

White-necked Crow
(*Corvus leucognaphalus*)

Status Review:
Summary and Evaluation



White-necked crow (*Corvus leucognaphalus*), Dominican Republic
(http://upload.wikimedia.org/wikipedia/commons/c/c3/DR_White-necked_Crow.jpg)

U.S. Fish and Wildlife Service
South Atlantic-Gulf Region
Caribbean Ecological Services Field Office
Boquerón, Puerto Rico

August 2022

Status Review White-necked Crow (*Corvus leucognaphalus*)

GENERAL INFORMATION

Current Classification: Endangered

Lead Field Office: Caribbean Ecological Services Field Office (CESFO), Boquerón, Puerto Rico, José A. Cruz-Burgos (jose_cruz-burgos@fws.gov)

Reviewers:

Lead Regional Office: Atlanta Regional Office, Carrie Straight (404) 679-7226.

Date of original listing: April 3, 1991 ([56 FR 13598](#))

Methodology used to complete the review: In accordance with section 4(c)(2) of the Endangered Species Act of 1973, as amended (Act), the purpose of a status review is to assess each threatened species or endangered species to determine whether its status has changed and if it should be classified differently or removed from the Lists of Threatened and Endangered Wildlife and Plants. The U.S. Fish and Wildlife Service (Service) evaluated the biology, habitat, and threats of the white-necked crow to inform this status review. In conducting this 5-year review, we relied on the best available information pertaining to historical and contemporary distributions, life histories, genetics, habitats, and threats of this species. We announced initiation of this review and requested information in a published Federal Register notice with a 60-day comment period on June 23, 2021 ([86 FR 32965](#)). We received no public comments during the open comment period. We used a variety of information resources, including monitoring reports, surveys, and other scientific and management information. Specific sources included the final rule listing this species under the Act, peer reviewed scientific publications, unpublished field observations by Federal, State, and other experienced biologists, unpublished studies and survey reports, and notes and communications from other qualified individuals. Additional information on the white-necked crow was obtained from A. Thomen, The Manchester Metropolitan University PhD candidate, who is considered a current expert in information related to the species in the Dominican Republic. This information was gathered during their research and while finalizing their dissertation (Thomen 2022, pers. comm. and Thomen in prep 2022).

FR Notice citation announcing the species is under active review:
June 23, 2021 ([86 FR 32965](#))

Species' Recovery Priority Number at start of 5-year review ([48 FR 43098](#)): 11. The species has a moderate degree of threat and a low recovery potential.

Review History: A previous 5-year review was published on August 24, 2015 ([Service 2015](#)).

REVIEW ANALYSIS

Listed Entity

Taxonomy and nomenclature:

We are not aware of any changes to the taxonomy of this entity; thus, this species is still considered valid by the Service.

Distinct Population Segment (DPS):

The Act defines species as including any subspecies of fish or wildlife or plants and any distinct population segment of any vertebrate wildlife species. This species was not listed as a DPS, and we have no new information that would indicate the species should be listed as a DPS under the Service's 1996 DPS Policy.

Recovery Criteria

Recovery Plan

No recovery plan has been written for the white-necked crow.

Biology and Habitat Summary

A detailed review of the species' biology and habitat information can be found in the previous, white-necked crow 5-year status review ([Service 2015](#)). The white-necked crow (*Corvus leucognaphatus*) resembles the crows of the mainland United States in physical appearance but is distinguished by a pure white base of the feathers of the back neck and a distinctive red eye (Wetmore and Swales 1931).

The species historically occurred in the Dominican Republic, Haiti, Puerto Rico, and St Croix in the U.S. Virgin Islands. However, the last record sight of the species for St. Croix is from 1931, and for Puerto Rico in 1963; therefore, the crow is now thought to have entirely extirpated from Puerto Rico and St. Croix (Raffaele 1983). The white-necked crow still occurs in the Dominican Republic and Haiti, which share the island of Hispaniola.

Haiti. The status or information about the white-necked crow in Haiti is limited. Recent research indicates that Haiti has almost completely been deforested and now contains "less than 1% of its original primary forests", which correlates to extinction in vertebrate species in the country (Hedges et al. 2018). The species does appear to persist in forested and agroforest sites urban green spaces in the Port-au-Prince area (Exantus et al. 2021).

Dominican Republic. Research in the Dominican Republic also indicates that white-necked crows most commonly occupied the lowland and mid-elevation forested study sites (e.g., Cotubanamá and Los Haitises; Thomen, in prep 2022). There were also seasonal shifts in the crow's habitat use at the sites they studied, with a slight decrease in encounter rates and occupancy of those occupied study sites from the wet [0.17 ± 0.03 (N=28)] to dry [0.16 ± 0.03 (N=27)] season (Thomen, in prep. 2022). This information may be important for understanding

conservation activities in different areas and the need to ensure a variety of habitats are available for the species to use. As this document is finalized, we will include any additional insights in our next assessment of the species.

