasive Species: There are many areas across the States of Maryland, Virginia, and North Carolina where aquatic invasive species are invading aquatic communities and altering biodiversity by competing with native species for food, light, or breeding and nesting areas. For example, the Asian clam (*Corbicula fluminea*) alters benthic substrates, competes with native species for limited resources, and causes ammonia spikes in surrounding water when they die off en masse (Scheller 1997, p. 2). Juvenile mussels need low levels of ammonia to survive that life stage, and a multitude of bioassays conducted on 16 mussel species (summarized by Augspurger et al. 2007, pp. 2025–2028) show that freshwater mollusks are more sensitive than previously known to some chemical pollutants, including ammonia. The Asian clam is ubiquitous across the southeastern United States and is present in watersheds across the range of the yellow lance (Foster et al. 2017). The flathead catfish (*Pylodictis olivaris*) is an apex predator known to feed on almost anything, including other fish, crustaceans, and mollusks, and to impact host fish communities, reducing the amount of fish available as hosts for the mussels to complete their glochidia life stage. Introductions of flathead catfish into rivers in North Carolina have led to steep declines in numbers of native fish. The flathead catfish has been documented in the Potomac, James, Roanoke, Tar, and Neuse river systems.

Hydrilla (*Hydrilla verticillata*), an aquatic plant, alters stream habitat, decreases flows, and contributes to sediment buildup in streams (NCANSMPC 2015, p. 57). High sedimentation can cause suffocation, reduce stream flow, and make it difficult for mussels' interactions with host fish necessary for development. Hydrilla occurs in several watersheds where the yellow lance occurs, including recent documentation from the Tar River. The dense growth is altering the flow in this system and causing sediment buildup, which can cause suffocation in filter-feeding mussels. While data are lacking on hydrilla currently having population-level effects on the yellow lance, the spread of this invasive plant is expected to increase in the future.

Barriers: Extinction/extirpation of North American freshwater mussels can be traced to impoundment and inundation of riffle habitats (shallow water with rapid currents running over gravel or rocks) in all major river basins of the central and eastern United States (NCWRC 2015a, p. 109). Upstream of dams, the change from flowing to impounded waters, increased depths, increased buildup of sediments, decreased dissolved oxygen, and the drastic alteration in resident fish populations can threaten the survival of mussels and their overall reproductive success. Downstream of dams, fluctuations in flow regimes, minimal releases and scouring flows, seasonal dissolved oxygen depletion, reduced or increased water temperatures, and changes in fish assemblages can also threaten the survival and reproduction of many mussel species. Because the

yellow lance uses smaller host fish (*e.g.,* darters and minnows), it is even more susceptible to impacts from habitat fragmentation due to increasing distance between suitable habitat patches and a low likelihood of host fish swimming over that distance (C. Eads (NCSU) 2016, pers. comm.). Even improperly constructed culverts at stream crossings can act as significant barriers, and have some similar effects as dams on stream systems. Fluctuating flows through the culvert can vary significantly from the rest of the stream, preventing fish passage and scouring downstream habitats. If a culvert ends up being perched above the stream bed, aquatic organisms cannot pass through it. These barriers not only fragment habitats along a stream course, they also contribute to genetic isolation of the yellow lance. All 12 of the MUs containing yellow lance populations have been impacted by dams, with as few as 3 dams in the Fishing Creek subbasin to over 100 dams in the York basin (Service 2016, appendix D). The Middle Neuse contains 237 dams and over 5,000 stream crossings, so connectivity there has been severely affected by barriers.

Synergistic Effects

In addition to the impacts on the yellow lance individually, it is likely that several of the above summarized risk factors are acting synergistically or additively on the species. The combined impact of multiple stressors is likely more harmful than a single stressor acting alone. For example, in the Meherrin River MU, there are four stream reaches with 34 miles of impaired streams. The stream reaches have low benthic-macroinvertebrate scores, low dissolved oxygen, low pH, and contain *Escherichia coli* (also known as *E. coli*). There are 16 non-major and 2 major discharges within this MU, along with 7 dams, 676 road crossings, and droughts recorded for 4 consecutive years in 2007–2010. The combination of all of these stressors on the sensitive aquatic species in this habitat has impacted yellow lance such that no individuals have been recorded here since 1994.

Conservation Actions

The Service and State wildlife agencies are working with numerous partners to make ecosystem management a reality, primarily by providing technical guidance and offering development of conservation tools to meet both species and habitat needs in aquatic systems from Maryland to North Carolina. There are ongoing efforts to work with agriculture producers through the U.S. Department of Agriculture's Natural Resources Conservation Service to install riparian buffers along streams. Land trusts are targeting key parcels for acquisition, Federal and State biologists are surveying and monitoring species occurrences, and recently there has been a concerted effort to ramp up captive propagation and species population restoration via augmentation, expansion, and reintroduction efforts.

