TABLE 183.75—WEIGHTS (IN POUNDS) OF GASOLINE OUTBOARD ENGINES AND RELATED EQUIPMENT FOR VARIOUS RATED POWER (HORSEPOWER) RANGES—Continued

Single engine installations								
Column number								
1	2	3	4	5	6	7	8	9
Engine power range (Horsepower)	Dry weight [1] [2]	Running weight [3]	Swamped weight [4]	Controls & rigging [5]	Battery weight, dry	Battery weight submerged	Full portable fuel tank [6]	Total weight Sum of columns 3,5,6,8)
300.1–350.0	884	928	789	44	45	25	100	1,117

Notes:

[1] Dry weight is the manufacturer's published weight for the shortest midsection increased by 10 percent to account for longer midsections and additional required hardware usually not included in published weights. This weight is intended to represent the heaviest model in each power category. For boats designed with a transom height of 20 inches or less, the weight in Column 2 may be reduced by 10 percent. Recalculate Columns 3, 4, and 9 as appropriate.

[2] For diesel outboards, replace the value in Column 2 with the manufacturer's published dry weight + 10 percent.

[3] Running weight is the dry weight plus fluids (including 2-stroke oil) and the heaviest recommended propeller. Calculated as 5 percent of dry weight.

[4] Swamped weight is 85 percent of running weight.

[5] Rigging and controls include engine related hardware required to complete the installation (*e.g.,* controls, cables, hydraulic hoses, steering pumps and cylinders). Calculated as 5 percent of dry weight.

[6] If the boat is equipped with a permanent fuel system and is not intended to use a portable tank, the portable fuel tank weight may be omitted.

§ 183.220 [Amended]

■ 4. Amend § 183.220 as follows:

■ a. In paragraph (b)(2), remove the text ''shown in Column 6 of Table 4'' and add, in its place, the text ''shown in Column 9 of Table 183.75''; and

■ b. In paragraph (d), remove the text ''specified in Columns 2 and 4 of Table 4 for the swamped weight of the motor and controls and for the submerged weight or'' and add, in its place, the text ''specified in Columns 4 and 7 of Table 183.75 for the swamped weight of the motor and controls and for the submerged weight of''.

§ 183.320 [Amended]

■ 5. Amend § 183.320 as follows:

■ a. In paragraph (b)(2), remove the text ''shown in column 6 of Table 4'' and add, in its place, the text, ''shown in Column 9 of Table 183.75''; and

■ b. In paragraph (d), remove the text ''specified in Column 2 of Table 4'' and add, in its place, the text ''specified in Column 4 of Table 183.75''.

Table 4 to Subpart H of Part 183 [Removed]

■ 6. Remove Table 4 to Subpart H of Part 183.

Dated: March 29, 2017.

V.B. Gifford,

Captain, U.S. Coast Guard, Director of Inspections and Compliance.

[FR Doc. 2017–06733 Filed 4–4–17; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Parts 15 and 17

[Docket No. FWS–HQ–ES–2015–0176; 4500030113]

RIN 1018–BB29

Endangered and Threatened Wildlife and Plants; Removal of the Scarlet-Chested Parrot and the Turquoise Parrot From the Federal List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are removing the scarlet-chested parrot *(Neophema splendida)* and the turquoise parrot *(Neophema pulchella)* from the Federal List of Endangered and Threatened Wildlife under the Endangered Species Act of 1973, as amended (Act). Our review of the status of these parrots shows that the threats have been eliminated or reduced and populations of both species are stable, with potential increases noted for the turquoise parrot in some areas. These species are not currently in danger of extinction, and are not likely to again become in danger of extinction within the foreseeable future in all or significant portions of their ranges. After the effective date of this final rule, the scarlet-chested and the turquoise parrots will remain protected under the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). To date, the scarlet-chested and turquoise parrots remain on the Approved List of Captive-bred Species under the Wild Bird Conservation Act of 1992 (WBCA).

DATES: This rule becomes effective May 5, 2017.

ADDRESSES: Comments and materials we received, as well as supporting documentation we used in preparing this rule, are available for public inspection at *http://www.regulations.gov* under Docket No. FWS–HQ–ES–2015–0176. Comments, materials, and documentation that we considered in this rulemaking will be available by appointment during normal business hours at: U.S. Fish and Wildlife Service, MS: ES, 5275 Leesburg Pike, Falls Church, VA 22041–3803; telephone, 703–358–2171; facsimile, 703–358–1735. If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service at 800–877–8339.

FOR FURTHER INFORMATION CONTACT: Janine Van Norman, Chief, Branch of Foreign Species, Ecological Services, U.S. Fish and Wildlife Service, MS: ES, 5275 Leesburg Pike, Falls Church, VA 22041–3803; telephone, 703–358–2171; facsimile, 703–358–1735. If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

This document contains a final rule to remove the scarlet-chested parrot and the turquoise parrot from the Federal List of Endangered and Threatened Wildlife.

Purpose of the regulatory action—We are delisting the scarlet-chested parrot and the turquoise parrot throughout their ranges due to recovery under the Act. Species experts now widely characterize populations of the scarlet-chested parrot and the turquoise parrot as stable, with potential increases noted for the turquoise parrot in some areas. Trade in wild specimens is strictly regulated under Australia's national laws as well as through CITES, the Lacey Act Amendments of 1981, as amended (16 U.S.C. 3371, *et seq.*), and the WBCA (16 U.S.C. 4901–4916).

Basis for the regulatory action—Under the Act, a species may be determined to be an endangered species or threatened species because of any of five factors: (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. We must consider the same factors in delisting a species. We may delist a species if the best scientific and commercial data indicate the species is neither endangered nor threatened for one or more of the following reasons: (1) The species is extinct; (2) the species has recovered and is no longer threatened or endangered; or (3) the original scientific data used at the time the species was classified were in error. We consider both the scarlet-chested and turquoise parrots to be ''recovered'' because threats to these parrots have been reduced or eliminated, and populations of both species are now stable, with potential increases noted for the turquoise parrot in some areas.

Peer review and public comment—We sought comments from independent specialists to ensure that our determination that these species have recovered is based on scientifically sound data, assumptions, and analyses. We invited these peer reviewers to comment on our status reviews for the scarlet-chested parrot and the turquoise parrot. We also considered all comments and information received during the reopening of the comment period (see Previous Federal Actions, below).

Previous Federal Actions

The scarlet-chested and the turquoise parakeets of the genus *Neophema* are listed under the Act, as endangered throughout their entire ranges. The scarlet-chested parakeet was listed on December 2, 1970 (35 FR 18319). The turquoise parakeet was listed on June 2, 1970 (35 FR 8491). Both species were originally listed under the Endangered Species Conservation Act of 1969 (Pub. L. 91–135, 83 Stat. 275 (1969)) as part of a list of species classified as endangered. This list was retained and incorporated into the Act, and both species have remained listed as endangered under the Act since that time. In addition, both species were included by regulation in the Approved List of Captive-bred Bird Species under the WBCA in title 50 of the Code of Federal Regulations at 50 CFR 15.33. The WBCA Approved List includes bird species that are in the appendices of CITES, and which occur in international trade only as captive-bred specimens. (Both species are listed on the WBCA Approved List and in the CITES appendices as ''parrots''; we use the term ''parrots'' in this final rule for reasons set forth below in Summary of Changes from the Proposed Rule.) Captive-bred individuals of species on the WBCA Approved List may be imported or exported without a WBCA permit. For additional information regarding protections under the Act and WBCA, please see *Existing regulatory mechanisms,* below.

On September 22, 2000, we announced a review of all endangered and threatened foreign species in the Order Psittaciformes (parrots, parakeets, macaws, cockatoos, and others; also known as psittacine birds) listed under the Act (65 FR 57363). Section 4(c)(2) of the Act requires such a review at least once every 5 years. The purpose of the review is to ensure that the List of Endangered and Threatened Wildlife (List), found in 50 CFR 17.11, accurately reflects the most current status information for each listed species. We requested comments and the most current scientific or commercial information available on these species, as well as information on other species that may warrant future consideration for listing. If the current classification of a species is not consistent with the best scientific and commercial information available at the conclusion of a review, we may propose changes to the List accordingly. Based on the 2000 review, one commenter suggested that we reevaluate the listing of the scarlet-chested parrot and the turquoise parrot and provided enough scientific information, including information and correspondence with Australian Government officials, to merit our further review of these species.

On September 2, 2003, we published a proposed rule (68 FR 52169) to remove the scarlet-chested and turquoise parakeets from the List under the Act because the endangered designation no longer correctly reflected the current conservation status of these birds. On January 21, 2016, we announced the reopening of the public comment period on our September 2, 2003, proposal to remove the scarlet-chested and turquoise parakeets from the List (81 FR 3373). We took these actions to determine whether removing these species from the List is still warranted, and to ensure that we sought, received, and made our decision based on the best scientific and commercial information available regarding these species and their status and threats.

Background

This is a final rule to remove the scarlet-chested and turquoise parakeets from the Federal List of Endangered and Threatened Wildlife. This final rule contains updated information from the information presented in the proposed rule to remove these species from the Federal List of Endangered and Threatened Wildlife (68 FR 52169, September 2, 2003) and is based on the best scientific and commercial information available regarding these species and their status and threats.

Summary of Changes From the Proposed Rule

This final rule includes information summarized from status reviews we conducted in 2016–2017 for the scarlet-chested and the turquoise parrots. These status reviews are available on the Internet at *http://www.regulations.gov* as supporting documentation for Docket No. FWS–HQ–ES–2015–0176.

Sections from the status reviews were added (in part or entirely) to the preamble to this final rule. These new sections in the preamble are updates or additions to information that was presented in the 2003 proposal to remove the scarlet-chested and turquoise parakeets from the list (68 FR 52169, September 2, 2003). We made changes to Previous Federal Actions, Summary of Status Review, and Significant Portion of Its Range Analysis. More detailed information about both parrots is in our 2016–2017 status reviews.

In earlier rulemaking documents we used the common names ''scarlet-chested parakeet'' and ''turquoise parakeet'' for *Neophema splendida* and *N. pulchella,* respectively. However, both CITES and the WBCA use the common names ''scarlet-chested parrot'' and ''turquoise parrot,'' and these common names are also used widely in the range country of Australia, and in the scientific literature. Therefore, we have adopted the use of the term ''parrot'' instead of ''parakeet'' in the

common name for these species in this final rule and in our 2016–2017 status reviews.

When these two species were included in the Approved List of Captive-bred Bird Species under the WBCA, the Service footnoted the species that require an ESA permit under 50 CFR part 17 for importation or other prohibited acts to avoid any confusion for the public (59 FR 62255, 62261–63; December 2, 1994). With this final rule, these two species will no longer require an ESA permit under 50 CFR part 17. Accordingly, in order to avoid confusion, in this final rule we are also amending 50 CFR 15.33(a) simply to make technical corrections to delete the informational footnote superscripts from the entries for these two species and to reflect that the informational footnote now applies to only one species on the WBCA Approved List. These changes are being made with this final rule because they are noncontroversial actions necessary for clarity and consistency that are in the best interest of the public and should be undertaken in as timely a manner as possible.

Scarlet-Chested Parrot

Summary of Status Review

Taxonomy

Both the scarlet-chested (*Neophema splendida*) parrot and the turquoise parrot (*N. pulchella*) belong to the genus *Neophema,* which contains six species, all native to Australia. Both Birdlife International (BLI 2016 a&b, unpaginated) and the Integrated Taxonomic Information System (ITIS 2016 a&b, unpaginated) recognize the scarlet-chested and turquoise parrots as distinct full species. We have reviewed the available information and conclude that the scarlet-chested and turquoise parrots are valid full species in a multispecies genus.

Species Description

The scarlet-chested parrot is a relatively small, very colorful parrot found in the dry central portions of southern Australia. Adult size is approximately 19–21 centimeters (cm) (7.5–8.3 inches (in)) in length (Higgins 1999, p. 585). The male scarlet-chested parrot is bright green above with yellow below. The face, throat, and cheeks are blue, and flight feathers are also edged in blue (BLA 2016a, unpaginated; Higgins 1999, p. 585). Males are easily distinguished from females by their scarlet chest; the chest of the female is light green (BLA 2016a, unpaginated; Higgins 1999, p. 585). Juvenile birds are similar in appearance to the female (del Hoyo *et al.* 1997, p. 384), but colors are somewhat duller (BLA 2016a, unpaginated; Higgins 1999, p. 585)

Biology

The scarlet-chested parrot inhabits open woodlands or shrublands among sand plains of the dry inland portions of the Australian ''outback'' or ''rangelands.'' Typical vegetation in these shrublands includes *Eucalyptus* species (mallee), *Acacia aneura* (mulga), or *Eucalyptus salubris* (gimlet), usually with sparse spinifex (*Triodia* species; hummock grass) ground cover (Collar 2016a, unpaginated; Forshaw 1989, p. 288; Jarman, 1968, p. 111). The term ''mallee'' can mean both: (1) The various low-growing shrubby *Eucalyptus* species and (2) areas of shrub that are dominated by mallee bushes, typical of some arid parts of Australia. Throughout this document, we use the term ''mallee'' to refer to the former and ''mallee shrubland'' to refer to the latter. Similarly, we use the term *Acacia* shrublands to refer to arid landscapes dominated by *Acacia* species.

The scarlet-chested parrot is adapted to country that is usually waterless, with average annual rainfall less than 25 cm (10 in) (Jarman 1968, p. 111). It is frequently found far from water and is thought to obtain moisture by drinking dew or eating succulent (water-storing) plants (NSW 2014a, unpaginated; Forshaw 1989, p. 288; Jarman 1968, p. 111). The species feeds primarily on grass seeds (Juniper and Parr 1998, p. 367; del Hoyo *et al.* 1997, p. 384) and seeds from *Acacia* species and herbaceous and succulent plants found near or on the ground (BLA 2016a, unpaginated; NSW 2014a, unpaginated; Forshaw 1989, p. 288; Jarman 1968, p. 111). The scarlet-chested parrot appears to favor areas that have been recently burned and are regenerating for forage (Collar 2016a, unpaginated; BLA 2012, unpaginated; del Hoyo *et al.* 1997 p. 384; Robinson *et al.* 1990, p. 11).

