



Shaping the future for birds

December 17, 2014

Jennifer Norris, Field Supervisor
Public Comments Processing
Attn: Docket No. FWS-R8-ES-2013-0011
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
Falls Church, VA 22204

Dear Field Supervisor Norris;

Our thanks to the U.S. Fish and Wildlife Service (FWS) for this opportunity to comment on the proposed critical habitat designation of the western population of the Yellow-billed Cuckoo. American Bird Conservancy (ABC) supports the designation of critical habitat and agrees the evidence indicates additional protection is urgently for the western distinct population segment of the Yellow-billed Cuckoo and its remaining breeding and stopover habitat.

However, the FWS's critical habitat proposal for the western population of the Yellow-billed Cuckoo does not provide the necessary habitat protection for the imperiled bird species whose numbers have plummeted in recent decades. The proposed rule does not protect all currently occupied habitat, does not protect stopover, foraging and sheltering habitat, nor does it designate enough habitat for the bird's future recovery by limiting designations to blocks of riparian habitat greater than 200 acres in extent and 325 feet in width.

ABC recommends that:

1. all current and recently (within past 20 years) occupied habitat be designated by FWS as critical habitat;
2. FWS identify and designate critical habitat for stopover, foraging and sheltering habitat;
3. FWS identify and designate critical habitat for additional unoccupied areas with the restoration potential to form large blocks of suitable nesting cuckoo habitat 50 acres or larger;
4. FWS prohibit use of pesticides in critical habitat, and
5. FWS identify and designate critical habitat along the cuckoo's migratory pathways in order to address the threat of collisions with communications towers and other tall structures.

In particular, ABC would like recommend sixteen additional habitat patches with recent cuckoo occupancy and or breeding activity in California (9), Nevada (2), Arizona (1), New Mexico (1), Wyoming (0), and Idaho (3). Additional cuckoo habitat, omitted by the USFWS, could likely be found in Arizona, and New Mexico.

Attached with this comment letter are an ArcGIS file, Google Earth KMZ file and an Excel file developed by John Stanek, Wildlife Biologist, Southern Sierra Research Station. The GIS and Google Earth files display the same data for their respective software applications. The Excel file contains notes, one for each identified cuckoo habitat patch, describing present or historic cuckoo occupancy with citations



Shaping the future for birds

when available.

The most important habitat located from this project is the Middle Rio Grande (San Marchial River Reach) habitat near Elephant Butte Reservoir. The Middle Rio Grande might have the largest population of cuckoos in the US and the San Marchial stretch holds about half of this population. Elephant Butte Reservoir has been steadily shrinking over the last decade. This has led to an abundance of early successional riparian habitat along this stretch of the river to which cuckoos have responded favorably.

ABC would also like to urge the addition of a portion of lower Aracvaipa Canyon that is separated from the proposed designation of the upper canyon (Unit 41, AZ-33). The two areas are nearly contiguous and complement one another.

Protecting habitat for the Yellow-billed Cuckoo will have many collateral benefits to other wildlife that depend in healthy riparian systems, and this has tangible economic benefits that need to be balanced against other uses, particularly those that threaten to degrade cuckoo habitat. An estimated 44,000 people visit the San Pedro River alone, with wildlife watchers contributing \$24 million a year to the local economy. In the state of Arizona, the total estimate of wildlife watching's economic benefit is \$1.4 billion. Conservation of cuckoo habitat will provide healthier riparian systems which in turn will provide enhanced flood control and water quality, additional habitat for other threatened riparian species, and new recreation areas.

No Exclusions for Public Lands, Including Multi-Species Agreements

ABC is concerned about proposed exclusions where there are not management plans in place that effectively protect suitable and occupied cuckoo habitat from development. For example, the Pima County Multi-Species Conservation Plan and Riparian Protection Ordinance cannot control the most likely cause of habitat loss, agricultural clearing. Therefore we recommend inclusion of this area as critical habitat and a prohibition on using federal funds for riparian mesquite clearing.