In 2014, North Carolina Wildlife Resources Commission staff and partners began a concerted effort to propagate the yellow lance in hopes of augmenting existing populations in the Tar and Neuse River basins. In July 2015, 270 yellow lances were stocked into Sandy Creek, a tributary of the Tar River. Annual monitoring to evaluate growth and survival is planned, and additional propagation and stocking efforts will continue in upcoming years.

For a more-detailed discussion of our evaluation of the biological status of the yellow lance and the factors that may affect its continued existence, please see the SSA report for the yellow lance (*Elliptio lanceolata*) (Service, 2017 entire). Our conclusions are based upon the best available scientific and commercial data and the expert opinion of the SSA team members.

Future Scenarios

For the purpose of this assessment, we define viability as the ability of the species to sustain populations in the wild over time (in this case, 50 years). To help address uncertainty associated with the degree and extent of potential future stressors and their impacts on species' requirements, the 3Rs were assessed using four plausible future scenarios. These scenarios were based, in part, on the results of urbanization (Terando et al. 2014) and climate models (International Panel on Climate Change 2013) that predict changes in habitat used by the yellow lance. To forecast the biological conditions of the yellow lance into the future, we devised plausible future scenarios by eliciting expert information on the primary stressors anticipated to affect the species into the future: Habitat loss and degradation due to urbanization and the effects of climate change. The models that were used to forecast urbanization into the future projected out 50 years, and climate change models included that timeframe as well. For more detailed information on these models and their projections, please see the SSA report for the yellow lance (Service, 2017).

In scenario one, the ''Status Quo'' scenario, factors that influence current populations of the yellow lance were assumed to remain constant over the 50-year time horizon. Climate models predict that, if emissions continue at current rates, the Southeast will experience an increase in low flow (drought) events (IPCC 2013, p. 7). Likewise, this scenario assumed the 'business as usual' pattern of urban growth, which predicts that urbanization will continue to increase rapidly (Terando et al. 2014, p. 1). This continued growth in development means increases in impervious surfaces, increased variability in streamflow, channelization of streams or clearing of riparian areas, and other negative effects explained above under ''*Development.*'' The ''Status Quo'' scenario also assumed that current conservation efforts would remain in place but that no new actions would be taken.

In scenario two, the ''Pessimistic'' scenario, factors that negatively influence yellow lance populations get worse; reflecting Climate Model RCP8.5 (Wayne 2013, p. 11), effects of climate change are expected to be magnified beyond what is experienced in the ''Status Quo'' scenario. Effects are predicted to result in extreme heat, more storms and flooding, and exacerbated drought conditions (IPCC 2013, p. 7). Based on the results of the SLEUTH BAU model (Terando et al. 2014, entire), urbanization in yellow lance watersheds could expand to triple the amount of developed area, resulting in large increases of impervious surface cover and, potentially, consumptive water use. Increased urbanization and climate change effects are likely to result in increased impacts to water quality, water flow, and habitat connectivity, and we predict that there is limited capacity for species restoration under this scenario.

Scenario three is labeled the ''Optimistic'' scenario, under which factors that influence population and habitat conditions of the yellow lance are expected to be somewhat improved. Reflecting Climate Model RCP2.6 (Wayne 2013, p.11), climate change effects are predicted to be minimal under this scenario, so effects of increased temperatures, storms, and droughts are not reflected in ''Optimistic'' scenario predictions, as they were in ''Status Quo'' and ''Pessimistic'' scenario predictions. Urbanization is also predicted to have less impact in this scenario as reflected by effects that are slightly lower than BAU model predictions (Terando et al. 2014; Table 5–1). Because water quality, water flow, and habitat impacts are predicted to be less severe in this scenario as compared to others, it is expected that the yellow lance will

maintain or have a slightly positive response. While the capacity for species restoration was kept at current levels for this scenario, predicted responses to targeted conservation activities were more positive based on the predicted habitat conditions under this scenario.

In scenario four, the ''Opportunistic'' scenario, those landscape-level factors (*e.g.,* development and climate change) that are influencing populations of the yellow lance get moderately worse, reflecting Climate Change Model RCP4.5 or RCP6 (Wayne 2013, p. 11) and SLEUTH BAU (Terando et al. 2014; Table 5–1). Effects of climate change are expected to be moderate, resulting in some increased impacts from heat, storms, and droughts (IPCC 2013, p. 7). Urbanization in this scenario reflects the moderate BAU SLEUTH levels, indicating approximately double the amount of developed area compared to current levels. This continued growth in development means increases in impervious surfaces, increased variability in streamflow, channelization of streams or clearing of riparian areas, and other negative effects explained above under ''*Development.*''