The species is described as nomadic—birds will appear in an area, nest for several years, and then disappear again (Collar 2016a, unpaginated; Rowden *pers. comm.* 2016; Higgins 1999, p. 587; Juniper and Parr, 1998, p. 366; Forshaw 1989, p. 288; del Hoyo *et al.* 1997, p. 384). The species is also described as ''irruptive,'' meaning that it is capable of building up large numbers in response to favorable environmental conditions (Andrew and Palliser 1993, as cited in Snyder *et al.* 2000, p. 57; Forshaw 1989, p. 288). However, in general, movements or patterns of abundance for the scarlet-chested parrot are not well understood (BLI 2016a, unpaginated; Higgins 1999, p. 587).

The scarlet-chested parrot is typically seen in isolated pairs or small groups of fewer than 10 birds (Forshaw 1989, p. 288), but larger flocks have been reported outside of the breeding season (NSW 2014a, unpaginated; Higgins 1999, p. 588; Forshaw 1989, p. 288). Age at maturity is about 3 years (Garnett & Crowley 2000a, p. 346), and generation time is estimated at 4.9 years (BLI 2012a, p. 8). The species breeds mostly from August through January, but timing likely depends on rain events and resultant food availability (BLA 2016a, unpaginated; Collar 2016a, unpaginated; Forshaw 1989, p. 288).

Woodland and shrubland tree hollows (*e.g.,* hollows in *Eucalyptus* species) are important for nesting and may be a limiting habitat feature for the scarlet-chested parrot in some areas (see *Competition for nesting hollows and food,* below). The scarlet-chested parrot lays four to six eggs on a bed of wood dust or debris in tree hollows (BLA 2016a, unpaginated; Collar 2016a, unpaginated; Forshaw 1989, p. 288). The female incubates the eggs, but both the male and female rear the young (AFD 2014, unpaginated, Hutchins and Lovell, 1985 as cited in Higgins 1999, p. 589). Incubation lasts for about 18 days, and the nestling period is about 30 days (Forshaw 1989, p. 288). The species is thought to raise just one brood per season (Jarman 1968, p. 118) but may produce two broods under good conditions (Sindel and Gill undated as cited in Higgins 1999, p. 589), consistent with irruptive species population ecology.

Distribution

This species once had a wide distribution (Juniper and Parr 1998, p. 366) within the drier portions of southern Australia from the west coast of Australia to the western portions of New South Wales (Higgins, 1999, pp. 585–586).

Today, the population is sparsely distributed across the arid interior of southern Australia, ranging from approximately Kalgoorlie (Western Australia) to western portions of New South Wales in the east and as far north as southern portions of the Northern Territory (NSW 2014a, unpaginated). The species is primarily concentrated in the better vegetated areas of the Great Victoria Desert located in southwestern Australia (BLI 2016a, unpaginated; Juniper and Parr 1998, p. 366).

The estimated distribution of the scarlet-chested parrot is very large (262,000 km^2 (101,159 mi^2); BLI 2016a, unpaginated). However, there appears to be a reduction in the extent of the historical range in the west within the

vicinity of the Western Australian goldfields, with just one record from the west coast since 1854 (Dymond *in litt.* 2001, as cited in BLI 2016a, unpaginated). Similarly, reductions have been noted in the east with fewer records from New South Wales in the 20th than in the 19th century (BLI 2016a, unpaginated), and no confirmed records from Victoria since 1995 (Clarke *in litt.* 2016).

The scarlet-chested parrot at one point historically was thought to have gone extinct, as a result of no sightings of this species for upwards of 20 to 60 years (Jarman 1968, p. 111; Anon. 1932, p. 538). The current population has not been quantified, but it is estimated to be larger than 10,000 mature individuals (BLI 2012a, p. 1); and population trends appear to be stable, with no evidence of decline in the last 20 years (BLI 2016a, unpaginated; BLI 2012a, p. 4). The population does not appear to be fragmented, and subpopulations can travel great distances (Snyder *et al.* 2000, p. 57).

Captive-Bred Specimens

The scarlet-chested parrot is bred in captivity for the pet trade and may number between 10,000 and 25,000 held in captivity in Australia alone (Collar 2016a, unpaginated; Juniper and Parr 1998, p. 366; del Hoyo et al. 1997, p. 384), although estimates of the size of the captive population after the late 1990s could not be found.

Conservation Status

The scarlet-chested parrot was listed in CITES Appendix I in 1975, but transferred to Appendix II in 1977 (UNEP 2011a, unpaginated). The Order Psittaciformes was listed as a whole in Appendix II in 1981 (UNEP 2011a, unpaginated). Listing in CITES Appendix II allows for regulated international commercial trade based on certain findings.

International Union for Conservation of Nature and Natural Resources (IUCN)—In 1988, the scarlet-chested parrot was listed as ''Threatened'' on the IUCN Red List of Endangered Species (BLI 2012a, p. 1). The species was recategorized as ''Vulnerable'' in 1994, to ''Lower Risk'' in 2000, and to ''Least Concern'' in 2004; the status remains at ''Least Concern'' (BLI 2012a, p. 1).

Australia

Commercial exports of the scarlet-chested parrot from Australia have been prohibited since 1962; these prohibitions are now codified in Australia's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The scarlet-chested parrot is not included in the EPBC Act's List of Threatened Fauna (Australian DEE 2017a, unpaginated). Inclusion on EPBC Act's List of Threatened Fauna promotes recovery via: (1) Conservation advice, (2) recovery plans, and (3) the EPBC Act's assessment and approval provisions (Australian DEE 2017b). The scarlet-chested parrot was not included on the List of Threatened Fauna either because it was never nominated for consideration, or if it was nominated, it was found ineligible by a rigorous scientific assessment of the species' threat status (Australian DEE 2017b, unpaginated).

Additionally, the 2000 Action Plan for Australian Birds (Garnett and Crowley 2000a, p. 346) listed the scarlet-chested parrot nationally as ''Least Concern,'' but this designation was removed in the 2010 Action Plan (Garnett *et al.* 2011, entire). As such, there is no national recovery plan for the scarlet-chested parrot, though recommended actions were outlined for the species in the 2000 Action Plan (Garnett and Crowley 2000a, p. 346). There was no justification provided for the removal of the scarlet-chested parrot from the 2010 Action Plan. Justification was provide for removal of the turquoise parrot form the 2010 Action Plan, which noted that the population was too large to be considered ''near threatened'' and that there was no evidence of a recent decline (Garnett *et al.* 2011, p. 429). We assume that similar criteria were considered for the removal of the scarlet-chested parrot from the 2010 Action Plan.

At the state level, the scarlet-chested parrot is listed as ''Near threatened'' in the Northern Territory (NT GOV 2016, unpaginated), and ''Rare'' in South Australia (South Australia 2016, unpaginated). It does not appear on the list of threatened fauna in Western Australia (WAG 2015, unpaginated). Although sightings are rare in New South Wales, the State has listed the scarlet-chested parrot as ''Vulnerable'' and has identified management actions for its conservation (NSW 2014a, unpaginated). The species is currently listed as ''Threatened'' in Victoria under the Flora and Fauna Guarantee Act 1988 (FFG Act 2016, p. 3; Vic DSE 2013, p. 12), although there have been no confirmed records there since 1995 (Clarke *in litt.* 2016).

Additionally, portions of suitable habitat for the scarlet-chested parrot are protected. For example, nearly 30 percent of the state of South Australia is now in the Natural Reserve System, which includes government reserves, indigenous protected areas, private protected areas, and jointly managed protected areas (CAPAD 2014, unpaginated). Reserve lands in South Australia include portions of the Great Victoria Desert, a primary concentration area for the scarlet-chested parrot. Also, nearly 22 percent of Western Australia, 19 percent of the Northern Territory, 9 percent of New South Wales, and 18 percent of Victoria are part of the Natural Reserve System (CAPAD 2014, unpaginated). Because we do not reliably know the degree to which the Natural Reserve System protects the scarlet-chested parrot and its habitat, we did not rely on these protected areas in our determination of whether or not the parrot meets the definition of threatened or endangered.

Factors Affecting the Scarlet-Chested Parrot

The following paragraphs provide a summary of the past, current, and potential future stressors for the scarlet-chested parrot and its habitats. In cases where the stressors were common to both the scarlet-chested and turquoise parrots, we discuss potential effects to both parrot species for efficiency.

Land Clearing in Australia

In this section, we consider the term ''land clearing'' to mean the removal of Australian native vegetation for agriculture, development, or other purposes (COAG 2012, p. 2). Thus, we consider clearing of the native habitats occupied by both the scarlet-chested and turquoise parrots as ''land clearing,'' including clearing of forests, woodlands, scrub- or shrublands, and grasslands. When Europeans began colonizing Australia in the late 18th century, approximately 30 percent of the continent was covered in forest (Barson *et al.* 2000 as cited in Bradshaw 2012, p. 110). Since colonization, Australia has lost nearly 40 percent of its forests, and much of the remaining vegetation is highly fragmented (Bradshaw 2012, p. 109). In the late 18th and the early 19th centuries, deforestation occurred mainly on the most fertile soils closest to the coast (Bradshaw 2012, p. 109). Land clearing continues in more recent timeframes—with Australia having the sixth highest annual rate of land clearing in the world from 1990 to 2000 (Lindenmayer and Burgman 2005, p. 230).

Although land clearing is listed as a ''key threatening process'' under the EPBC Act (Australian DEE 2016a, unpaginated), the Commonwealth has no jurisdiction over state actions (Lindenmayer and Burgman 2005, p. 233). Throughout this document, the term ''key threatening process'' means a ''threatening process that threatens or

may threaten the survival, abundance or evolutionary development of a native species or ecological community'' (EPBC Act; Australian DEE 2016b, unpaginated).

Land Clearing and the Scarlet-Chested Parrot

Europeans settled Australia's semi-arid or arid landscapes (*i.e.,* areas used by the scarlet-chested parrot) 150 years ago (Benson *et al.* 2001, p. 26). Determining impacts to the scarlet-chested parrot from land clearing is not straightforward, partly because the area known to be available to the parrot is large (BLI 2012, p. 1), and the parrot is capable of traveling great distances (Snyder *et al.* 2000, p. 57). Habitat clearing has caused major losses of the mallee shrublands used by the scarlet-chested parrot in some areas, such as in southern South Australia and northwestern Victoria, but large fragments remain (CAPAD 2014, unpaginated; Garnett and Crowley 2000a, p. 346). Overgrazing by exotic herbivores (*i.e.,* cattle, sheep, and rabbits) and resultant vegetation modification is also attributed to the decline of many arid-zone birds (Reid and Fleming, 1992, pp. 65, 80), though trends for the scarlet-chested parrot are less discernible due, in part, to their use of remote desert regions (Garnett 1992 as cited in Reid and Fleming, 1992, p. 74). Clearance and harvesting of mallee shrublands and *Acacia* shrublands affects nest hollow availability (NSW 2014a, unpaginated; Joseph 1988, p. 273), although the extent of the impacts to the scarlet-chested parrot is unknown.

Fire in Australia

Fire is an essential component of Australia's natural environment. The indigenous people of Australia learned to live in a fire-prone environment and used fire as a primary land management tool (Whelan *et al.* 2006, p. 1). When early Europeans arrived, they feared and fought bushfires (wildfires) but used managed fires to clear native vegetation for agriculture (Whelan *et al.* 2006, p. 1). Today, land managers use fire for biodiversity conservation, to promote pasture production, and for the protection of life, property, and other assets (*e.g.,* to manage fuel loads and prevent wildfire) (Whelan *et al.* 2006, p. 1). Fire is also an important process in the formation of tree hollows used for nesting species, such as the scarlet-chested parrot. Australia lacks primary tree excavator species, such as woodpeckers, so hollows are generally started by fire or limb loss, and hollow formation continues over long time periods via invertebrates, fungi, or bacteria (Haslem *et al.* 2012, p. 213).

Altered Fire Regimes and the Scarlet-Chested Parrot

Frequency, extent, and intensity of wildfires appear to be increasing across most of the scarlet-chested parrot's range (see *Climate change in Australia,* below). The role these increases play in the ecology of the scarlet-chested parrot is difficult to discern. The scarlet-chested parrot uses and prefers recently burned and regenerating areas for forage (Collar 2016a, unpaginated; BLA 2012, unpaginated; del Hoyo *et al.,* 1997 p. 384; Robinson *et al.* 1990, p. 11). However, altered fire regimes (*e.g.,* more frequent fire intervals) have probably been detrimental in some areas (BLI 2016a, unpaginated; Collar 2016a, unpaginated; NSW 2014a, unpaginated; Garnett and Crowley 2000a, p. 346). Woodland birds of the mallee shrublands, occupied by the scarlet-chested parrot in a large portion of its range, are sensitive to altered fire regimes (Clarke *in litt.* 2016). Time-since-fire (and resultant older vegetation stages) are important variables for species richness (Taylor *et al.* 2012, entire) and occupancy (Clarke *in litt.* 2016, Brown *et al.* 2009, entire; Clarke *et al.* 2005, pp. 174, 178, 179) in mallee shrublands.

Long fire-free periods are important in the formation of tree hollows (Haslem *et al.* 2012, entire), which the parrots depend upon for breeding. Mid- to late-successional stages of vegetation (greater than 20 years) are important to many bird species in semi-arid shrublands in southeastern Australia (Watson *et al.* 2012, p. 685). More frequent fire intervals can prevent these stages from occurring.