The 32% of exclusions being considered for federal lands should not be granted to ensure that Sec. 7 consultation occurs for projects that may negatively affect cuckoo habitat on federal lands. The Western Riverside MSHCP which includes public lands has yet to identify the promised conservation areas. It also fails to provide adequate threat alleviation and therefore, the public lands portion of the Western Riverside MSHCP should not be excluded from critical habitat designation.

Similarly, the Lower Colorado River Multi-Species Plan is outdated, and wasn't developed with cuckoo conservation in mind. Again, the public lands under this plan should not be excluded, nor should critical habitat protection for the Southwestern Willow Flycatcher be used a substitute for cuckoo critical habitat since it may at some point be delisted and that protection removed. For this reason, we recommend that all areas that are currently designated as critical habitat for Southwestern Willow Flycatcher that also have Yellow-billed Cuckoos be designated as critical habitat separately for Yellow-billed Cuckoos.

For private and state lands we do not support exclusions unless there is analysis indicating the benefits of the exclusion outweigh the benefits of inclusions. We disagree with blanket exemptions for all Habitat



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Conservation Plans for example, because they could expire before the species recovers, and in general, HCPs are not designed with recovery as the goal, but rather to manage take.

Proposed Threatened Listing Good News for the Yellow-billed Cuckoo

In our comment letter on the proposed listing, ABC expressed concerned that the draft rule only proposed a threatened listing under the Endangered Species Act, did not identify the lack of adequate regulatory mechanisms as a primary factor for listing, and it did not describe sufficient or available existing conservation measures to address threats.

ABC is pleased FWS has listed the species as threatened and that the final rule did identify the lack of adequate regulatory mechanisms as a contributing factor to the determination for several of the other listing factors threatening the species. Federal agencies now need to provide adequate regulatory mechanisms to alleviate identified threats resulting from historic and ongoing water policies and current riparian management.

The critical habitat rule will need to be followed by a legitimate range-wide planning document (whether this is a recovery plan or a multi-agency programmatic riparian management EIS) to guide riparian restoration across the range of the western population and to identify areas to regrow suitable Yellow-billed Cuckoo habitat. On federal lands, riparian restoration could be planned under Section 7(a)(1) of the Act to allow resource agencies to use all of their authorities to raise the baseline for Yellow-billed Cuckoos, which is much easier to do via Section 7(a)(1) than under Section 7(a)(2). The following document from the Lower Mississippi River provides the example of a strong, multi-species conservation plan that was developed under Section 7(a)(1) of the ESA:

<http://www.fws.gov/mississippi/pdf/LMR%20Conservation%20Plan%20Final%20USACE%20CIP%2023%20July%202013.pdf> .

To reduce the threat posed during migration of collisions with towers, ABC urges that a FWS program be developed to educate and encourage tower owners within the species range and along its migratory path to quickly adopt modern lighting known to reduce bird deaths.

Further, to alleviate the identified threat posed to the species by pesticides, ABC recommends that pesticide use be restricted in agricultural fields adjacent to forest patches with occupied Yellow-billed Cuckoo nests and critical habitat patches.

Endangered Listing May Have Been Warranted – Robust Critical Habitat and Aggressive Habitat Restoration Now Essential

The estimated small western Yellow-billed Cuckoo population in the U.S. of 350 to 495 pairs and a similar number in Mexico, spread apart in small patches of increasingly degraded habitat, is of great concern. Based on the U.S. Fish and Wildlife Service's assessment of the ongoing threats and likely future degradation of habitat due to climate change and development, the lack of adequate regulatory mechanisms in the U.S., and nonexistent or ineffective regulatory mechanisms in Mexico, an endangered listing for the western distinct population segment of the Yellow-billed Cuckoo may have been warranted, and the threatened finding most definitely is.



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The species has been extirpated or nearly so from most of its historical range across portions of 12 western states and is at risk of extinction across a significant portion of its range. In California, the population is estimated to be less than 1 percent of its estimated historic size. There have been no recent sightings in Oregon, Washington, British Columbia and Montana. Very small populations of less than ten pairs exist in Nevada, Wyoming, Colorado and Texas, and in Idaho and Utah an estimated 10-20 pairs remain.