Research in the Dominican Republic indicates the species seems to remain within of varying degree of fragmented habitats (e.g., areas along the coast degraded by coconut farming and areas in the protected lands that are cleared/fragmented by agriculture); however, it is unknown if use may decline through time (Thomen 2022, pers comm.). Their continued presence in these degraded habitats may be partially due to the species strong site preference and it is uncertain if these areas will continue to support populations in the future (Thomen 2022, pers comm.).

Threats (Five-Factor Analysis) Summary

A detailed review of the species' threats can be found in the 2015 White-necked crow 5-year review ([Service 2015](#)). The status of a species is determined from an assessment of factors specified in section 4 (a)(1) of the Act, including:

Factor A (the present or threatened destruction, modification, or curtailment of its habitat or range).

Factor B (overutilization for commercial, recreational, scientific, or educational purposes).

Factor C (disease or predation).

Factor D (the inadequacy of existing regulatory mechanisms).

Factor E (other natural or manmade factors affecting its continued existence).

A summary of this assessment is detailed below.

(A) Present or threatened destruction, modification, or curtailment of its habitat or range;

The main threat to the white-necked crow is currently believed to be habitat loss ([Service 1991](#)). In the Dominican Republic this continues to be from agriculture within protected areas (Thomen 2022, pers. comm.). The species was noted as formerly abundant, but almost “extinct” in Puerto Rico as early as 1916 (Wetmore 1916). It is now believed to be extirpated from the Puerto Rico due to habitat modification and deforestation for agriculture and urban development purposes ([Service 1991](#)). In addition, the decline in the populations in Haiti and the Dominican Republic (the Hispaniola) had been associated with habitat loss and degradation from forest clearing for timber and agricultural purposes ([Service 2015](#)). In Hispaniola, only an average of less than 3.7% of the territory in Haiti remains with forest cover, and although the network of protected areas in the Dominican Republic has been expanded, deforestation and alteration of many habitats are still ongoing ([Service 2015](#)). As noted above, white-necked crows appear to be somewhat tolerant of habitat degradation and fragmentation and is seen in urban landscapes in Haiti, but it is unknown if this is an artifact of strong site fidelity. In time, it may become clear how the species might persist in these modified landscapes. The Service considers destruction, modification, or curtailment of the white-necked crow's habitat or range a moderate and imminent threat to the species.

(B) Overutilization for commercial, recreational, scientific, or educational purposes

The final listing rule for the white-necked crow stated that the species is considered to have good-tasting flesh and was hunted as a game bird on Puerto Rico and Hispaniola ([Service 1991](#)). This factor contributed to its decline, especially as the clearing of the forests made it accessible to hunters (Wetmore 1916, Wetmore and Swales 1931). The white-necked crow is likely still being hunted for food, and also by farmers in the Dominican Republic where these birds are mistakenly considered crop pests (Wiley 2006; [Service 2015](#)). Recent captures of white-necked crow in the Dominican Republic have been for the pet trade and have been documented as pets in Los Haitises and Samaná region (Thomen 2022, pers. comm.; Figure 1). It is likely that this also occurs in Haiti. Based on the above information, the Service still considers overutilization for commercial, recreational, scientific, or educational purposes of the white-necked crow as a moderate and imminent threat to the species.



Figure 1. A white-necked crow kept as a pet in the Dominican Republic (Thomen 2022, pers. comm).

(C) Disease or predation

The final rule did not consider disease or predation as a threat to the white-necked crow ([Service 1991](#)). However, in the 2015 5-year status review, the Service concluded that disease might represent a moderate and imminent threat to the white-necked crow due to the West Nile virus (WNV). The WNV has been documented in the Dominican Republic, specifically in Los Haitises and Sierra de Bahoruco reserves (Komar et al. 2003). Although the Service has no information about the WNV detection in white-necked crows, corvids have been documented to be particularly susceptible to WNV infection

and propagation due to their highly sociable nature (Reisen et al. 2006). Thus, based on the above information, we still believe disease may represent a moderate and imminent threat to the white-necked crow, mainly because of the species' susceptibility to the WNV.

In addition to WNV, parasitoid flies on crow nestlings could be problematic for the species reducing reproductive success, but the level of this as a threat is unknown at this time. The Service did not find any information during this review on the effects of predation on the white-necked crow.

(D) Inadequacy of existing regulatory mechanisms

There have been government efforts to enhance the network of protected areas in the Dominican Republic, however, forest loss in the 1980s to 2000 has been estimated to be greater than 90% in that country (Ottenwalder 2000). Reforestation programs have been occasionally implemented by both government agencies and private sector organizations, but implementation and enforcement of regulations have been hampered by small budgets and insufficiently trained personnel (Ottenwalder 2000). The Dominican Republic has several national laws and policies that regulate activities, enforcement, and incentive mechanisms for forest conservation (United Nations Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries [UN-REDD] 2015). Enforcement strategies (e.g., Law 632) prohibit unlawful logging, punishable by fines and incarceration. Other laws (e.g., Law 290) create forest development and conservation incentives and offer tax exemptions for people who invest in reforestation.