In summary, although habitat loss and degradation has occurred in the arid and semi-arid habitat occupied by the scarlet-chested parrot over the last 150 years, the degree to which land clearing for agriculture, overgrazing by introduced herbivores and altered fire regimes have acted on, are presently acting on, or will act on the scarlet-chested parrot in the foreseeable future, is difficult to assess. Mallee shrublands in southern South Australia and northwestern Victoria have been lost, but large fragments remain (CAPAD 2014, unpaginated; Garnett and Crowley 2000a, p. 346). Availability of nest hollows in the dwindling mallee shrublands is a concern over the long term (Joseph 1988, p. 273). Although habitat destruction and modification is a likely stressor for the scarlet-chested parrot, we do not consider it to be a major stressor to the species throughout its entire range now or in the foreseeable future because the scarlet-chested parrot has evolved in dynamic environmental conditions, the area available to the parrot is large, and the parrot is capable of traveling great distances.

Illegal Collection and Trade (for Both Scarlet-Chested and Turquoise Parrots)

Trapping or nest robbing of scarlet-chested and turquoise parrots for the caged bird industry may have been a significant stressor in the past (NSW 2014a&b, unpaginated; Higgins 1999, pp. 587 & 576), but current rates of trapping are unknown. It may no longer be much of a stressor because these species are readily captive-bred and kept in large numbers (Garnett 1992 as cited in Snyder *et al.* 2000, p. 57). However, if illegal trapping is still occurring, it could be significant in some areas if only a small number of birds are present (NSW 2014a, unpaginated). For example, the scarlet-chested parrot was the subject of illegal bird trappers at Gluepot Reserve in eastern South Australia in the 1970s, where there may be a small resident population (MacKenzie *in litt.* 2016). Additionally, practices used in illegal trapping can destroy nest hollows (NSW 2014b, unpaginated; Baker-Gabb 2011, p. 10). Both the scarlet-chested and turquoise parrots are still thought to be illegally trapped at some level (NSW 2014a&b, unpaginated), but trapping is no longer thought to be a major stressor (Garnett 1992 as cited in Snyder *et al.* 2000, p. 57; Joseph 1988, p. 274).

Legislation by the states within these species' range prohibits, or limits by permit, the capture of these species from the wild (See *Existing regulatory mechanisms,* below). Legitimate state permit holders (such as zoos, breeders, or pet shops) must prove that they are qualified to care for the animals and keep detailed records in a logbook (Barry 2011, unpaginated). However, the limited permissions for removal of wildlife and associated recordkeeping are, at times, abused. A practice called ''leaving the book open'' is a common way to launder wildlife—where permit holders sometimes head to the bush to replace a permitted animal that died, or pass off a wild animal as captive-bred (Barry 2011, unpaginated). Although there are thousands of state wildlife permit infringements and seizures each year in Australia, only a small number go to court (*e.g.,* as few as 12 cases per year), and punishments across the states vary (Barry 2011, unpaginated). Under Australian Federal law, maximum fines for wildlife permit violations are $110,000 AUS ($83,194 US) and 10 years in prison, but across the states,

penalties range from $220,000 AUS ($158,824 US) and 2 years jail in New South Wales to $10,000 AUS ($7,563 US) and no jail time in Western Australia (Barry 2011, unpaginated).

International trade in wild-caught specimens is strictly limited by domestic regulation (in Australia) and through additional national and international treaties and laws (See *Existing regulatory mechanisms,* below). However, the fact that so many species of native Australian birds have appeared overseas during the years of prohibition is evidence that some smuggling has been successful (Parliament of Australia 2016, unpaginated).

Despite domestic and international protections for wild birds, captive-bred scarlet-chested and turquoise parrots are widely available, and their market value is relatively low compared to other species of parrots, especially for birds sold in Australia. Scarlet-chested parrots sold in Australia are valued at approximately $20 to $50 AUS ($15 to $38 US) (*Findads.com* 2016, unpaginated). Prices for scarlet-chested parrots in the United States are approximately five times higher, or more—approximately $99 to $165 AUS ($75 to $125 US) (Hoobly Classifieds 2016, unpaginated). Market value for turquoise parrots is lower—approximately $15 AUS ($11 US) for birds sold in Australia and $50 AUS ($38 US) for birds sold overseas (Parliament of Australia 2016, unpaginated).

Levels of Legal International Trade (for the Scarlet-Chested Parrot)

Between 1980 and 2014, there were very few wild scarlet-chested parrots in trade. There were 22,612 recorded exports of the species in international trade (19,337 recorded as imports). Of these, only 32 specimens were recorded as exports from Australia (7 recorded as imported). With few exceptions, specimens in trade were captive-bred for the pet trade. Within this same time period there were 295 recorded imports (and 168 recorded exports) to the United States. Of those imports, 23 specimens were confiscated by the U.S. Fish and Wildlife Service (UNEP 2016a).

In summary, poaching for the pet trade may be occurring at a low level that is not likely to affect wild populations. Small, possibly resident, subpopulations may face some risk from poaching, but we are not aware of any significant poaching since the 1970s. Nor are we aware of any information indicating that overutilization for recreational, scientific, or educational purposes is a stressor to the scarlet-chested parrot.

Disease (for Scarlet-Chested and Turquoise Parrots)

Information regarding diseases and their potential effect to wild scarlet-chested and turquoise parrots is limited. Psittacine beak and feather disease (PBFD) is a viral disease that occurs in a fatal form and a chronic form in both old and new world parrots (Fogell *et al.* 2016, pp. 2059 and 2060). In 2001, PBFD was listed as a ''key threatening process affecting endangered psittacine species'' (Peters *et al.* 2014, p. 289; Australian DEH 2004, unpaginated). Cases of PBFD are pervasive in Australia, having been reported in more than 61 psittacine species (Australian DEH 2004, unpaginated).

The virus particularly affects juveniles or young adults, but all ages are susceptible (Australian DEH 2004, unpaginated). The chronic form of PBFD results in feather, beak, and skin abnormalities, with most birds eventually dying (Australian DEH 2004, unpaginated). Symptoms of the acute form of PBFD include feather abnormalities and diarrhea, with death likely within 1 to 2 weeks (Australian DEH 2004, unpaginated). PBFD is readily transmitted through contact with contaminated feces, feather dust, crop secretions, surfaces, or objects (Gerlach 1994 as cited in Ritchie *et al.* 2003, p.109) and can also be passed directly from a female to her young (Fogell *et al.* 2016, p. 2060).

PBFD can probably survive for many years in tree hollows and other nest sites (Australian DEH 2004, unpaginated). To date, the disease has not been reported for the scarlet-chested or turquoise parrots (Fogell *et al.* 2016, pp. 2063–2065), but recent phylogenetic analyses of the virus indicate that all endangered Australian psittacine birds are susceptible to, and equally likely to be infected by, the disease (Raidal *et al.* 2015, p. 466). PBFD may be less of a danger to larger, non-threatened populations of Australian psittacine species because they are generally better able to sustain losses to the disease, and individuals that survive infection develop immunity (Australian DEH 2004, unpaginated). Because PBFD is so pervasive in Australia, scarlet-chested and turquoise parrots are likely susceptible, but population sizes (*i.e.,* approximately 10,000 scarlet-chested and 20,000 turquoise parrots) may provide some resiliency from the disease.

Predation From Non-Native Cats and Foxes in Australia

Nonnative cats (*Felis catus*) were introduced and became established soon after European settlement and are now found throughout mainland Australia (Australian DEE 2015, p. 7). Predation by feral cats was identified as a key threatening process in 1999 (Australian DEE 2015, p. 5). In response, a feral cat threat abatement plan was developed by the Australian Government in 2008, and the most recent plan was published in 2015. It establishes a national framework for cat control, research, management, and other actions needed to ensure the long-term survival of native species and ecological communities affected by feral cats (Australian DEE 2015, p. 5).

The non-native European red fox (*Vulpes vulpes*) was introduced in the mid-1800s and now occupies much of mainland Australia (Australian DSEWP&C 2010, unpaginated), including the range of the scarlet-chested and turquoise parrots. Predation by the European red fox is listed by the Australian Government as a key threatening process in 1999 (Australian DEE 2015, p. 5). In response, the Australian Government developed a threat abatement plan that outlines conventional control techniques such as shooting, poisoning, and fencing as well as research and management actions (Australian DSEWP&C 2010, unpaginated). To date, it is not known if these efforts are resulting in a reduction in these predators.

Predation and the Scarlet-Chested Parrot

Predation by feral cats and European red foxes could be a stressor for the scarlet-chested parrot, but the degree of predation is not known. Both the scarlet-chested and turquoise parrot were assessed as ''high risk'' from these predators within the rangeland environment in the Western Division of New South Wales based on variables such as predator density, body weight, habitat use, and behavior (Dickman et al. 1996, p. 249). The Western Division of New South Wales represents the eastern edge of the current distribution of the scarlet-chested parrot. Additionally, the night parrot (*Pezoporus occidentalis*), which shares some habitat (*Triodia* grass) with the scarlet-chested parrot, may have experienced a decline partly due to nonnative predators such as foxes and cats (Joseph 1988, p. 274). Lastly, the provisioning of water for livestock has made some areas that were, perhaps, once too dry for these predators more hospitable. However, we did not find any information indicating that predation by foxes and cats is affecting the scarlet-chested parrot.

Competition for Nesting Hollows and Food

Competition for suitable nest hollows has the potential to limit reproductive success by limiting the number of pairs that can breed, or by causing nest mortality as a result of competitive interactions. All but four species of Australian parrots are dependent on tree hollows for nesting (Forshaw 1990, p. 58), and at least 14 species of parrots are known to use mallee shrublands (Schodde, 1990, p. 61). Availability of nest hollows in the dwindling mallee shrublands is a concern over the long term (Joseph 1988, p. 273). Additionally, the provisioning of water for livestock in semi-arid and arid rangelands may have caused increases and competitive advantage (*e.g.,* for food and nest hollows) to more water-dependent parrots (Collar 2016a, unpaginated; Garnett and Crowley 2000a, p. 346; del Hoyo *et al.,* 1997, p. 384). National legislation, policy, and strategic management plans are in place to protect hollow-bearing trees in Australia; however, prioritization and implementation of actions at the local level may be limited or lacking (Treby *et al.* 2014, entire).

In summary, disease, predation, and competition are all potential stressors for the scarlet-chested parrot. Although PBFD has not been confirmed in the scarlet-chested parrot, it is likely susceptible to the disease at some level. We are not aware of other diseases or pathogens that affect the wild population. Predation and competition may be occurring at low levels. Disease, predation, and competition do not appear to be significant stressors to the species because populations of the scarlet-chested parrot appear to be stable with an estimated 10,000 individuals and no evidence of decline in the past 20 years.

Existing Regulatory Mechanisms (for Both Scarlet-Chested and Turquoise Parrots)

In Australia, legislation from all states within these species' range prohibits, or limits by permit, the capture of the scarlet-chested and turquoise parrots from the wild. Commercial exports of these species from Australia have been banned since 1962. The prohibition is now codified under the EPBC Act. Individuals who violate this act, for example to export native species for commercial reasons, can face serious penalties, such as lengthy imprisonment and hefty fines.

These species are listed in Appendix II of CITES (50 CFR 23.91). CITES, an international agreement between governments, ensures that the international trade of CITES-listed plants and animals does not threaten the survival of the species in the wild. Under this treaty, CITES Parties regulate the import, export, and reexport of specimens, parts, and products of CITES-listed plants and animals (CITES 2016, unpaginated). Trade must be authorized through a system of permits and certificates that are provided by the designated CITES Scientific and Management Authorities of each CITES Party (CITES 2016, unpaginated). The United States implements CITES through the Act and our implementing regulations at 50 CFR part 23. It is unlawful for any person subject to the jurisdiction of the United States to engage in any trade in any specimens contrary to the provisions of CITES, or to possess any specimens traded contrary to the provisions of CITES, the Act, or part 23. Protections for CITES-listed species are provided independently of whether a species is a threatened species or endangered species under the Act.

In the United States, the scarlet-chested and turquoise parrots are currently listed as endangered and protected by the Act. Conservation measures provided to species listed as endangered or threatened under the Act include recognition, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and encourages and results in conservation actions by Federal and State governments, private agencies and interest groups, and individuals.

Section 7(a) of the Act, as amended, and as implemented by regulations at 50 CFR part 402, requires Federal agencies to evaluate their actions that are to be conducted within the United States or upon the high seas, with respect to any species that is proposed to be listed or is listed as endangered or threatened. Specifically, section 7(a)(2) requires Federal agencies to ensure those actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. However, because foreign species are not native to the United States, critical habitat is not designated. Regulations implementing the interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 8(a) of the Act authorizes the provision of limited financial assistance for the development and management of programs that the Secretary of the Interior determines to be necessary or useful for the conservation of endangered or threatened species in foreign countries. Sections 8(b) and 8(c) of the Act authorize the Secretary to encourage conservation programs for foreign listed species, and to provide assistance for such programs, in the form of personnel and the training of personnel.

Section 9(a)(1) of the Act and our implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, at 50 CFR 17.21, in part, make it illegal for any person subject to the jurisdiction of the United States to ''take'' (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or to attempt any of these) within the United States or upon the high seas; import or export; deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever, in the course of commercial activity; or sell or offer for sale in interstate or foreign commerce any endangered wildlife species. It also is 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 agents of the Service and State conservation agencies.

Under section 10 of the Act, permits may be issued to carry out otherwise prohibited activities involving endangered species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species. With regard to endangered wildlife, a permit may be issued for the following purposes: for scientific purposes, to enhance the propagation or survival of the species and for incidental take in connection with otherwise lawful activities.