Only in a portion of the species range in Arizona, New Mexico, California, and Mexico do significant populations remain, but the trend continues to be downward, the extent of the cuckoo's riparian habitat loss is extreme; 90 to 95 percent in Arizona, 90 percent on New Mexico, and 90-99 percent in California. In Arizona, the state with largest U.S. population, cuckoo populations have declined 70 to 80 percent in the past 30 years. Along the Sacramento River, the Yellow-billed Cuckoo population has declined by at least 80% over the past 35 years, with a major continuing decline over the past ten years.

New Mexico Partners in Flight, <http://nmpartnersinflight.org/yellowbilledcuckoo.html>, cites an estimate (Hughes 1999) of 100-200 pairs remaining in New Mexico, a major decline from previous estimates. Population estimates derived from systematic surveys in the early 1980s suggested a minimum of at least 1,000 pairs statewide, with largest populations in the lower Pecos, Middle Rio Grande, and Gila valleys. Surveys since 2002 suggest that numbers in the Rio Grande study area have since declined (Williams and Travis 2005).

In the Summary of Factor E and Effects in Combination, the agency rightly points out that small habitat patches in proximity to human settlements are not only where cuckoos do not prefer to breed, they increase the risks posted by pesticides, collisions, and predation.

“Therefore, we expect the threat resulting from the combined effects associated with small and widely separated habitat patches to continue to affect a large portion of the range of the western yellow-billed cuckoo...This array of Factor A threats, working in combination, creates the situation that then allows threats from the other listing factors to markedly affect the species.”

“Factor E threats, including habitat rarity and small and isolated population sizes causes the remaining yellow-billed cuckoo populations to be increasingly susceptible to further declines through the lack of immigration, reduced populations of prey species, pesticides, and collisions with tall vertical structure during migration. The serious and ongoing threat of small overall population size, which is the result of other threats in combination, leads to an increased chance of local extirpations (p. 61662).”

Lack of Adequate Regulatory Mechanisms a Threat

The draft rule noted that much of the habitat loss is historic and that changed conditions prevent the regeneration of suitable habitat in many areas. However, the draft also points out that there is also ongoing degradation and habitat loss, and that these impacts “are anticipated to continue for decades to come.”



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This is of great concern and points to the urgent need for new management standards and regulatory mechanisms to end this ongoing degradation and habitat loss. A significant number of federal agencies are involved in decisions affecting land and water management in cuckoo habitat including the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Federal Energy Regulatory Committee, U.S.D.A. Forest Service, Bureaus of Reclamation and Land Management, and the Federal Highway Administration. These federal agencies should be encouraged to develop Section 7(a)(1) conservation plans to benefit Yellow-billed Cuckoos in areas that they manage or permit. Proactive conservation planning under section 7(a)(1) will help reduce the need from confrontational or extreme Section 7(a)(2) consultations if conditions continue to deteriorate.

And while the draft rule detailed historic and ongoing degradation and habitat loss that in part resulted from the collective decisions made by these federal agencies, it did not identify the lack of adequate regulatory mechanisms as a threat factor. The evidence indicates the lack of adequate regulatory mechanisms has in part caused and continues to contribute to the habitat loss and degradation that FWS has identified as the most serious threat to the species.

Water management and cattle grazing in riparian habitat are two management areas of particular concern that need immediate regulation. As the draft rule notes on page 61647, altered hydrology is the greatest threat to cuckoo habitat, and “conversion of riparian areas for agricultural crops and livestock grazing has been, and continues to be, a major contributor to riparian habitat loss and degradation.”

On page 61648, FWS states:

“Livestock continues to be a widespread agricultural use of riparian areas in the western U.S. and is one of the most common sources of past and ongoing riparian habitat degradation...Long-term cumulative effects of livestock grazing involve changes in the structure and composition of riparian vegetation which may affect suitability for yellow-billed cuckoo breeding and prey population abundance.”