Determination

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, we may list a species based on: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. Listing actions may be warranted based on any of the above threat factors, singly or in combination.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the yellow lance. The historical range of the yellow lance included streams and rivers in the Atlantic Slope drainages from the Patuxent River Basin south to the Neuse River Basin, with the documented historical distribution in 12 MUs within eight former populations. The yellow lance is presumed extirpated from 25 percent (3) of the historically occupied MUs. Of the remaining nine occupied MUs, 17 percent are estimated to have high resiliency, 8 percent moderate resiliency, and 67 percent low resiliency. Scaling up from the MU to the population level, one of eight former populations (the Tar population) was estimated to have moderate resiliency, while the remaining six extant populations (Patuxent, Rappahannock, York, James, Chowan, and Neuse populations) were characterized by low resiliency. The Potomac population is presumed to be extirpated, thus eliminating 13 percent of the species' historical range. Eighty-six percent of streams that remain part of the current species' range are estimated to be in low or very low condition. Known to historically occupy streams in three physiographic regions, the species continues to maintain physiographic representation in all three regions, although occupancy has decreased in each region. An estimated 50 percent loss has occurred in the Mountain region's watersheds, an estimated 56 percent loss has occurred in the Piedmont region's watersheds, and an estimated 70 percent loss has occurred in the Coastal Plain region's watersheds.

The yellow lance faces threats from declines in water quality, loss of stream flow, riparian and instream fragmentation, and deterioration of instream habitats (Factor A). These threats, which are expected to be exacerbated by continued urbanization (Factor A) and effects of climate change (Factor E), were important factors in our assessment of the future viability of the yellow lance. Given current and future decreases in resiliency, populations become more vulnerable to extirpation from stochastic events, in turn, resulting in concurrent losses in representation and redundancy. The range of plausible future scenarios of yellow lance habitat conditions and population factors suggest possible extirpation in as many as five of seven currently extant populations. The most optimistic model predicted that only two populations will remain extant in 50 years and those populations are expected to be characterized by low occupancy and abundance.

Proposal To List the Yellow Lance

The Act defines an endangered species as any species that is ''in danger of extinction throughout all or a significant portion of its range'' and a threatened species as any species ''that is likely to become endangered throughout all or a significant portion of its range within the foreseeable future.'' We considered whether the yellow lance meets either of these definitions, and we find that the yellow lance meets the definition of a threatened species. Our analysis of the species' current and future conditions, as well as the conservation efforts discussed above, show that the population and habitat factors used to determine the resiliency, representation, and redundancy for the yellow lance will continue to decline so that it is likely to become in danger of extinction throughout all or a significant portion of its range within the foreseeable future. Therefore, on the basis of the best available scientific and commercial information, we propose to list the yellow lance as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

We considered whether the yellow lance is currently in danger of extinction and determined that proposing endangered status is not appropriate. The current conditions as assessed in the yellow lance SSA report show that 12 MUs over seven (of eight) different populations (river systems) occur over a majority (87 percent) of the species' historical range. The yellow lance still exhibits representation across all three physiographic regions and extant populations remain from the Patuxent River south to the Neuse River. While threats are currently acting on the species and many of those threats are expected to continue into the future, we did not find that the species is currently in danger of extinction throughout all of its range. According to our assessment of plausible future scenarios, the species is likely to become an endangered species in the foreseeable future throughout all of its range.

Under the Act and our implementing regulations, a species warrants listing if it is endangered or threatened throughout all or a significant portion of its range. Because we have determined that the yellow lance is threatened throughout all of its range, no portion of its range can be ''significant'' for purposes of the definitions of ''endangered species'' and ''threatened species.'' See the Final Policy on Interpretation of the Phrase ''Significant Portion of Its Range'' in the Endangered Species Act's Definitions of ''Endangered Species'' and ''Threatened Species'' (79 FR 37578; July 1, 2014).

Critical Habitat

Section 4(a)(3) of the Act, as amended, and implementing regulations in 50 CFR 424.12, require that, to the maximum extent prudent and determinable, we designate critical habitat at the time the species is determined to be an endangered or threatened species. Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are

found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary of the Interior that such areas are essential for the conservation of the species.

Our regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when any of the following situations exist: (1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species. The regulations also provide that, in determining whether a designation of critical habitat would not be beneficial to the species, the factors that the Services may consider include but are not limited to: Whether the present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or whether any areas meet the definition of ''critical habitat'' (50 CFR 424.12(a)(1)(ii)).

We do not know of any imminent threat of take attributed to collection or vandalism for the yellow lance. The available information does not indicate that identification and mapping of critical habitat is likely to initiate any threat of collection or vandalism for the yellow lance. Therefore, in the absence of finding that the designation of critical habitat would increase threats to the species, if there are benefits to the species from a critical habitat designation, a finding that designation is prudent is appropriate.