Two other laws in the United States apart from the Act provide protection from the illegal import of wild-caught birds into the United States: the Wild Bird Conservation Act (WBCA) and the Lacey Act. The WBCA was passed in 1992 to ensure that exotic bird species are not harmed by international trade and to encourage wild bird conservation programs in countries of origin. Under the WBCA and our implementing regulations (50 CFR 15.11), it is unlawful to import into the United States any exotic bird species listed under CITES except under certain circumstances. The U.S. Fish and Wildlife Service may issue permits to allow import of listed birds for scientific research, zoological breeding or display, cooperative breeding, or personal pet purposes when the applicant meets certain criteria (50 CFR 15.22–15.25). All *Neophema* are protected under the WBCA (USFWS 2004). The WBCA allows import into the United States of captive-bred birds of certain species

included in the WBCA Approved List (50 CFR 15.33), such as scarlet-chested and turquoise parrots, which meet the following criteria (50 CFR 15.31):

(a) All specimens of the species known to be in trade (legal or illegal) must be captive bred;

(b) No specimens of the species may be removed from the wild for commercial purposes;

(c) Any importation of the species must not be detrimental to the survival of the species in the wild; and

(d) Adequate enforcement controls must be in place to ensure compliance with paragraphs (a) through (c).

The Lacey Act was originally passed in 1900 and was the first Federal law protecting wildlife. Today, it provides civil and criminal penalties for the illegal trade of animals and plants. Under the Lacey Act, in part, it is unlawful to import, export, transport, sell, receive, acquire, or purchase any fish, or wildlife taken, possessed, transported, or sold: (1) In violation of any law, treaty, or regulation of the United States or in violation of any Indian tribal law, or (2) in interstate or foreign commerce any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law. Therefore, for example, because the take of wild-caught Australian parrots would be in violation of Australia's EPBC Act, the subsequent import of such parrots would be in violation of the Lacey Act. Similarly, under the Lacey Act it is unlawful to import, export, transport, sell, receive, acquire, or purchase specimens of these species traded contrary to CITES.

In this section, we reviewed the existing regulatory mechanisms governing collection and trade of wild scarlet-chested parrots. While we note the conservation measures that would no longer be in place under the Act as a result of a delisting, such as the prohibitions on take within the United States or on the high seas, and import, export, or re-export into or out of the United States, we did not rely on the conservation measures provided by a listing under the Act in reaching our determination of whether or not the species meets the definition of threatened or endangered. As described above, the EPBC Act (which controls commercial export), Lacey Act, CITES, and WBCA all provide protection to scarlet-chested parrots that minimize or eliminate threats from trade to the species independently of the listing of the species under the Act. Thus, we do not expect declines in the species due to the removal of the protections of the Act. As discussed under the other sections in Factors Affecting the Scarlet-Chested Parrot, we do not find major stressors adversely affecting the species or its habitat. Thus, it is reasonable to conclude that the regulatory mechanisms addressing these potential stressors are adequate at protecting the species at a domestic and global level.

Small Population Size

We discussed the nomadic behavior and the irruptive species population ecology of the scarlet-chested parrot in the *Biology* section above and noted that the species can experience range contractions and low numbers (Runge *et al.* 2014, pp. 870, 874). Although the current population has not been quantified, it is estimated to be larger than 10,000 mature individuals (BLI 2012a, p. 1); and population trends appear to be stable, with no evidence of decline in the last 20 years (BLI 2016a, unpaginated; BLI 2012a, p. 4). Because the scarlet-chested parrot can experience large range contractions and low numbers, we considered whether small population size in combination with other stressors might act as a stressor to the species. Small populations are generally at greater risk of extinction from habitat loss, predation, disease, loss of genetic diversity, and stochastic (random) environmental events such as wildfire and floods.

Species that naturally occur in low densities, however, are not necessarily in danger of extinction merely by virtue of their rarity. Many naturally rare species have persisted for long periods, and many naturally rare species exhibit traits (*e.g.,* nomadic behavior and irruptive species population ecology of the scarlet-chested parrot) that allow them to persist despite their small population sizes. Consequently, the fact that a species is rare or has small populations alone does not indicate that it may be in danger of extinction now or in the foreseeable future. Additional information beyond rarity is needed to determine whether the species may warrant listing. In the absence of information identifying stressors to the species and linking those stressors to the rarity of the species or a declining status, we do not consider rarity alone to be a threat. Further, a species that has always had small population sizes or has always been rare, yet continues to survive, could be well-equipped to continue to exist into the future.

We considered specific potential stressors that may affect or exacerbate rarity or small population size for the scarlet-chested parrot. Although low genetic diversity could occur with some small populations, the scarlet-chested parrot population is not known to be fragmented (Snyder *et al.* 2000, p. 57). We are not aware of any genetic studies on the scarlet-chested parrot and have no evidence that low genetic diversity is a problem for the species. Additionally, the scarlet-chested parrot is capable of building up large numbers in response to favorable environmental conditions, and has historically survived changes to its habitat, including wildfire and other stochastic events.

In summary, the best available information does not indicate that lack of genetic variability and reduced fitness is acting on the scarlet-chested parrot now or will do so in the future.

Global Climate Change

Described in general terms, ''climate'' refers to the mean and variability of different types of weather conditions over a long period of time, which may be reported as decades, centuries, or thousands of years. The term ''climate change'' thus refers to a change in the mean or variability of one or more measures of climate (*e.g.,* temperature, precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (Intergovernmental Panel on Climate Change; (IPCC 2007, p. 78). Various types of changes in climate can have direct or indirect effects on species, and these may be positive or negative depending on the species and other relevant considerations, such as the effects of interactions with non-climate conditions (*e.g.,* habitat fragmentation). We use our expert judgment to weigh information, including uncertainty, in our consideration of various aspects of climate change that are relevant to the scarlet-chested and turquoise parrots. Global climate change predictions include increases in intensity and/or duration of heat waves and droughts, as well as greater numbers of heavy precipitation events (IPCC 2013, p. 7).

Climate Change in Australia

Over the last century, Australia has experienced an average increase of 1.0 °C (1.8 °F), with the most pronounced and rapid warming occurring in eastern Australia from the 1950s to the present (Nicholls 2006 as cited in Bradshaw 2012, p. 116). Along with this warming, there has been an increased frequency of hot days and nights, and a decrease in cold days and nights (Deo 2011 as cited in Bradshaw 2012, p. 116). Rainfall patterns have shifted over this period, with decreased rainfall in the southeastern and southwestern regions and increases in the northwest (Nicholls

and Lavery 1992 as cited in Bradshaw 2012, p. 116). An increase in annual total rainfall of approximately 15 percent was experienced in New South Wales, Victoria, South Australia, and the Northern Territory, with little change in the other states (Hughes 2003, p. 424). In eastern Australia, since 1973, drought periods are becoming hotter (Nicholls 2004 as cited in Bradshaw 2012, p. 116).

Climate change projections for Australia show significant vulnerability to changes in temperature and rainfall. The IPCC Fourth Assessment Report identified agriculture and natural resources as two key sectors likely to be strongly affected (Stokes *et al.* 2008, p. 41). Temperatures in Australia are projected to increase by 1–5 °C (1.8–9 °F), depending on location and the emissions scenarios. The most warming is projected for the dry interior of the continent, particularly for the northwest (Stokes *et al.* 2008, p. 41). Accompanying these temperature increases will be an increase in the frequency of hot days and warm nights (Stokes *et al.* 2008, p. 41).

Rainfall projections for Australia are less reliable with some dryer and wetter trends predicted within a large range of uncertainty (Stokes *et al.* 2008, p. 41). Projections focusing on median rainfall show a general pattern of drying across the continent, with the strongest drying trends in the southwest and the weakest in the east (Stokes *et al.* 2008, p. 41). Seasonal rainfall is expected to be reduced in winter and spring in the south. Rainfall intensity is expected to increase in most of the country, particularly in the north (Stokes *et al.* 2008, p. 41). Frequency in the incidence of drought is also expected to increase—with up to 40 percent more droughts predicted for eastern Australia and 80 percent more droughts in the southwest by 2070 (Stokes *et al.* 2008, p. 41).

Climate Change and the Scarlet-Chested Parrot

Based on the information for Australia above, climate patterns over the last century within the known range of the scarlet-chested parrot included: (1) Increased average temperature of 1.0 °C (1.8 °F) (Nicholls 2006 as cited in Bradshaw 2012, p. 116); (2) increased frequency of hot days and warm nights (Deo 2011 as cited in Bradshaw 2012, p. 116); (3) decreased rainfall in the southeastern and southwestern regions (Nicholls and Lavery 1992 as cited in Bradshaw 2012, p. 116); and (4) increased annual total rainfall of approximately 15 percent in South Australia, New South Wales, the Northern Territory and Victoria (Hughes 2003, p. 424). Similarly, a summary of climate projections for areas within the known range of the scarlet-chested parrot includes: (1) Temperature increase of 1–5 °C (1.8–9 °F) with most warming in the dry interior (Stokes *et al.* 2008, p. 41); (2) increases in the frequency of hot days and warm nights (Stokes *et al.* 2008, p. 41); (3) a large range of uncertainty for rainfall, but (using median rainfall) a general pattern of drying, with less rain in the spring and winter in the south, and increased intensity of rain, particularly in the north (Stokes *et al.* 2008, p. 41); and (4) increased frequency and intensity of drought (up to 40 percent in eastern areas and 80 percent in the southwest by 2070) (Stokes *et al.* 2008, p. 41).

Habitats used by the scarlet-chested parrot will respond differently to projected warmer and drier conditions and the variable rain predictions. Habitats such as woodland areas used by the scarlet-chested parrot that do not receive adequate rain to produce needed fuels may actually see a decrease in fire frequency (Bradstock 2010, p. 145). However, fire frequency is likely to increase in areas with ample fuel and connectivity, such as hummock grasses interspersed with shrubs including mallee shrubland (Garnett *et al.* 2013a, p. 16).

Although there is still some variability in climate change predictions for Australia, the increased warming and frequency and/or intensity of droughts are of concern for the scarlet-chested parrot and its habitats; however, the information at this time is too speculative for us to draw conclusions as to the scale and timing of any effects. Two recent studies analyzed the capacity of woodland birds in dry woodlands and riparian areas in southeastern Australia to resist the pressures of extended drought and then recover once drought conditions abated (Selwood *et al.* 2015, entire; Bennet *et al.* 2014, entire). Overall, these studies indicated long-term decline in the face of more frequent and extended droughts in southeastern Australia (Selwood *et al.* 2015, entire; Bennet *et al.* 2014, entire).

A recent climate-change-adaptation model using a ''Business as Usual'' projection (*i.e.,* the ''worst-case'' scenario with increasing greenhouse gasses through time), predicted that the distribution of climate, similar to that currently used by the species, may contract to approximately one third of its current range by 2085, shifting suitable habitat to more southerly portions of Western Australia and South Australia (Garnett *et al.* 2013b, interactive model results). Although the model does well to incorporate species-specific traits, it also includes a number of uncertainties that may limit its predictive power (Garnett *et al.* 2013, pp. 76–77). Basic model assumptions such as that trends into the future will follow simple linear extrapolations of existing relationships, and assumptions regarding (scaled down) projected climate change itself, may limit its accuracy (Garnett *et al.* 2013, pp. 76–77). Given the variability in the existing climate and uncertainties in modelling, it can be concluded that climate change does not pose a substantial threat to the species in the next 50 years based on current knowledge (Garnett *in litt.* 2016a).

The scarlet-chested parrot has evolved in a landscape where environmental conditions are dynamic, and its nomadic strategies may help it to recover from periods of range contraction and low numbers (Runge *et al.* 2014, pp. 870, 874), but too rapid an environmental change (*e.g.,* from climate change effects) may outpace the species' abilities to respond to spatial and temporal shifts (Runge *et al.* 2014, pp. 870, 874).

In summary, effects from past and predicted climate change are difficult to assess for the scarlet-chested parrot. Because it is adapted to dry habitat, the parrot would likely fare better than more water-dependent birds in times of drought. However, within areas of increased rainfall, vegetation shifts may occur, fuel loads and wildfire risk may be altered, and competition with water-dependent species may increase. Although long-term range contraction was indicated in the climate-change-adaptation model (Garnett *et al.* 2013b, interactive model results), there are uncertainties in the model and variability in the climate data on which it relies. Due to species' adaptability to arid landscapes and ability to travel great distances, climate change is not likely to be a major stressor for the scarlet-chested parrot, within the next 50 years.

Turquoise Parrot

Summary of Status Review

Taxonomy—Please see *Taxonomy* section above, which includes taxonomy for both the scarlet-chested and turquoise parrots.

Species Description

The turquoise parrot is a relatively small, colorful parrot found in eastern and southeastern Australia. Adult size is approximately 20–22 cm (7.9–8.7 in) in length (Higgins 1999, p. 573). Adult coloration is primarily bright green

above with bright yellow below, with a bright blue face and shoulder patch. Males are distinguished from females by a small red shoulder band or patch and more blue on the face; the red shoulder patch and blue facial coloration of juvenile males is less extensive than that of adult males (BLA 2016b, unpaginated; NSW 2014b & 2009, unpaginated; Higgins 1999, p. 573; Quin and Baker-Gabb 1993, p. 3; Jarman 1973, p. 240).

Biology

The turquoise parrot occurs in many parts of eastern and southeastern Australia, particularly the foothills of the Great Dividing Range (NSW 2009, unpaginated; Garnett and Crowley 2000b, p. 345; Juniper and Parr 1988, p. 365). Typical habitat is hill country including woodlands, open forest, and timbered grasslands (Collar 2016b, unpaginated; Forshaw 1989, p. 286). Within this habitat, the parrot prefers the transition zones between open and closed areas, such as the edges of woodland adjoining grasslands and tree-lined creeks (Collar 2016, unpaginated; Forshaw 1989, p. 286).