On page 61649 the agency concludes:

“Most of the current impacts from agriculture land uses arise from livestock overgrazing in riparian areas. Riparian vegetation can recover quickly from these effects after livestock removal. However, without proper management to reduce overgrazing, ongoing overgrazing will continue to contribute to habitat modification in the range of the western yellow-billed cuckoo into the future.”

In the discussion on Federal Regulatory Mechanisms on page 61656, the draft rule states:

“BLM and USFS have discretion in how these statues are carried out and measures are implemented, we continue to see continued loss and degradation of habitat for the western yellow-billed cuckoo on lands that these agencies manage.”

This is an indication of the lack of adequate regulatory mechanisms to conserve the species and why a



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robust critical habitat designation is urgently needed. Moreover, the agency pointed out on page 61664 that should the species be listed, a host of ongoing federal activities that are likely to degrade cuckoo habitat would require consultation including:

“projects that will result in removal or degradation of riparian vegetation, altered streamflow or fluvial dynamics, or other habitat-altering activities on federal lands or as a result of section 404 CWA permits by the US Army Corps of Engineers; construction and management of energy and power line rights-of-way by the Federal Energy Regulatory Commission; construction and maintenance of roads, highways, or bridges by the Federal Highway Administration; grazing leases by the Forest Service and BLM; and projects funded through federal loan programs.” We hope that USFWS will encourage these agencies to develop Section 7(a)(1) conservation management plans, using all of their authorities to raise the baseline, avoid, and minimize impacts to endangered species prior to initiating Section 7(a)(2) consultations that emphasize “compliance” with a limited set of conditions and can limit actions that might have positive conservation benefits (if these are not recommended in formalized Biological Opinions).

Planning Needed to Provide Protection and Guide Habitat Restoration

To address the lack of adequate regulatory mechanisms threatening the species, we urge FWS to direct the land management agencies to undertake the necessary planning using a range-wide riparian management environmental impact statement to ensure that this habitat loss and degradation is not allowed to continue in the future. Similarly, agencies involved in water management and planning future water developments need to undertake a similar planning process to minimize existing impacts and steer future developments away from occupied habitat and restoration areas.

As the proposed rule pointed out on page 61633 “Western yellow-billed cuckoos require large blocks of habitat for breeding. Home ranges are large...” Recent studies in Arizona and California show that the cuckoos use large home ranges of 204 acres and 95 acres respectively, and another found ranges averaging 123 acres. On the Verde River in Arizona occupied sites were wooded riparian habitats at least 325 feet in width. FWS also finds that the cuckoo is currently found in the largest contiguous and least-fragmented remaining habitat patches (p. 61659) and that the species seldom uses patches smaller than 325 x 975 feet.

The draft proposal stated:

“Conservation actions, such as habitat protection and restoration described above, have strong potential to be beneficial to the species by increasing the amount of available habitat and patch size. However, these efforts offset only a small portion of past losses and degradation...”

But, we are concerned by text on page 61662 stating:

“it is unlikely that large areas of suitable habitat will naturally regenerate within the range of the species into the future.”

This points to the need for the development of a much more aggressive water management and habitat



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restoration strategy. Therefore, identifying potential large blocks (100 acres or larger) and designating additional protected areas for permanent riparian habitat restoration through an inter-agency environmental impact statement needs to be an immediate outcome of this listing decision.

Cuckoo breeding habitat in Region 2 may be restored by 1) restoring more natural flow regimes to rivers and creeks, 2) restricting or eliminating livestock grazing along riparian areas, and 3) restricting or eliminating the use of pesticides near cuckoo breeding areas. The latter point is especially important in areas where orchards are adjacent to riparian areas, as cuckoos often forage at such sites.