However, a critical element affecting wildlife, including the white-necked crow, is the lack of enforcement of the laws protecting them and their habitat. Several reserves in the Dominican Republic lack adequate boundary delineation and absence of management and enforcement. As a result, forests inside protected areas (i.e., Los Haitises and Sierra de Bahoruco) have been cleared using slash and burn practices for subsistence agriculture (Geissler et al. 1997). As noted by A. Thomen (in prep 2022), the protected forest site previously discussed, Los Haitises, Dominican Republic, is a site of high occupancy for white-necked crow has lost forest habitat from agriculture activities, which is a concern for white-necked crow. This small-scale habitat loss likely occurs in other areas occupied by white-necked crows. As a result, habitat degradation and land-use conversion continue to the detriment of resident wildlife, including the white-necked crow (Wiley 2006; Thomen 2022, pers. comm.).

In Haiti, the landscape is almost entirely deforested, with little chance for recovery (Paryski et al. 1989, Ottenwalder 2000; Hedges et al. 2018). The Division of Natural Resources within the Ministry of Agriculture of Haiti is responsible for protecting and regulating all forests and for reforestation efforts. However, high population density, poverty, political instability, lack of trained staff, lack of clear policies, and shifting government priorities have prevented sustained conservation efforts. Nature reserves in Haiti are few and essentially unprotected.

Overall, lack of enforcement of environmental laws in Haiti and the Dominican Republic curtails the ability to control illegal timber harvest, slash-and-burn agriculture, and illegal hunting, all of which threaten the remaining populations of the white-necked crow. Therefore, the Service believes that the inadequacy of existing regulatory mechanisms represents a threat to the white-necked crow.

(E) Other natural or manmade factors affecting its continued existence).

The Service has no recent information on other natural or manmade factors, besides those discussed above, affecting the continued existence of the white-necked crow. Although we expect climate change to impact Hispaniola, e.g., increases in temperature, intensity of extreme weather (tropical cyclones/hurricanes), storm surge, droughts, sea-level rise, and invasive species (Intergovernmental Panel on Climate Change 2022), we have no clear understanding how these might impact the species.

Synthesis

The white-necked crow is an endangered bird species with limited geographic distribution. The species historically occurred in the Dominican Republic, Haiti, Puerto Rico, and St Croix in the U.S. Virgin Islands; however, it is now considered extirpated from Puerto Rico and Saint Croix in the U.S. Virgin Islands. We do not currently have an estimate of the number of individuals or populations of this species that remain. The white-necked crow still occurs on the island of Hispaniola (i.e., Dominican Republic and Haiti) in low- to mid-elevation forests and fragmented forests. Recent work indicates that the species may remain in some degraded habitats. The main threats to the species continue to be habitat loss due to deforestation for agriculture and development (Factor A), the capture of the species for various purposes (Factor B), the presence of the West Nile virus in the Dominican Republic (Factor C), and the lack of protections throughout the range of the species (Factor D). The best available scientific information leads the Service to conclude that the white-necked crow continues to meet the definition of an endangered species.

RESULTS

U.S. FISH AND WILDLIFE SERVICE STATUS REVIEW of White-necked Crow (*Corvus leucognaphalus*)

Status Recommendation:

On the basis of this review, we recommend the following status for this species. A 5-year review presents a recommendation of the species status. Any change to the status requires a separate rulemaking process that includes public review and comment, as defined in the Act.

- ☐ Downlist to Threatened
- ☐ Delist (*Indicate reasons for delisting per 50 CFR 424.11*):
 - ☐ *The species is extinct*
 - ☐ *The species does not meet the definition of an endangered or threatened species.*
 - ☐ *The listed entity does not meet the statutory definition of a species.*
- ☒ No change needed; species remains listed as endangered

Review Conducted By: Angel G. Colón-Santiago and José Cruz-Burgos, Caribbean Ecological Services Field Office.

FIELD OFFICE APPROVAL:

Field Supervisor, Caribbean Ecological Services Field Office, Fish and Wildlife Service

Approve _____ Date _____

* Since 2014, Southeast Region Field Supervisors have been delegated authority to approve 5-year reviews that do not recommend a status change.

RECOMMENDED FUTURE ACTIVITIES

1. Develop a conservation strategy to improve the status of the white-necked crow in cooperation and coordination with the governments of Puerto Rico, the Dominican Republic, and Haiti. The conservation strategy should assess the most up-to-date information on the species' geographic distribution and reliable information on population dynamics and resource selection patterns. The conservation strategy also needs to include preparing a recovery plan and an outreach and educational component to make people aware of the status of the species and its protection need.
2. Reintroduction of the white-necked crow in Puerto Rico should be explored as an integral component of the recovery program for the species. The successful implementation of this recovery action would help reassess the status of the species by restoring part of its original geographic range. See the 2015 5-year review for details on recommendations on introductions of the species to Puerto Rico.

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