The turquoise parrot tends to feed on or near the ground (BLA 2016b, unpaginated; Higgins 1999b, p. 574; Quin and Reid 1996, p. 250), usually under the cover of trees (NSW 2014b, unpaginated; Higgins 1999b, p. 574). The species also feeds in farmland, mainly pasture with remnant trees (Higgins 1999, p. 574). The turquoise parrot must have access to drinking water (Jarman 1973, p. 239), and its habitat usually receives more than 38 cm (15 in) of annual rainfall (Jarman 1973, p. 240). The species feeds on a generalized diet of seeds from grasses, herbaceous plants, and shrubs; it also feeds on flowers, nectar, fruit, leaves, and scale-insects (NSW 2009, unpaginated; Quin and Baker-Gabb 1993, p. 15). Turquoise parrots can exploit disturbed environments and use a variety of colonizing plants as food sources (Quin and Baker-Gabb 1993, p. 27). The turquoise parrot eats from both native and non-native plants, and researchers credit its ability to partially adapt to modified habitats as contributing to its recovery (Quin 1990 as cited in Quin and Reid 1996, p. 253).

Type and quality of the pasture land used for food is important. Although the species can use partially modified habitats, use of highly modified habitats, such as ''highly improved'' pasture, is less likely. Improved pastures, in general, are sown with a proportion of non-native plant species to promote productive growth of both the pasture and grazing animals. Introduced non-native pasture species are usually grasses, in combination with legumes. In a study of the species near Chiltern, a town bordering the hill country in northeast Victoria, almost all habitat types in forest and unimproved pasture were potentially useful for feeding in at least one season. However, use of highly improved pasture and cropped land was rare (Quin and Baker-Gabb 1993, p. 15).

The turquoise parrot is usually seen in pairs, in small groups, or, in flocks of up to 30 birds (NSW 2014b, unpaginated; Higgins 1999, p. 574; Quin and Baker-Gabb 1993, p. 16). Rarer sightings of larger flocks of 100 to 200 birds have also been reported (Higgins 1999, p. 574; Quin and Baker-Gabb 1993, p. 16).The species is described as mainly sedentary or resident with some post-breeding movement from woodland to pastures (Juniper and Parr 1998, p. 366), and some sporadic local movement, likely related to rainfall (del Hoyo *et al.* 1997, p. 383). The turquoise parrot disperses mostly less than 10 kilometers (km) (6.2 miles (mi)), using the protection of treed corridors for dispersal (NSW 2009, unpaginated). The turquoise parrot reaches maturity at about 3 years of age (Garnett and Crowley 2000b, p. 345).

The species breeds in pairs primarily from August to January with some nesting noted in February, and even from April to May (Collar 2016b, unpaginated; Quin *in litt.* 2016; Juniper and Parr 1988, p. 366; del Hoyo *et al.* 1997, p. 383). Four to five eggs, and less commonly, six or seven eggs, are laid in hollows of trees, stumps, fallen logs, or even fence posts (Collar 2016b, unpaginated; Quin *in litt.* 2016; Garnett and Crowley 2000b, p. 345; del Hoyo *et al.* 1997, p. 383; Quin and Baker-Gabb 1993, p. 9; Forshaw 1989, p. 286; Juniper and Parr 1988, p. 366; Jarman, 1973, p. 241), often within approximately 1–2 meters (m) (3–6 feet (ft)) of the ground (NSW 2009, unpaginated; Quin and Baker-Gabb 1993, p. 9). The female incubates the eggs and is fed by the male during incubation; both parents rear the chicks (BLA 2016b, unpaginated). In some areas, the species will have two clutches per year (BLA 2016b, unpaginated; NSW 2009, unpaginated; Juniper and Parr 1998, p. 366). Incubation lasts about 18–20 days, followed by a nestling period of about 30 days (NSW 2009, unpaginated; Juniper and Parr 1998, p. 366; del Hoyo *et al.* 1997, p. 383). After fledging, juveniles remain dependent on their parents for at least 1 week, and continue to be fed by the male while the female begins a second clutch (NSW 2009, unpaginated). Breeding productivity is estimated at 2.8 young per successful nest (NSW 2009, unpaginated).

Distribution

A little more than a century ago, the turquoise parrot was common through many parts of eastern Australia, ranging from eastern Queensland to south-central Victoria (Higgins 1999, p. 575; Jarman 1973, p. 239), though it is unknown whether the historical range was continuous (Jarman 1973, p. 240). Between 1880 and 1920, the species went through a major population crash with associated contractions in its range (Quin and Reid 1966, p. 250; see below).

Although the turquoise parrot is still not found in central Queensland, it is now distributed through much of its former range, from southeastern Queensland through eastern New South Wales and into Victoria (west to Bendigo, Victoria) (del Hoyo *et al.* 1997, p. 383; Juniper and Parr 1989, pp. 365–366). The species' distribution is not continuous but rather occurs in patches of suitable habitat throughout this broader range (Tzaros 2016, unpaginated; Forshaw 1989, p. 286). Based on distribution and density information (Barret *et al.* 2003 as cited in NSW 2009, unpaginated), about 90 percent of the population is thought to occur in New South Wales (NSW 2009, unpaginated).

The reasons for the turquoise parrot population crash between 1880 and 1920 are not fully understood. Likely contributing factors included: (1) Habitat loss from European settlement, including competition for food (grasses) from grazing livestock and rabbits, (2) an intense period of drought from 1895 to 1902, and (3) trapping for the pet trade (Tzaros 2016, unpaginated; del Hoyo 1997, p. 383; Juniper and Parr 1989, p. 365). Some have also suggested that disease may have played a role because of the steep decline in numbers (Collar 2016b, unpaginated, Tzaros 2016, unpaginated; Quin and Baker-Gabb 1993, p. 3; Morse and Sullivan 1930, p. 289), but there is no evidence that disease was a factor. Other potential factors were predation by the non-native European red fox (*Vulpes vulpes*) and feral cats (*Felis catus*) and indiscriminate shooting (Tzaros 2016, unpaginated).

The return of the turquoise parrot to portions of its former range was reported by the 1930s and 1940s (BLA 2016b, unpaginated; Higgins 1999, p. 575), though it did not reappear in Victoria until the 1950s (Tzaros 2016, unpaginated). By the time we listed the species as endangered under the Act in 1970, recovery was continuing and the

parrot was generally considered rare (Smith 1978 and IUCN 1966 & 1981 as cited in Quin and Baker-Gabb 1993, p. 3). Further recovery during the 1970s and 1980s was, in part, attributed to the removal of livestock from reserve lands in northeastern Victoria (Quin and Baker-Gabb 1993, p. 3). Increases in both numbers and range were apparent in Victoria by the mid to late 1980s, though the species was still regarded as rare (Traill 1988, p. 267). The global population of turquoise parrots is currently estimated at 20,000 individuals (BLI 2012b, p. 1; Garnet and Crowley 2000b, p. 345; Juniper and Parr, p. 366) and appears to be stable with increases reported in some areas (BLI 2016b, unpaginated; Garnett & Crowley 2000b, p. 345).

Captive-Bred Specimens

The turquoise parrot is bred in captivity for the pet trade with about 8,000 held in captivity in Australia (Juniper and Parr 1998, p. 366); estimates of the size of the captive population after the late 1990s could not be found.

Conservation Status

The turquoise parrot was listed in CITES Appendix III in 1976, as part of a listing for the Family Psittacidae, and was later listed in Appendix II in 1981, along with all Psittaciformes (UNEP 2011b, unpaginated; see *Conservation status* for the scarlet-chested parrot above for more information on implications of listing in CITES Appendix II).

International Union for Conservation of Nature and Natural Resources (IUCN)—The turquoise parrot was listed on the International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened and Endangered Species in 1988 as ''Lower Risk'' and transferred to ''Least Concern'' in 2004; the status remains at ''Least Concern'' (BLI 2012b, p. 1).

Australia

Commercial exports of the turquoise parrot from Australia have been prohibited since 1962; these prohibitions are now codified in Australia's EPBC Act. The turquoise parrot is not included in the EPBC Act's List of Threatened Fauna (Australian DEE 2017a, unpaginated). Inclusion on the EPBC Act's List of Threatened Fauna promotes recovery via: (1) Conservation advice, (2) recovery plans, and (3) the EPBC Act's assessment and approval provisions (Australian DEE 2017b). The turquoise parrot was not included on the List of Threatened Fauna either because it was never nominated for consideration, or if it was nominated, it was found ineligible by a rigorous scientific assessment of the species' threat status (Australian DEE 2017b, unpaginated).

Additionally, the 2000 Action Plan for Australian Birds (Garnett and Crowley 2000b, p. 345) listed it nationally as ''Near Threatened,'' but this designation was removed in the 2010 Action Plan for Australian Birds, which noted that the population was too large to be considered ''near threatened'' and that there was no evidence of a recent decline (Garnett *et al.* 2011, p. 429). As such, there is no national recovery plan for the turquoise parrot, though recommended actions were outlined for the species in the 2000 Action Plan (Garnett and Crowley 2000b, p. 345).

At the state level, the species is currently listed as ''Rare'' in Queensland under the Nature Conservation Act 1992 and ''Threatened'' in Victoria under the Flora and Fauna Guarantee Act 1988 (FFG; FFG 2016, p. 3). It was subsequently recommended for downlisting to ''Near Threatened'' by an FFG Scientific Advisory Committee in 2013; however, it is still officially ''Threatened'' in Victoria (Vic DSE 2013, p. 13; NSW 2009, unpaginated). In 2009, the New South Wales Scientific Committee determined that the turquoise parrot met criteria for listing as ''Vulnerable'' under the New South Wales Threatened Species Conservation Act 1995 (NSW 2009, unpaginated), and this classification is still in place (BLA 2016b, unpaginated).

Additionally, portions of suitable habitat for the turquoise parrot are protected. For example, about 8 percent of Queensland is now in the Natural Reserve System that includes government reserves, indigenous protected areas, private protected areas, and jointly managed protected areas (CAPAD 2014, unpaginated). Approximately 9 percent of New South Wales and 18 percent of Victoria are also part of this Natural Reserve System (CAPAD 2014, unpaginated). Because we do not reliably know the degree to which the Natural Reserve System protects the turquoise parrot and its habitat, we did not rely on these protected areas in our determination of whether or not the parrot meets the definition of threatened or endangered.

Factors Affecting the Turquoise Parrot

The following sections provide a summary of the past, current, and potential future stressors for the turquoise parrot and its habitats. In cases where the stressors were common to both the scarlet-chested and turquoise parrots, we discuss potential effects to both parrot species in the section for the scarlet-chested parrot for the sake of efficiency.

Land clearing—See *Land clearing in Australia* under Factors Affecting the Scarlet-Chested Parrot, above.

Land Clearing and the Turquoise Parrot

Typical turquoise parrot habitat is hill country including woodlands, open forest, and timbered grasslands (Collar 2016b, unpaginated; Forshaw 1989, p. 286). Since the 1970s, southeastern Queensland and northern New South Wales have experienced the greatest rates of deforestation in Australia, and Victoria is now the most deforested state or territory in Australia (Bradshaw 2012, p. 109).

Unlike New South Wales and Victoria, most of the land clearing in Queensland has occurred in the last 50 years (Bradshaw 2012, p. 113; McAlpine *et al.* 2009, p. 22) with high rates of vegetation loss in the last several decades (Lindenmayer and Burgman 2005, p. 233). Clearing was predominantly in central and southern regions where native forests and woodlands were converted for intensive cropping and improved pastures for cattle (McAlpine *et al.* 2009, p. 23). In 2004, Queensland enacted clearance restrictions to phase out broad-scale clearing by the end of 2006 (Lindenmayer and Burgman 2005, p. 233). As of 2014, about 8.16 percent of Queensland's jurisdiction was in protected areas (CAPAD 2014, unpaginated).

Victoria is heavily cleared (Lindenmayer 2007, as cited in Bradshaw 2012, p. 114), having lost an estimated 66 percent of its native vegetation (Victoria Department of Sustainability and the Environment 2011 as cited in Bradshaw 2012, pp. 113–114). Most of the clearance occurred prior to the 1890s when the wheat and livestock industries were developing (Lindenmayer 2007, as cited in Bradshaw 2012, p. 114). Land clearance was estimated to have continued at a slow, steady rate of about 1 percent per year until 1987, when anti-clearing legislation was introduced (Lindenmayer 2007, as cited in Bradshaw 2012, p. 114). Despite this legislation, proportional clearance rates from 1995–2005 remained high and even increased near the end of this decade (Bradshaw 2012, p. 114). Although Victoria is now the most cleared of the three states, it also contains the highest proportion of protected land. As of 2014, about 17.63 percent of Victoria's jurisdiction was in

protected areas (CAPAD 2014, unpaginated).

New South Wales was one of the first regions settled by Europeans and generally has a higher human population than other parts of Australia. Most of the land clearing and damage to forest ecosystems happened during the nineteenth century (Bradshaw 2012, p. 112). More than 50 percent of the forest and woodland in New South Wales has been cleared (Lunney 2004, Olsen *et al.* 2005 and Johnson *et al.* 2007 as cited in NSW 2009, unpaginated). As of 2014, about 9.10 percent of New South Wales' jurisdiction was in protected areas (CAPAD 2014, unpaginated).

Forest fragmentation as a result of land clearing can also affect the turquoise parrot, which is mostly sedentary but capable of short-distance dispersal (generally less than 10 km (6.2 mi)) along treed corridors) (NSW 2009, unpaginated; Quin and Baker-Gabb 1993, p. 16). Therefore, gaps between forest remnants may cause fragmentation of turquoise parrot populations in heavily cleared landscapes (NSW 2009, unpaginated).

Altered fire regimes—see *Fire in Australia* under Factors Affecting the Scarlet-Chested Parrot, above.

Altered Fire Regimes and the Turquoise Parrot

Prescribed fire and timber-cutting have negatively affected the turquoise parrot and its habitat (NSW 2009, unpaginated). Both practices have the potential to cause the loss of hollow-bearing trees, which can be a limiting habitat feature for the turquoise parrot (NSW 2014b). Similarly, firewood collection and selective removal of dead wood and dead trees reduce the availability of nest hollows (NSW 2014b, unpaginated; NSW 2009, unpaginated).