Studies, such as those along the San Pedro River in Arizona (Kreuper et al. 2001), where exclusion of cattle from riparian areas led to a dramatic and rapid recovery of forests and local cuckoo populations suggest that similar management techniques may benefit cuckoos in Region 2. Livestock grazing is a common feature of western riparian areas (Ohmart 1994), with overgrazing common on private lands and seasonal grazing typical of many public lands (e.g., National Wildlife Refuges and National Forest System). Given the significant impact such grazing can have on riparian woodlands, designation of non-grazed sites within public lands, as well as landowner incentives for restoring riparian woodland on private lands would improve riparian habitats in these areas (P. 26 USFS Technical Conservation Assessment <http://www.fs.fed.us/r2/projects/scp/assessments/yellowbilledcuckoo.pdf>).

Given the species low population, restoration of additional habitat is crucial to raise that total and reach recovery goals and eventual delisting. Fortunately, there is great potential for habitat restoration of cuckoo habitat. Partners in Flight Western Working Group has initiated habitat restoration efforts on the lower Colorado River planting riparian vegetation in abandoned farm fields. Monitors found nearly immediate results with significant numbers of nesting cuckoos after only a few years of growth (J. Stanek communication). Southern Sierra Institute has documented this success at <https://docs.google.com/file/d/0B5DSBspIcubebEhNa1hkD0FRWXc/edit?pli=1>.

There is also great concern about the prospect of negative cumulative effects resulting from federally managed projects in cuckoo habitat. An [Oct. 23, 2013 memorandum by Industrial Economics, Inc.](#) identifies several dozen projects with federal action agencies that are potentially harmful to cuckoo habitat and would likely require formal Sec. 7 consultation. Further, it estimates there would likely be 45 formal consultations per year, 130 technical assistance requests, and 490 informal requests each year; an indication of the ongoing heavy development pressure threatening cuckoo habitat.

Reducing Collisions with Tall Towers by Changing the Light Bulbs

As long-distance, nocturnal migrants, Yellow-Billed Cuckoos are vulnerable to collisions with tall buildings, cell towers, radio antennas, wind turbines, and other structures. Yellow-billed are known to be attracted to lights that can lead to fatalities. We therefore urge FWS to identify and designate critical habitat along the cuckoo's migratory pathways in order to alleviate the threat of collisions with communications towers and other tall structures by requiring tower owners within the species range and along its migratory path to quickly adopt modern lighting known to significantly reduce bird deaths, and to reduce carbon emissions and energy costs.

A 2011 mass bird kill in West Virginia resulted from a combination of exhaustion and collisions as Connecticut warblers, yellow-billed cuckoos and Virginia rails were attracted to the lights and circled in mass confusion before dying. In 1985, a large number of eastern Yellow-billed Cuckoos were killed at a Tennessee television tower (<http://www.tnbirds.org/MigrantOnline/V060/V060p072-073.pdf>). And an ABC report documenting bird deaths at towers



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(http://www.abcbirds.org/newsandreports/special_reports/towerkillweb.PDF) found evidence for a total of 568 Yellow-billed Cuckoo deaths at 17 towers.

ABC urges that In December, 2011, the Federal Communication Commission (FCC) agreed on interim changes to their system for approving applications for new telecommunication towers. The changes were based on recommendations submitted by ABC, Defenders of Wildlife, National Audubon Society, and telecommunications industry leaders.

These changes were the outcome of a successful lawsuit by ABC, which resulted in the federal court of appeals ordering the Commission to carefully evaluate the potential adverse effects of communications towers on migratory bird populations in the Gulf Coast region during their tower licensing process. The full ruling can be found at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-181A1.pdf

As an interim measure, the FCC now requires that an Environmental Assessment be prepared for any proposed tower over 450 feet in height. Science has shown that this is a threshold height above which there is an exponential increase in bird mortality.

For more than 50 years, migratory birds have been documented to collide with communication towers. It is estimated that approximately 7 million birds per year collide with towers in North America. Past research suggests that these birds, primarily nighttime migrating songbirds, are either attracted to or disoriented by the nighttime lighting systems on communication towers, especially when night skies are overcast or foggy.