The potential benefits of designation may include: (1) Triggering consultation under section 7 of the Act, in new areas for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is unoccupied; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the protected species. Because designation of critical habitat would not likely increase the degree of threat to the yellow lance and may provide some measure of benefit, designation of critical habitat may be prudent for the yellow lance.

Our regulations (50 CFR 424.12(a)(2)) further state that critical habitat is not determinable when one or both of the following situations exists: (1) Information sufficient to perform required analysis of the impacts of the designation is lacking; or (2) the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat. A careful assessment of the economic impacts that may occur due to a critical habitat designation is still ongoing, and we are in the process of working with the States and other partners in acquiring the complex information needed to perform that assessment. The information sufficient to perform a required analysis of the impacts of the designation is lacking, and, therefore, we find designation of critical habitat for the yellow lance to be not determinable at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness and conservation by Federal, State, Tribal, and local agencies; private organizations; and individuals. The Act encourages cooperation with the States and other countries, and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Subsection 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning includes the development of a recovery outline shortly after a species is listed and preparation of a draft and final recovery plan. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan also identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened (''downlisting'') or removal from the List of Endangered and Threatened Wildlife or Plants (''delisting''), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan for the yellow lance will be available on our Web site (*http://www.fws.gov/endangered*), or from our Raleigh Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (*e.g.,* restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of the yellow lance requires cooperative conservation efforts on private, State, and Tribal lands. If the yellow lance is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the States of Maryland, Virginia, and North Carolina would be eligible for Federal funds to implement management actions that promote the protection or recovery of the yellow lance. Information on our grant programs that are available to aid species recovery can be found at: *http://www.fws.gov/grants.*

Although the yellow lance is only proposed for listing under the Act at

this time, please let us know if you are interested in participating in recovery efforts for this species. Additionally, we invite you to submit any new information on the yellow lance whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph include, but are not limited to, management and any other landscape-altering activities on Federal lands administered by the U.S. Fish and Wildlife Service, U.S. Forest Service, and National Park Service; issuance of section 404 Clean Water Act (33 U.S.C. 1251 *et seq.*) permits by the U.S. Army Corps of Engineers; and construction and maintenance of roads or highways by the Federal Highway Administration.

Under section 4(d) of the Act, the Service has discretion to issue regulations that we find necessary and advisable to provide for the conservation of threatened species. The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to threatened wildlife. The prohibitions of section 9(a)(1) of the Act, as applied to threatened wildlife and codified at 50 CFR 17.31, make it illegal for any person subject to the jurisdiction of the United States to take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these) threatened wildlife within the United States or on the high seas. In addition, it is unlawful to import; export; deliver, receive, carry, transport, or ship in interstate or foreign 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 illegally. Certain exceptions apply to employees of the Service, the National Marine Fisheries Service, other Federal land management agencies, and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving threatened wildlife under certain circumstances. Regulations governing permits are codified at 50 CFR 17.32. With regard to threatened wildlife, a permit may be issued for the following purposes: For scientific purposes, to enhance the propagation or survival of the species, for economic hardship, for zoological exhibition, for educational purposes, or for other special purposes consistent with the purposes of the Act. There are also certain statutory exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing.

Activities that the Service believes could potentially harm the yellow lance and result in ''take'' include, but are not limited to:

(1) Unauthorized handling or collecting of the species;

(2) Destruction or alteration of the species' habitat by discharge of fill material, dredging, snagging, impounding, channelization, or modification of stream channels or banks;

(3) Destruction of riparian habitat directly adjacent to stream channels that causes significant increases in sedimentation and destruction of natural stream banks or channels;

(4) Discharge of pollutants into a stream or into areas hydrologically connected to a stream occupied by the species;

(5) Diversion or alteration of surface or ground water flow; and

(6) Pesticide/herbicide applications in violation of label restrictions.

Questions regarding whether specific activities would constitute a violation of section 9 of the Act should be directed to the Raleigh Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Required Determinations

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with listing a species as an endangered or threatened species under the Endangered Species 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 references cited in this proposed rule is available on the Internet at *http://www.regulations.gov* and upon request from the Raleigh Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this proposed rule are the staff members of the Fish and Wildlife Service's Unified Listing Team and the Raleigh Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. Amend § 17.11(h), the List of Endangered and Threatened Wildlife, by adding an entry for ''Lance, yellow'' in alphabetical order under CLAMS to read as set forth below:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
* * *	* * *	* * *	*	* *
CLAMS				
* * *	* * *	* * *	*	* *
Lance, yellow	*Elliptio lanceolata*	Wherever found	T	[**Federal Register** citation when published as a final rule].
* * *	* * *	* * *	*	* *

Dated: March 31, 2017.

Stephen Guertin,

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 2017–06783 Filed 4–4–17; 8:45 am]

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