In summary, land clearing for agriculture in combination with other stressors (*i.e.,* drought, trapping) was likely a significant cause of the population crash between 1880 and 1920. While most of the land clearing occurred in the late 18th and the early 19th centuries, more recent forest clearance rates are of concern for the three states that support the turquoise parrot. Forest fragmentation as a result of clearing has the potential to isolate turquoise parrot populations, which are mostly sedentary but capable of short-distance dispersal (and population expansion) along treed corridors. Management actions such as prescribed fire, selective logging, and reforestation should be carefully applied and adapted to benefit parrot habitat. Managing for protection of nesting hollows is particularly important.

The advent of anti-clearing legislation since approximately the 1990s (Bradshaw 2012, p. 116) and the growing proportion of lands in protected areas are positive signs for further turquoise parrot recovery, but researchers caution that conservation efforts such as reforestation should be carefully planned and implemented at the local level. The turquoise parrot population has continued to recover since the historic crash and through periods of subsequent deforestation, with no evidence of recent decline (Garnett *et al.* 2011, p. 429). While habitat destruction and modification is a likely stressor for the turquoise parrot, we do not consider it to be a major stressor to the species throughout its entire range now or in the foreseeable future.

Removal From the Wild for Food

About a century ago, turquoise parrots were shot for food for pie-filling (BLA 2016b, unpaginated; Seth-Smith 1909 as cited in Higgins 1999, p. 576) and, in some cases, were indiscriminately shot (Tzaros 2016, unpaginated). These are no longer reported as stressors for the turquoise parrot.

Illegal collection and trade—see *Illegal collection and trade (for both scarlet-chested and turquoise parrots)* under Factors Affecting the Scarlet-Chested Parrot, above.

Levels of Legal International Trade (for the Turquoise Parrot)

Between 1980 and 2014, there were very few wild turquoise parrots in trade. There were 44,244 turquoise parrot specimens exported in international trade (27,248 recorded imports). More than 99 percent of these were captive-bred live parrots (UNEP 2016b).

In summary, use as food and poaching for the pet trade were noted as stressors in the past. Presently, poaching may be occurring at a low level that is not likely to affect wild populations. We are not aware of any information indicating that overutilization for recreational, scientific, or educational purposes are current stressors to the turquoise parrot.

Disease—See *Disease (for scarlet-chested and turquoise parrots)* under Factors Affecting the Scarlet-Chested Parrot, above.

Predation—See *Predation from non-native cats and foxes in Australia* under Factors Affecting the Scarlet-Chested Parrot, above.

Predation and the Turquoise Parrot

The turquoise parrot nests in tree hollows close to the ground, making it vulnerable to predation from introduced terrestrial predators such as feral cats and European red foxes (Rowden *pers. comm.* 2016*;* NSW 2014b and 2009, unpaginated; Quin and Baker-Gabb 1993, pp. 3, 26). Feral cat control and feral predator control are identified objectives in management plans for the turquoise parrot (NSW 2014b, unpaginated; Garnett and Crowley 2000b, p. 345; Quin and Baker-Gabb 1993, p. 26). Both feral cats and foxes were predators of the turquoise parrot at Chiltern in Victoria in the 1980s (Quin and Baker-Gabb 1993, p. 26), and more fox control was likely needed in the area at that time (Quin *in litt.* 2016). Additionally, the turquoise parrot and the scarlet-chested parrot were assessed as ''high risk'' from these predators within the rangeland environment in the Western Division of New South Wales based on variables such as predator density, body weight, habitat use, and behavior (Dickman *et al.* 1996, p. 249). However, we could not find recent information regarding the predation rate of feral cats or foxes on the turquoise parrot.

Foxes dig at active turquoise parrot nests and usually take the female and the nestlings, if they can be reached. Some predation of turquoise parrots by foxes can be mitigated by physically reinforcing degraded natural nest hollows to avoid digging out of these nests by foxes (Quin and Baker-Gabb 1993, p. 22). Similarly, placement of artificial nesting material higher in the host tree can generally keep them out of reach of foxes (Quin and Baker-Gabb 1993, p. 22). There are ongoing efforts to improve turquoise parrot nesting habitat, particularly in Victoria (see *Competition for nesting hollows,* below*).*

Competition for Nesting Hollows

Competition for suitable nest hollows has the potential to limit reproductive success of the turquoise parrot by limiting the number of pairs that can breed, or by causing nest mortality as a result of competitive interactions. All but four species of Australian parrots are dependent on tree hollows for nesting (Forshaw 1990, p. 58). Competition for nest hollows (both intraspecific and interspecific) was noted at Chiltern in Victoria, where limited nest hollows likely limited reproductive success of the turquoise parrot (Quin and Baker-Gabb 1993, p. 12). National legislation, policy, and strategic management plans are in place to protect hollow-bearing trees in Australia; however, prioritization and implementation of actions at the local level may be limited or lacking (Treby *et al.* 2014, entire).

Placing artificial nest hollows in areas that appear to be nest-hollow limited seems to be successful, and programs that construct and strategically place artificial nests are supported at the State level and appear to be ongoing. For example, early experimental efforts to hollow-out naturally occurring stumps in the Warby Ranges (in Victoria, near Chiltern) were successful but ended in the 1990s (Tzaros 2016, unpaginated). In 2010, Monash University researchers placed artificial nests around the Warby-Ovens State Park (also near Chiltern), and the hollows were readily occupied by turquoise parrots (Tzaros 2016, unpaginated). More recent efforts to improve habitat for turquoise parrots include those of two land-care networks in northeastern Victoria. The Broken Boosey Conservation Management Network has made and installed 200 potential nest sites for the species (Tzaros 2016, unpaginated), and the Ovens Land-care Network received a $4,600 AUS ($3,525 US) grant that aims to raise awareness of the increasing risk to hollow-dependent species by the non-native Indian (common) myna bird (*Acridotheres tristis*) (Quin *in litt.* 2016; Tzaros 2016, unpaginated).

Competition for Food

Grazing by livestock can directly affect available food resources for the turquoise parrot (NSW 2009, unpaginated). As livestock grazing ended in some protected areas of Victoria, numbers of turquoise parrots in those areas increased (Quin and Baker-Gabb 1993, p. 7; Juniper and Parr 1989, p. 366; Forshaw 1989, p. 286), indicating that a reduction in grazing may benefit the species' recovery.

Competition for food by grazing sheep, cattle, and European wild rabbits (*Oryctolagus cuniculus*) was noted as a possible contributing factor in the crash of the turquoise parrot population between 1880 and 1920 (Collar 2016b, unpaginated, Quin and Baker-Gabb 1993, p. 3). Around the time of the parrot's population crash, rabbit numbers swelled to plague proportions, forcing some farmers out of business (Tzaros 2016, unpaginated). Turquoise parrot habitat and food sources were undoubtedly adversely affected by this plague, but the degree to which they were affected is unknown. Application of Myxomatosis, a disease that is spread by mosquitoes and affects only rabbits, has succeeded in keeping rabbit numbers at approximately 5 percent their former high abundance in wetter areas (Australian DSEWP&C 2011, unpaginated). Current rates of competition between rabbits and turquoise parrots for food are not well understood but are assumed to be much less than they were a century ago.

In summary, disease, predation, and competition are all potential stressors for the turquoise parrot. Although PBFD has not been confirmed in the turquoise parrot, it is likely susceptible to the disease at some level. We are not aware of other diseases or pathogens that affect the wild population. Predation and competition may be occurring at low levels, but there are active plans in place to control feral cats, foxes, and rabbits. Use of artificial nests may be helping to mitigate fox predation and competition for nest hollows where this is a limiting habitat feature. While disease, predation, and competition may be affecting the turquoise parrot at low levels, they do not appear to be significant stressors to the species because populations of the turquoise parrot are stable with an estimated 20,000 individuals and may be increasing in some areas.

Existing regulatory mechanisms—see *Existing regulatory mechanisms (for both scarlet-chested and turquoise parrots)* under Factors Affecting the Scarlet-Chested Parrot, above.

In this section, we reviewed the existing regulatory mechanisms governing collection and trade of wild turquoise parrots. As described above, the EPBC Act (which controls commercial export), the Lacey Act, CITES, and the WBCA all provide protection to turquoies parrots that minimize or eliminate threats from trade to the species. As discussed under the other sections in Factors Affecting the Turquoise Parrot, we do not find major stressors adversely affecting the species or its habitat. Thus, it is reasonable to conclude that the regulating mechanisms addressing these potential stressors are adequate at protecting the species at a domestic and global level.

Climate change—see *Global climate change* and *Climate change in Australia* under Factors Affecting the Scarlet-Chested Parrot, above.

Climate Change and the Turquoise Parrot

Based on the information presented in *Climate change in Australia* above, a summary of climate patterns over the last century, within the known range of the turquoise parrot includes: (1) Increased average temperature of 1.0 °C (1.8 °F) with pronounced and rapid warming in eastern Australia since the 1950s (Nicholls 2006 as cited in Bradshaw 2012, p. 116); (2) increased frequency of hot days and warm nights (Deo 2011 as cited in Bradshaw 2012, p. 116); (3) decreased rainfall in the southeastern regions (Nicholls and Lavery 1992 as cited in Bradshaw 2012, p. 116); and (4) increased annual total rainfall of approximately 15 percent in New South Wales and Victoria (Hughes 2003, p. 424). Similarly, a summary of climate projections for areas within the known range of the turquoise parrot includes: (1) Temperature increase of 1–5 °C (1.8–9 °F) (Stokes *et al.* 2008, p. 41); (2) increases in the frequency of hot days and warm nights (Stokes *et al.* 2008, p. 41); (3) a large range of uncertainty for rainfall, but (using median rainfall) a general pattern of drying, with less rain in the spring and winter in the south, and increased intensity of rain (Stokes *et al.* 2008, p. 41); and (4) increased frequency and intensity of drought (up to 40 percent in eastern areas by 2070) (Stokes *et al.* 2008, p. 41).

Climate change is projected to affect pasture habitat used by the turquoise parrot. Rainfall is expected to be the dominant influence on pasture growth; fewer, more intense rain events are anticipated as well as (from year to year) more frequent droughts (Stokes *et al.* 2008, p. 41). Increased temperatures could benefit pasture growth and growing seasons in the cooler southern climates, but depletion of moisture in the soil due to this growth might adversely affect spring pasture growth (Stokes *et al.* 2008, p. 41).

Increases in carbon dioxide (CO_2) will affect rangeland function, with a projected increase in pasture production but potential loss in forage quality (*e.g.,* declines in forage protein content) (Stokes *et al.* 2008, p. 42). Fire danger will increase over much of Australia (Hughes 2003, p. 427). Increased pasture growth will produce heavier fuel loads (Stokes *et al.* 2008, p. 42; Hughes 2003, p. 427). The risk of wildfires could increase and make prescribed burns more difficult to manage (Stokes *et al.* 2008, p. 42).

Projections for more droughts could also negatively affect the turquoise parrot. A recent study analyzed the capacity of woodland bird species in north-central Victoria to resist the pressures of extended drought (*i.e.,* the 13-year ''Millennium drought'' or the ''Big Dry'') and then recover once drought conditions abated (*i.e.,* the 2-year ''Big Wet'') (Bennet *et al.* 2014, entire). Results indicated a substantial decline (42–62 percent) in the reporting rates of bird species between the early and late surveys in the Big Dry (Bennet *et al.* 2014, pp. 1321, 1326).

Additionally, a recent climate-change-adaptation model using a ''Business as Usual'' projection (*i.e.,* the ''worst-case'' scenario with increasing greenhouse gasses through time), predicted that the

distribution of climate, similar to that currently used by the species, may contract by approximately one half to the southern part of its current range (*i.e.,* dropping out of Queensland but remaining in portions of New South Wales and Victoria) by 2085 (Garnett *et al.* 2013c, interactive model results). Although the model does well to incorporate species-specific traits, it also includes a number of uncertainties that may limit its predictive power (Garnett *et al.* 2013, pp. 76–77). Basic model assumptions such as that trends into the future will follow simple linear extrapolations of existing relationships, and assumptions regarding (scaled down) projected climate change itself, may limit its accuracy (Garnett *et al.* 2013, pp. 76–77). Although there is much uncertainty in these trends (given the variability in the existing climate and uncertainties in modeling), effects from climate change may rise to the level of a stressor in the next 50 years based on our current knowledge (Garnett *in litt.* 2016b).

Potential responses and adaptability of the parrot to the projected effects from climate change are difficult to predict. Since the parrot is mainly resident, it is not known if it would relocate if local conditions degrade (*e.g.,* drought); however, one group of turquoise parrots did move into an area of central Victoria during the mid-1990s, probably in response to drought conditions elsewhere at this time (del Hoyo, p. 383; Quin and Reid 1996, p. 250).

In summary, other than the projected increases in temperature and CO_2 levels, there is a relatively high level of uncertainty associated with other projected climate change variables (particularly patterns of rainfall) for Australia and across the occupied range of the turquoise parrot. These uncertainties are a component of the climate-change-adaptation model for the turquoise parrot. Climate distribution modeling and a study of declines in woodland birds over a recent and extended drought period indicate that effects from climate change have the potential to become a stressor for parrots in the next 50 years (Bennet *et al.* 2014, pp. 1321, 1326; Garnett *et al.* 2013c, interactive model results). However, we found no information indicating that climate change is currently affecting the turquoise parrot specifically, coupled with the fact that it has shown some adaptability to drought conditions in the past. Stress to the species from climate change will likely occur within the next 50 years, but climate change variables in the area occupied by the parrot and the parrot's response to these variables are currently mostly speculative, and we cannot conclude that climate change is significant enough to result in the species being in danger of extinction in the foreseeable future.