Researchers have found that by extinguishing the steady-burning red lights (L-810) on towers, nighttime bird fatality rates can be reduced by more than 70%. Birds are not as likely to be attracted to and collide with towers that are lit with only red flashing lights (L-864) or white flashing lights (L-865).

The elimination of steady-burning red lights is also beneficial for tower owners. The economic incentive for removing these lights is substantial. Electricity consumption and costs, as well as tower maintenance costs (the changing of bulbs - labor and bulb cost), are greatly reduced. Extinguishing these lights also allows the Federal Communications Commission (FCC), the Federal Aviation Administration (FAA), and the tower industry to improve their compliance with the Migratory Bird Treaty Act (MBTA), as well as Executive Order 13186 (the Migratory Bird Executive Order signed in 2001 which prohibits the death or injury of migratory birds).

In May of 2012, the FAA published a report documenting that extinguishing nighttime steady-burning lights on communication towers would still maintain safety for aviators. This report will lead to changes in the FAA Advisory Circular (AC 70/7460-1K). In the interim, the May 2012 report will be honored in requests from the tower industry to change nighttime lighting systems.

Towers with red light systems at night are the towers in need of change. White strobe (L-865) lights at night are an approved FAA nighttime lighting system for communication towers that lack steady-burning lights. While white strobe light systems provide an option to significantly reduce avian collisions, the general public typically disapproves of these systems because they are more noxious to humans than are red flashing light systems. In addition, converting communication towers with traditional lighting



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systems to white strobe systems can be prohibitively costly for tower companies. Some communication towers have a dual lighting system with white flashing lights during the day and red lighting systems at night. Considering that the bird fatality concern is related to nighttime collisions, these towers need to be considered for lighting changes (extinguishing of the steady-burning lights).

Research has determined that tower height and the tower support systems are also related to the numbers of bird fatalities at a tower. Taller towers are involved in significantly more avian fatalities than shorter towers. Towers that are supported by guy wires are involved in significantly more bird collisions than self-supported (unguyed) communication towers.

Considering that some guy wires cannot be removed from existing towers and tower heights are not likely to be reduced, light system changes are an excellent approach to reducing bird fatalities. It is likely that birds are attracted to self-supported tower lighting systems but are simply not colliding with the more visible and spatially condensed structure. Given the challenging energetics of bird migration, it is still important to extinguish the steady-burning lights on self-supported towers; thereby minimizing wasted energy spent circling the structure while attracted to the lights.

“Fewer Lights Safer Flights” a Michigan State University website <http://fewerlights.anr.msu.edu/> provided this information about the towers and birds problem, and includes toolkits for bird enthusiasts and tower operators and engineers interested in changing their lights.

Assess Risks of Wind Turbines and Institute a MBTA Permitting System

There is also concern about the potential for western Yellow-billed Cuckoos to collide with wind turbines. The one yellow-billed cuckoo equipped with a geolocator returned to the United States via the Yucatan Peninsula, an area of heavy wind energy development. In addition to Yucatan, there are concerns about other potential bottleneck areas along the species migratory pathway where wind energy development could pose a significant risk.

We urge that FWS provide a more detailed analysis of the risk to the species posed by the current and expected build out of wind turbines. Further, the land management agencies need to zone the landscape to identify appropriate areas for wind development, and areas the need to conserve other values, such as migratory birds protected by the Migratory Bird Treaty Act and ESA-listed species, should preclude its development.

The threat of collisions posed by tower lights and wind turbines to birds protected by the Migratory Bird Treaty Act offers an opportunity for FWS to issue a rule creating a permitting system to ensure industries that incidentally take protected migratory birds are utilizing the best available practices to mitigate that take. FWS has already developed one such rule for long-line fisheries. American Bird Conservancy submitted a petition to FWS asking for the creation of such a permitting system for wind energy developers that was denied without any reasons being offered. That petition is available at http://www.abcbirds.org/abcprograms/policy/collisions/pdf/wind_rulemaking_petition.pdf.

Conservation Plans Recommend Land Management Changes



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A number of conservation plans for the western Yellow-billed Cuckoo have identified priority actions to reverse habitat degradation and species mortality. Removing cattle from riparian habitats, and restricting the use of pesticides in adjacent agricultural lands are particularly important. We are concerned that while the threats were mentioned in the draft rule, recommended priority conservation actions to address these threats were not. Multiple studies have found that removal of cattle has been shown to increase cuckoo numbers (Nevada PIF).

Yellow-billed Cuckoo: A Technical Conservation Assessment, a report prepared for the USDA Forest Service Rocky Mountain Region states:

Conservation measures that may help to slow the decline in abundance of yellow-billed cuckoos include 1) restricting livestock grazing within low-elevation riparian systems, especially in the western portions of Region 2; 2) restoring natural patterns of water flow (i.e., allowing periodic flooding and consequent widening of riparian areas) along Great Plains and western slope river systems; and 3) restricting the use of pesticides in and near riparian woodlands. Two recent habitat manipulation studies have shown that restricting livestock grazing and promoting the expansion of riparian woodlands can have immediate, positive effects on the numbers of breeding yellow-billed cuckoos.

The Forest Service study details the impacts of grazing on Yellow-billed Cuckoos:

Livestock grazing is typically cited as a major contributor to the degradation of yellow-billed cuckoo habitat in the western portions of the range. Grazing has a significant impact on understory vegetation, retarding or eliminating new growth in riparian areas and thereby severely hampering recruitment of woody species. Bock et al. (1993) found that a large number of southwestern riparian bird species were negatively affected by livestock grazing. Kreuper et al. (2001) showed that the response of southwestern riparian corridors to the elimination of livestock grazing can be dramatic, restoring a vibrant understory to riparian woodland and increasing the local breeding population of yellow-billed cuckoos (San Pedro River in Arizona). Although longer-term studies are lacking, it is likely that eliminating livestock grazing will also significantly impact regeneration of riparian woodland by increasing the recruitment probabilities of young trees. Finally, grazing may promote the establishment of exotic saltcedar by eliminating competition from native cottonwood and willow saplings, which are preferred forage for livestock. The precise microhabitats favored by yellow-billed cuckoos (relatively cool, damp, and shady areas) are those favored by livestock, suggesting that the effects of grazing are likely particularly heavy on cuckoos, relative to other riparian species.

New Pesticides Pose Risk to Yellow-billed Cuckoos

The Proposed Rule outlined the threat that DDT and other organochlorine pesticides pose to the Yellow-billed Cuckoos. It focuses on potential poisoning via spraying of nesting areas, ingestion of contaminated prey, and pesticide run-off into habitat. It also speaks to the dramatic decline in prey availability and the abandonment of prime nesting sites due to loss of insect biomass. The Proposed Rule addresses primarily the organochlorine chemicals to which the cuckoos are exposed in Mexico and other wintering grounds. These chemicals affect reproductive success through egg-shell thinning and other impacts.

Unfortunately, the threats from pesticides are not limited to those found in Mexico and South America. Nor are they limited to the foliar or “overspray” applications described in the Proposed Rule. And while the effects of DDT and other organochlorines are significant, the newer generations of pesticides,



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including organophosphates and carbamates -- and more recently the neonicotinoids -- may be affecting Yellow-billed Cuckoo populations as well.

Like many other grassland birds, the Yellow-billed Cuckoos have been facing plunging population numbers in recent years. A 2013 study led by preeminent toxicologist Pierre Mineau sought to identify the reasons behind these widespread declines in US grassland birds and identified acutely toxic pesticides as the most likely leading cause. Published in PLOS One, the study focused on the pesticides that largely replaced DDT and other organochlorines in US agriculture. The assessment looked at data over a 23-year period from 1980 to 2003

(http://www.abcbirds.org/abcprograms/policy/toxins/Grassland_birds_PLOS_One_Feb_2013.pdf). It determined that certain pesticides are so dangerous that only a small proportion of total cropland needs to be treated with them to affect overall bird population trends.