Summary of Comments and Recommendations

We reviewed all comments we received from the public and peer reviewers for substantive issues and new information. All substantive information was incorporated into the status reviews for each species and into this final rule, as appropriate. The following section summarizes issues and information we consider to be substantive from peer review and public comments, and provides our responses.

Peer Reviewer Comments

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from knowledgeable individuals with scientific expertise that included familiarity with the scarlet-chested parrot and the turquoise parrot and their habitats, biological needs, and threats. In all, we contacted eight individuals seeking peer review for the scarlet-chested parrot and five individuals for the turquoise parrot. We found that there were a limited number of individuals who had worked with these parrot species because: (1) They are not listed species in Australia and thus have not been the subject of many dedicated studies, and (2) scarlet-chested parrots are often difficult to find and study due to their nomadic behavior and irruptive species population ecology.

We received responses from three peer reviewers for the scarlet-chested parrot and two peer reviewers for the turquoise parrot. We reviewed all the peer reviewers' comments for substantive issues and information regarding the status of and threats to these species. The peer reviewers generally concurred with our summaries and conclusions regarding these species and provided additional information, clarifications, and suggestions. We incorporated all peer reviewer information into the status reviews for each species, and the majority of the information provided in the peer review is also incorporated into this final rule, where appropriate. Status reviews and peer reviewer comments for the scarlet-chested and turquoise parrot are available on the Internet at *http://www.regulations.gov* as supporting documentation for Docket No. FWS–HQ–ES–2015–0176.

Comment: Two peer reviewers commented on our evaluation of the effects of altered fire regimes on the scarlet-chested parrot. They relayed that there is new information that altered fire regimes affect mallee shrublands used by the species and shared relevant literature.

Our Response: Based on these peer reviewers' comments and the information provided, we updated the *Altered fire regimes* sections in the scarlet-chested parrot status review and this final rule.

Comment: One peer reviewer noted that the scarlet-chested parrots observed at Gluepot Reserve may not actually be a resident population. Additionally, the same reviewer commented that, while the overlap of Bourke's parrot with the scarlet-chested parrot is considerable, the scarlet-chested parrot tends to be found at greater distances than the Bourke's parrot from the pastoral (better-watered) country.

Our Response: We changed the text in the scarlet-chested parrot status review to reflect: (1) Uncertainty regarding whether or not the scarlet-chested parrots at Gluepot are resident; and (2) that the scarlet-chested parrot tends to be found at greater distances than the Bourke's parrot from the better-watered, pastoral areas.

Comment: One peer reviewer noted that the climate change section in our status review for the scarlet-chested parrot contained outdated information and shared relevant literature. The same peer reviewer referred us to two publications that examine the capacity of woodland birds (in dry woodlands and riparian areas in southeastern Australia) to resist the pressures of drought and then recover once drought conditions are lifted. He suggested that these publications indicate a trend for long-term decline in the face of more frequent and extended droughts in southern Australia as predicted by recent climate modelling. A second peer reviewer referred us to a recent publication and interactive model that allowed us to project potential future reductions in ''climate space'' for both the scarlet-chested parrot and the turquoise parrot.

Our Response: We reviewed the information provided and updated our evaluation of climate change as a stressor to the scarlet-chested parrot and its habitat. Further, in our review of the new material, we found that one of the publications was also helpful in assessing extended drought as a potential stressor to the turquoise parrot. Therefore, we updated the *Climate Change* sections for both the scarlet-chested and turquoise parrots in both status reviews and this final rule.

Comment: One peer reviewer noted that the percentages of protected lands

for the scarlet-chested parrot were outdated and did not reflect the large proportion that is Aboriginal-held land.

Our Response: We found updated information for proportions of protected land in the states and territories within the range of both the scarlet-chested and turquoise parrots and reflected these updates in our estimates in both status reviews and this final rule.

Comment: One peer reviewer commented on distribution of the turquoise parrot, relaying that: (1) There are parts of the historical range in Victoria where the species has not returned, and (2) a small population of the species occurs at Bunyip State Park in West Gippsland, Victoria.

The same peer reviewer provided the following observations regarding the population of turquoise parrots near Chiltern in northeastern Victoria: (1) The numbers of turquoise parrots currently in this area appear significantly fewer than the numbers that were there during the late 1980s to the early 1990s; (2) the decrease in numbers is likely due to a decrease in grass abundance either from the Millennium drought or an increase in herbivore abundance, or both; and (3) more fox control was likely needed in this area in the late 1980s.

Lastly, this peer reviewer provided information on two ongoing land-care networks that are working to improve turquoise parrot habitat in northeastern Victoria and commented that more intensive surveys are needed to determine population size of the turquoise parrot in all the regions of Victoria where the turquoise parrot is found.

Our Response: We added information about turquoise parrots in Victoria to the turquoise parrot status review and this final rule, where appropriate: (1) The decreases at Chiltern and likely causes; (2) the small population at Bunyip State Park; (3) the land-care networks; and (4) the recommendation for more extensive surveys.

Public Comments

We published a proposed rule to remove the scarlet-chested and turquoise parakeets from the List on September 2, 2003 (68 FR 52169), and we requested that all interested parties submit written comments at that time. Additionally, because considerable time had passed since the 2003 proposal, we published a reopening of the public comment period in January 2016, which closed on February 22, 2016 (81 FR 3373, January 21, 2016). We took this action to ensure that we sought, received, and made our decision based on the best scientific and commercial information available on these species and their status and threats, in order to determine whether removing these species from the List is warranted. Comments summarized below are from our reopening of the public comment period in January 2016 (81 FR 3373).

We received 18 public comments relating to the proposed delisting of scarlet-chested and turquoise parakeets during the public comment period. More detailed information about the comments we received and our responses are below.

Comment: Several commenters noted that the Act placed restrictions on trade in captive-bred individuals that have limited imports into the United States and, by extension, the genetic diversity of U.S. captive-bred populations.

Our Response: Although we considered captive individuals in our review of both the scarlet-chested and turquoise parrots, these comments fall outside the scope of our analysis. Removal of the scarlet-chested and turquoise parakeets from the List will eliminate the need for an import permit under the Act. Trade in captive-bred scarlet-chested and turquoise parrots will still be regulated under CITES, and, to date, import of captive-bred scarlet-chested and turquoise parrots into the United States is currently allowed under the WBCA Approved List (50 CFR 15.33) without requiring a permit.

Comment: Several commenters stated that more information is needed on the status of populations, or that conservation measures were needed for these species before they can be removed from the List.

Our Response: We have reviewed the status of and threats to both parrots, and the best available scientific and commercial information indicates that populations of the scarlet-chested parrot presently appear to be stable, with no evidence of decline in the last 20 years, and populations of the turquoise parrot are stable and may be increasing in some areas. Populations of both parrots are doing well despite the stressors noted in the Factors Affecting the Scarlet-chested Parrot and Factors Affecting the Turquoise Parrot sections, above. Although the scarlet-chested and turquoise parrots are not included in the EPBC Act's List of Threatened Fauna, Australia prohibits exports of wild specimens of these species under the EPBC Act, and removal of these species from the wild is strictly controlled. Additionally, there are numerous ongoing conservation efforts in Australia by Federal and state governments, indigenous peoples, and private organizations and landowners that likely benefit these species including, but not limited to: (1) Protected areas; (2) recent anti-clearing legislation; (3) protections and initiatives for nest hollows; (4) non-native predator and competitor control programs (*e.g.,* feral cats, red foxes, rabbits); and (5) programs for construction and placement of artificial nest hollows for the turquoise parrot.

Comment: Two commenters expressed their view that our listing proposal was procedurally invalid under the Act because finalizing a 12-year-old proposed delisting rule violates section 4(b)(6) and section 4(c) of the Act, which require that the Service finalize any proposed rule within 1 year of publication of the proposed rule unless narrow exceptions apply. These commenters opined that the Act requires the Service to withdraw the proposed rule if those exceptions do not apply.

Our Response: We disagree. The Service's proposal has not been invalidated, and with this final rule, all procedural requirements under section 4(b) of the Act have been met. Further, consistent with our regulations at 50 CFR 424.17(a)(1)(iii) and (a)(3), the Act does not allow for withdrawal of a proposed listing determination solely because of the passage of time; any withdrawal must be based upon a finding that the available evidence does not justify the action proposed by the rule. Additionally, as explained above, the purpose of the scientific review under section 4(c) of the Act is to ensure that the List of Endangered and Threatened Wildlife accurately reflects the most current status information for each listed species. In our 2000 review, we requested comments and the most current scientific or commercial information available on these species, and based on that review, we reevaluated the listing of the scarlet-chested parrot and the turquoise parrot.

On September 2, 2003, we published our review of the status of these species and a proposed rule (68 FR 52169) to remove the scarlet-chested and turquoise parakeets from the List under the Act because the endangered designation no longer correctly reflected the current conservation status of these birds, as the best available information indicated that they had recovered. We explained that our review of the best available information showed that the wild populations of these species were stable with more than 20,000 turquoise parakeets and 10,000 scarlet-chested parakeets found throughout their range. Furthermore, trade in wild-caught specimens was strictly limited, and the species were protected through domestic regulation within the range

country (Australia), as well as through additional national and international treaties and laws.

On January 21, 2016, because considerable time had passed since the 2003 proposal, we published the reopening of the public comment period on our proposal to remove the scarlet-chested and turquoise parakeets from the List (81 FR 3373). We took these actions to determine whether removing these species from the List is still warranted, and to ensure that we sought, received, and made our final decision based on the best scientific and commercial information available regarding these species and their status and threats. This final rule is based on the best scientific and commercial information available regarding these species and includes information summarized from status reviews we conducted in 2016–2017 for the scarlet-chested and the turquoise parrots. These status reviews are available on the Internet at *http://www.regulations.gov* as supporting documentation for Docket No. FWS–HQ–ES–2015–0176. Sections from the status reviews were added (in part or entirely) to the preamble to this final rule. These new sections in the preamble are updates or additions to information that was presented in the 2003 proposal to remove the scarlet-chested and turquoise parakeets from the list (68 FR 52169, September 2, 2003).

Finding

Our regulations direct us to determine if a species is endangered or threatened due to any one or a combination of the five threat factors identified in the Act (50 CFR 424.11(c)). We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We reviewed information available in our files and other available published and unpublished information, and we consulted with recognized species and habitat experts and representatives of the range country (Australia).

Scarlet-Chested Parrot

We consider cumulative effects to be the potential stressors to the species in totality and combination, and the degree to which there might be any synergistic effects among any of the stressors (*e.g.,* increased fire frequency and potential decline in nesting hollows). This finding constitutes our cumulative-effects analysis. In the discussions above, we evaluated the individual effects of the following potential stressors to the scarlet-chested parrot: Land clearing and altered fire regimes (Factor A); limited nest hollows (Factor A); illegal collection and trade (Factor B); Psittacine beak and feather disease (Factor C); predation from non-native species (Factor C); competition for nest hollows (Factor C); effects from small population size (Factor E); and effects from climate change (Factor E). Although one or some of these stressors may be acting on the species in some manner, we found no data to indicate that these stressors, individually or cumulatively, are causing the species to be in danger of extinction, either now or in the foreseeable future. In the face of these stressors, the population appears to be stable, with no evidence of decline in the last 20 years. We have concluded that this stability is not due to listing under the Act; thus, we do not expect declines due to the removal of the protections provided by the listing under the Act.

The Australian Government does not include the scarlet-chested parrot in the EPBC Act's List of Threatened Fauna (Australian DEE 2017, unpaginated) either because it was never nominated for consideration, or if it was nominated, it was found ineligible by a rigorous scientific assessment of the species' threat status (Australian DEE 2017b, unpaginated). The 2000 Action Plan for Australian Birds listed it nationally as ''Least Concern'' and then did not list it in the 2010 Action Plan for Australian Birds. As such, there is no national recovery plan for the scarlet-chested parrot.

The species is listed on the IUCN Red List as ''Least Concern.'' Domestic and international trade in wild-caught specimens is limited and strictly regulated. The species is protected through domestic regulation in Australia and through additional national and international treaties and laws.

As with all species, the scarlet-chested parrot is subject to some stressors. As discussed above, however, we reviewed those stressors and conclude that individually and cumulatively they are currently not having a significant impact on the species. This determination is evidenced by the apparent stability of the population of the species for the last 20 years. Therefore we conclude, based on our review of the best available scientific and commercial data, that the scarlet-chested parrot is not currently in danger of extinction throughout all of its range. In addition, we considered whether the impact of any of the stressors is likely to significantly increase, individually or cumulatively, within the foreseeable future. We conclude, based on our review of the best available scientific and commercial data, that stressors are not likely to increase such that they would cause significant population declines within the foreseeable future, or otherwise to result in the species becoming in danger of extinction within the foreseeable future throughout all of its range.

Turquoise Parrot

We consider cumulative effects to be the potential stressors to the species in totality and combination, and the degree to which there might be any synergistic effects among any of the stressors (*e.g.,* nest predation by foxes and the loss of nesting hollows); this finding constitutes our cumulative-effects analysis. In the discussions above, we evaluated the individual effects of the following potential stressors to the turquoise parrot: Land clearing and forest fragmentation (Factor A); altered fire regimes (Factor A); limited nest hollows (Factor A); removal from the wild for food (Factor B); illegal collection and trade (Factor B); Psittacine beak and feather disease (Factor C); predation from non-native species (Factor C); competition for food and nest hollows (Factor C); and effects from climate change (Factor E). Although one or some of these stressors may be acting on the turquoise parrot in some manner, we found no data to indicate that these stressors, individually or cumulatively, are causing the species to be in danger of extinction, either now or in the foreseeable future. In the face of these stressors, the population appears to be stable and may be increasing in some areas.