The study found that pesticide drift from croplands is also affecting birds that favor the adjoining grasslands. While the study did not focus on Yellow-billed Cuckoos, these songbirds are likely to be among the birds affected.

The PLOS One study relies on pesticide data from the late 1900s, a time when organophosphates such as diazinon and chlorpyrifos, and carbamates such as carbofuran and methomyl, were still largely in vogue. Since that time, a new class of insecticides, the neonicotinoids, have soared to the top of global pesticide markets. Neonicotinoid seed treatments have become nearly ubiquitous in American agriculture. In some crops such as corn, nearly 100 percent of the seeds are coated with these insecticides. The neonicotinoids are characterized by their persistence (half-life of months to years), mobility, and systemic nature, infiltrating the entire plant including the pollen and the nectar.

In March, 2013, American Bird Conservancy released a 100-page toxicological assessment on neonicotinoids. *"The Impact of the Nation's Most Widely Used Insecticides on Birds"* reviews 200 studies including industry research obtained through the US Freedom of Information Act (http://www.abcbirds.org/abcprograms/policy/toxins/Neonic_FINAL.pdf). The report concludes that the neonicotinoids are lethal to birds and to the aquatic systems on which they depend.

The ABC report may have implications for the cuckoo population. It found that a single corn kernel coated with a neonicotinoid can kill a songbird. Even a tiny grain of wheat or canola treated with the oldest neonicotinoid -- called imidacloprid -- can fatally poison a bird. And as little as 1/10th of a neonicotinoid-coated corn seed per day during egg-laying season is all that is needed to affect reproduction.

The neonicotinoids are toxic to insects as well. Extensive research has documented how neonicotinoids are lethal to bees and other terrestrial invertebrates. (See, e.g., D. Goulson, An overview of the environmental risks posed by neonicotinoid insecticides. *Journal of Applied Ecology*. 2013). The Xerces Society's 2013 report, *Beyond the Birds and the Bees: Effects of Neonicotinoid Insecticides on Agriculturally Important Beneficial Invertebrates*, examines some of the research on terrestrial invertebrates, http://www.xerces.org/wp-content/uploads/2013/09/XercesSociety_CBCneonics_sep2013.pdf, while the ABC report looks at the effects on aquatic invertebrates.



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The neonicotinoids may constitute a one-two punch for the cuckoo population. Since these chemicals are extremely toxic to insects, they are likely to have a significant impact on the caterpillars and other warm weather foods of the cuckoos – both from eating contaminated insects directly and by reducing the availability of food supplies. In the colder months when summertime insect supplies diminish and the cuckoos turn to a diet of fruits and seeds, they are likely exposed to neonicotinoid-treated seeds, which are highly toxic to songbirds. In addition, the neonicotinoids from these seed treatments leach into the environment, creating additional pathways for exposure. Between 1.6 and 20 percent of the active ingredient is absorbed by the crop, and the rest (typically over 90 percent) enters the soil or water. Thus there are multiple routes of exposure for the Yellow-billed Cuckoos as well as for their insect prey.

In light of these threats, American Bird Conservancy urges that pesticide use be restricted in agricultural fields adjacent to occupied Yellow-billed Cuckoo nests and within proposed critical habitat.

New Mexico Partners in Flight raises concern in their species review about the threat posed to occupied cuckoo habitat from salt cedar eradication. While it is evidence, intrusions of salt cedar have degraded habitat in many areas, in some cases, it is the only available habitat. Partners in Flight recommends that prior to salt cedar removal, surveys for nesting cuckoos should take place to identify areas to avoid during the removal.

Additional research on the western populations' migratory route, wintering and stopover grounds is urgently needed to identify threats and potential conservation measures for those portions of its habitat. As the draft listing rule points out, there has only been one radio track of a western bird recovered thus far.

Thank you again for this opportunity to comment, we look forward to discussing these ideas with U.S. Fish and Wildlife Service staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Holmer", written in a cursive style.

Steve Holmer
Senior Policy Advisor
American Bird Conservancy