The Australian Government does not include the turquoise parrot in the EPBC Act's List of Threatened Fauna (Australian DEE 2017, unpaginated), either because it was never nominated for consideration, or if it was nominated, it was found ineligible by a rigorous scientific assessment of the species' threat status (Australian DEE 2017b, unpaginated). The 2000 Action Plan for Australian Birds listed it nationally as ''Near Threatened'' but then did not list it in the 2010 Action Plan for Australian Birds because the population was too large to be considered ''near threatened'' and there was no evidence of a recent decline (Garnett *et al.* 2011, p. 429). As such, there is no national recovery plan for the turquoise parrot.

The species is listed on the IUCN Red List as ''Least Concern.'' Domestic and international trade in wild-caught specimens is limited and strictly regulated. The species is protected through domestic regulation in

Australia and through additional national and international treaties and laws.

As with all species, the turquoise parrot is subject to some stressors. As discussed above, however, we reviewed those stressors and conclude that individually and cumulatively they are currently not having a significant impact on the species. This is evidenced by the apparent stable population of approximately 20,000 individuals with increases reported in some areas. Therefore, we conclude, based on our review of the best available scientific and commercial data, that the turquoise parrot is not currently in danger of extinction throughout all of its range. In addition, we considered whether the impact of any of the stressors is likely to significantly increase, individually or cumulatively, within the foreseeable future. We conclude, based on our review of the best available scientific and commercial data, that stressors are not likely to increase such that they would cause significant population declines within the foreseeable future, or otherwise to result in the species becoming in danger of extinction within the foreseeable future throughout all of its range.

We have carefully assessed the best scientific and commercial data available and determined that the scarlet-chested and turquoise parrots are no longer in danger of extinction throughout all their respective ranges, nor are they likely to become so in the foreseeable future.

Significant Portion of Its Range Analysis

Having examined the status of the scarlet-chested and turquoise parrots throughout all of their ranges, we next examine whether these species are in danger of extinction, or likely to become so, in a significant portion of their respective ranges. Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so throughout all or a significant portion of its range. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' The term ''species'' includes ''any subspecies of fish or wildlife or plants, and any distinct population segment [DPS] of any species of vertebrate fish or wildlife which interbreeds when mature.'' We published a final policy interpreting the phrase ''significant portion of its range'' (SPR) (79 FR 37578; July 1, 2014).

The final policy states that (1) if a species is found to be endangered or threatened throughout a significant portion of its range, the entire species is listed as an endangered or a threatened species, respectively, and the Act's protections apply to all individuals of the species wherever found; (2) a portion of the range of a species is ''significant'' if the species is not currently endangered or threatened throughout all of its range, but the portion's contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range; (3) the range of a species is considered to be the general geographical area within which that species can be found at the time the Service or the National Marine Fisheries Service (NMFS) makes any particular status determination; and (4) if a vertebrate species is endangered or threatened throughout an SPR, and the population in that significant portion is a valid DPS, we will list the DPS rather than the entire taxonomic species or subspecies.

The SPR policy is applied to all status determinations, including analyses for the purposes of making listing, delisting, and reclassification determinations. The procedure for analyzing whether any portion is an SPR is similar, regardless of the type of status determination we are making. The first step in our analysis of the status of a species is to determine its status throughout all of its range. If we determine that the species is in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range, we list the species as an endangered (or threatened) species and no SPR analysis is required. If the species is neither in danger of extinction nor likely to become so throughout all of its range, we determine whether the species is in danger of extinction or likely to become so throughout a significant portion of its range. If it is, we list the species as an endangered or a threatened species, respectively; if it is not, we conclude that listing the species is not warranted.

When we conduct an SPR analysis, we first identify any portions of the species' 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 or threatened. 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 in those portions or likely to become so within the foreseeable future.

We emphasize that answering these questions in the affirmative is not a determination that the species is endangered or threatened throughout a significant portion of its range—rather, it is a step in determining whether a more detailed analysis of the issue is required. 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 affecting it uniformly 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 clearly do not meet the biologically based definition of ''significant'' (*i.e.,* the loss of that portion clearly would not be expected to increase the vulnerability to extinction of the entire species), those portions will not warrant further consideration. If we identify any portions that may be both (1) significant and (2) endangered or threatened, we engage in a more detailed analysis to determine whether these standards are indeed met. To determine whether a species is endangered or threatened throughout an SPR, we will use the same standards and methodology that we use to determine if a species is endangered or threatened throughout its range.

Depending on the biology of the species, its range, and the threats it faces, it may be more efficient to address the ''significant'' question first, or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.''

Scarlet-Chested Parrot

Applying the process described above, we evaluated portions of the scarlet-chested parrot's range that may be significant, and examined whether any threats are geographically concentrated in some way that would indicate that those portions of the range may be in danger of extinction, or likely to become so in the foreseeable future. The range available to the scarlet-chested parrot is very large (262,000 km^2 (101,159 mi^2); BLI 2016a, unpaginated). Within this range, the

Great Victoria Desert, located in southwestern Australia, may be of biological or conservation importance to the scarlet-chested parrot, because the species is primarily concentrated in the better vegetated areas of this region (BLI 2016a, unpaginated; Juniper and Parr 1998, p. 366). Therefore, the Great Victoria Desert has the potential to be of greater biological or conservation importance than other areas and may constitute a significant portion of the parrot's range.

We next examined whether any stressors are geographically concentrated in some way that would indicate the species could be in danger of extinction, or likely to become so, in this portion. We examined potential stressors, including land clearing, altered fire regimes, limited nest hollows, illegal collection and trade, Psittacine beak and feather disease, predation from non-native species, competition for food and nest hollows, small population size, and effects from climate change. All these stressors appeared to be uniform across the range of the species, with the exception of potential effects from climate change (See *Climate change and the scarlet-chested parrot* above). A recent climate-change-adaptation model indicated a long-term range contraction to the southern portion of its range (to an area that includes the Great Victoria Desert) (Garnett *et al.* 2013b, interactive model results). However, given the uncertainty in the modelling of future climate scenarios, particularly patterns of precipitation, we are unable to reliably discern if the areas projected to be lost will result in any significant threat. While regions of the Great Victoria Desert may be significant, information and analyses indicate that the species is unlikely to be in danger of extinction or become so in the foreseeable future in this portion.

All other stressors appear to be uniform across the range of the species. The scarlet-chested parrot is adapted to arid landscapes and able to travel great distances. The population is not known to be fragmented (Snyder *et al.* 2000, p. 57) and appears to be stable, with no evidence of decline in the last 20 years (BLI 2016a, unpaginated; BLI 2012a, p. 4). Therefore, based on the best scientific and commercial data available, no portion warrants further consideration to determine whether the species may be endangered or threatened in a significant portion of its range.

Turquoise Parrot

We evaluated portions of the turquoise parrot's range that may be significant, and examined whether any threats are geographically concentrated in some way that would indicate that those portions of the range may be in danger of extinction, or likely to become so in the foreseeable future. The turquoise parrot occurs in many parts of eastern and southeastern Australia, particularly the foothills of the Great Dividing Range (NSW 2009, unpaginated; Garnett and Crowley 2000b, p. 345; Juniper and Parr 1988, p. 365). The Great Dividing Range is formed from multiple mountain ranges that dominate the eastern Australia landmass. The species' distribution is not continuous but rather occurs in patches of suitable habitat throughout this broader range (Tzaros 2016, unpaginated; Forshaw 1989, p. 286), and about 90 percent of the population is thought to occur in New South Wales (NSW 2009, unpaginated). We did not identify any natural divisions within the range that may be of biological or conservation importance with the exception that the central portion of the parrot's current range (in New South Wales) could be considered significant based on the concentration of parrots there.

We next examined whether any stressors are geographically concentrated in some way that would indicate the species could be in danger of extinction, or likely to become so in the foreseeable future. We examined potential stressors, including land clearing, altered fire regimes, limited nest hollows, illegal collection and trade, Psittacine beak and feather disease, predation from non-native species competition for food and nest hollows, and effects from climate change. All these stressors appeared to be uniform across the range of the species, with the exception of potential effects from climate change (See *Climate change and the turquoise parrot* above).

A recent climate-change-adaptation model indicated a long-term range contraction by about one half to the southern part of its current range (*i.e.,* dropping out of Queensland but remaining in portions of New South Wales and Victoria) by 2085 (Garnett *et al.* 2013c, interactive model results). This reduced climate space includes developed regions near Sydney and in and around Melbourne (Garnett *et al.* 2013c, interactive model results). Currently, approximately 90 percent of the population is distributed in eastern portions of New South Wales. Based on the modeling, the species would experience a reduction in climate space in New South Wales that is approximately a little more than one half of what is currently modeled. The modeled climate space in Victoria may improve somewhat with more areas becoming suitable for the parrot. However, given the uncertainty in the modelling of future climate scenarios, particularly patterns of precipitation, we are unable to reliably discern if the areas projected to be lost will result in any significant threat. While areas in New South Wales may be significant to the parrot, information and analyses indicate that the species is unlikely to be in danger of extinction or become so in the foreseeable future in this portion.

All other stressors appear to be uniform across the range of the species. The population of the turquoise parrot now numbers more than 20,000 individuals. The population appears to be stable and may be increasing in some areas. Therefore, based on the best scientific and commercial data available, no portion warrants further consideration to determine whether the species may be endangered or threatened in a significant portion of its range.

Summary

We have carefully assessed the best scientific and commercial data available and have determined that the scarlet-chested and turquoise parrots are no longer in danger of extinction throughout all or significant portions of their respective ranges, nor are they likely to become so in the foreseeable future. As a consequence of this determination, we are removing these species from the Federal List of Endangered and Threatened Wildlife.

Effects of the Rule

This final rule revises 50 CFR 17.11(h) by removing the scarlet-chested and turquoise parakeets from the Federal List of Endangered and Threatened Wildlife. As of the effective date of this rule (see **DATES**), the prohibitions and conservation measures provided by the Act, particularly through sections 7, 8 and 9, no longer apply to these species. The scarlet-chested and turquoise parrots will remain protected under the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). To date, the scarlet-chested and turquoise parrots remain on the Approved List of captive-bred species under the WBCA, which allows import or export of captive-bred individuals of these species without a WBCA permit.

Required Determinations

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, need not be prepared in connection with listing or reclassification of 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 rulemaking is available on the Internet at *http://www.regulations.gov* under Docket No. FWS–HQ–ES–2015–0176 or upon request (see **FOR FURTHER INFORMATION CONTACT**).

Authors

This final rule was authored by staff of the Branch of Foreign Species, Ecological Services Program, U.S. Fish and Wildlife Service.

List of Subjects

50 CFR Part 15

Imports, Reporting and recordkeeping requirements, Wildlife.

50 CFR Part 17

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

Regulation Promulgation

Accordingly, we amend part 15 and part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 15—WILD BIRD CONSERVATION ACT

■ 1. The authority citation for part 15 continues to read as follows:

Authority: 16 U.S.C. 4901–4916.

■ 2. Amend § 15.33(a) by:

■ a. Amending the entries in the table for ''*Neophema pulchella* [1] (Turquoise parrot.)'' and ''*Neophema splendida* [1] (Scarlet-chested parrot.)'' by removing the footnote superscripts; and

■ b. Revising footnote 1 following the table to read as follows:

§ 15.33 Species included in the approved list.

(a) * * *

[1] **Note:** Permits are still required for this species under part 17 of this chapter.

* * * * *

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

■ 3. 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.

§ 17.11 [Amended]

■ 4. Amend § 17.11(h) by removing the entries for ''Parakeet, scarlet-chested'' and ''Parakeet, turquoise'' under BIRDS in the List of Endangered and Threatened Wildlife.

Dated: March 3, 2017.

James W. Kurth

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

[FR Doc. 2017–06663 Filed 4–4–17; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 161020985–7181–02]

RIN 0648–XF334

Fisheries of the Exclusive Economic Zone Off Alaska; Pacific Cod by Catcher Vessels Using Trawl Gear in the Bering Sea and Aleutian Islands Management Area

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; closure.

SUMMARY: NMFS is prohibiting directed fishing for Pacific cod by catcher vessels using trawl gear in the Bering Sea and Aleutian Islands management area (BSAI). This action is necessary to prevent exceeding the B season apportionment of the 2017 Pacific cod total allowable catch allocated to catcher vessels using trawl gear in the BSAI.

DATES: Effective 1200 hours, Alaska local time (A.l.t.), April 3, 2017, through 1200 hours, A.l.t., June 10, 2017.

FOR FURTHER INFORMATION CONTACT: Josh Keaton, 907–586–7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the BSAI exclusive economic zone according to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

The B season apportionment of the 2017 Pacific cod total allowable catch (TAC) allocated to catcher vessels using trawl gear in the BSAI is 5,197 metric tons (mt) as established by the final 2017 and 2018 harvest specifications for groundfish in the BSAI (82 FR 11826, February 27, 2017.

In accordance with § 679.20(d)(1)(i), the Administrator, Alaska Region, NMFS (Regional Administrator), has determined that the B season apportionment of the 2017 Pacific cod TAC allocated to trawl catcher vessels in the BSAI will soon be reached. Therefore, the Regional Administrator is establishing a directed fishing allowance of 4,697 mt and is setting aside the remaining 500 mt as bycatch to support other anticipated groundfish fisheries. In accordance with § 679.20(d)(1)(iii), the Regional Administrator finds that this directed fishing allowance has been reached. Consequently, NMFS is prohibiting directed fishing for Pacific cod by catcher vessels using trawl gear in the BSAI.

After the effective date of this closure the maximum retainable amounts at § 679.20(e) and (f) apply at any time during a trip.

Classification

This action responds to the best available information recently obtained from the fishery. The Acting Assistant Administrator for Fisheries, NOAA (AA), finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such requirement is impracticable and contrary to the public interest. This requirement is impracticable and contrary to the public interest as it would prevent NMFS from responding to the most recent fisheries data in a timely fashion and would delay the closure of directed fishing for Pacific cod by catcher vessels using trawl gear in the BSAI. NMFS was unable to publish a notice providing time for public comment because the most recent, relevant data only became available as of March 30, 2017.

The AA also finds good cause to waive the 30-day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of