

## Pinyon Jay (*Gymnorhinus cyanocephalus*)

### Species Status Statement.

#### Distribution

The range of pinyon jay extends across much of the western United States from California and Oregon, east to Montana, Wyoming, Colorado, and New Mexico. The species also occurs in western South Dakota and Nebraska, and the mountains of Baja California (Balda 2002). In winter, individual pinyon jays may wander well outside of this range in search of food. They have been documented as far east as central Oklahoma and Iowa (Balda 2002).

Across most of the Great Basin and southwestern United States, pinyon jay is associated with various species of pinyon pines. However, outside of the range of pinyon pines (e.g., in Oregon, Montana, Wyoming, and Nebraska) pinyon jay is associated with other large-seeded conifers. In Utah, pinyon jay has been documented statewide (eBird, IMBCR). Utah is the only state to be entirely encompassed by its range; with Utah comprising an estimated 12.8% of the total pinyon jay distribution (Partners in Flight 2019a).

Table 1. Utah counties currently occupied by this species (eBird and Utah NHP)

Pinyon Jay
ALL

#### Abundance and Trends

The estimated global population size of pinyon jays is 770,000, with roughly 99% living in the United States (Partners in Flight 2019a). Breeding Bird Survey (BBS) data show significant range-wide pinyon jay declines of 3.7% per year (95% CI: -5.1 to -2.4; Sauer et al. 2017) and an overall population loss of 84% from 1967 to 2015 (Rosenberg 2016). At the current estimated rate of decline, pinyon jay populations will decline by another 50% in 19 years (Partners in Flight 2019b).

Utah is estimated to have 98,000 pinyon jays (Partners in Flight 2019a). Similar to range-wide trends, Utah BBS data have shown significant -4.03% declines per year from 1967-2015 (95% CI: -6.1 to - 2.1; Sauer et al. 2017). Pinyon jay breeding seasons can be variable, falling outside generalized survey seasons. To better understand this, additional focal surveys are in progress.

Currently pinyon jay is:

- Listed as *Vulnerable* on the Red List of Threatened Species by the International Union for Conservation of Nature

- Identified by the U.S. Fish and Wildlife Service as a priority species at the continental and Bird Conservation Region scales on the Birds of Conservation Concern list (draft U.S. Fish and Wildlife Service 2017)
- Listed by Partners in Flight as “REVERSE DECLINE: Yellow Watch List ‘D’ – Species with population declines and moderate to high threats” (Rosenberg et al. 2016)

## **Statement of Habitat Needs and Threats to the Species.**

### Habitat Needs

Where they co-occur, pinyon jay is strongly associated with several species of pinyon pines (e.g., *Pinus edulis*, *P. monophylla*, *P. quadrifolia*). The highly nutritious pinyon seed is a valuable food source for successful overwintering and nesting (Balda 2002). Likewise, the pines rely on the jays to harvest, disperse, and cache their seeds. Uneaten seeds cached in soil may then produce new sapling pines. Outside of the ranges of the various pinyon pines, pinyon jay is associated with other large-seeded conifers such as ponderosa pine, limber pine, or even juniper-dominated woodlands (Balda 2002).

Researchers have found that these birds use different habitats for foraging, caching, and nesting (Balda 2002). Jays form foraging flocks, and travel widely to find available pine seeds before returning to a core area to cache seeds for later consumption. Generally, pinyon jays appear to use open pinyon-juniper persistent woodlands, wooded shrublands, and pinyon-juniper savannas in winter, and for caching and foraging (Johnson et al. 2016). Caching areas are generally open and contain sparse vegetation, and include seedling and sapling trees (Balda 2002); these are conditions typical of pinyon-juniper woodland edges. Colonial nesting sites are usually placed in tall, dense tree stands. These habitats vary widely across their range, and they have been poorly studied (including in Utah), making it difficult to provide habitat specifics beyond pinyon woodlands.

Pinyon jay is a colonial nester. In New Mexico, researchers have found colonies in a variety of pinyon-juniper woodland types (Petersen et al. 2014, Johnson et al. 2017). In Nevada, researchers have found pinyon jays nesting in relatively dense pinyon-juniper woodlands that are typically within 800 meters from the stand edge (Ammon and Boone 2014). Currently in Utah, managers know little about specific breeding habitat use, but research is underway.

### Threats to the Species

While the duration and magnitude of pinyon jay decline are fairly well established, the reasons (threats and risk factors) are not (Somershoe et al. 2019). Because of their dependence on pinyon pines across most of their range, management actions such as pinyon-juniper reduction for wildlife and fuels reduction may present a threat to pinyon jays. That said, these treatments typically target specific local site conditions, only slow the expansion of pinyon-juniper woodlands into shrub-steppe areas, and it is unknown how or if they affect pinyon jays. A recent study of pinyon-juniper woodland thinning found a treatment reduced local level jay occupancy

in treated areas (Magee et al. 2019). Another study found that jays stopped nesting and moved to an adjacent untreated woodland when a colony site was thinned (Johnson et al. 2018). However, the specific location of woodland removal and thinning is likely critical in the severity of the threat these activities pose (e.g., removal of trees in or around a nesting colony may have vastly different impacts than removal of trees miles from a nesting colony). Pinyon-juniper woodland loss due to fire is also a threat, as these woodlands are slow to return to pre-fire conditions.

Other threats to pinyon jay include drought and climate change (as this may result in decreased pinyon seed mast production), pinyon nut collection, pinyon ips beetle outbreaks, loss of habitat from construction, increased noise from infrastructure, and oil and gas development (Somershoe et al. 2019 and references within).

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

<b>Pinyon Jay</b>
<b>Medium</b>
Brush Eradication / Vegetation Treatments
Inappropriate Fire Frequency and Intensity

### **Rationale for Designation.**

As noted above, pinyon jay has undergone steep declines in the last few decades, but little is known about the bird or the reasons for its range-wide decline, including in Utah. These declines are underlined by the lack of fundamental knowledge and regulatory protections, greatly increasing the potential for groups to petition the pinyon jay for listing under the Endangered Species Act (ESA). Designating pinyon jay as a Sensitive Species will facilitate local research leading to defensible data in the event of a listing petition, and the development of more robust management guidelines.

### **Economic Impacts of Sensitive Species Designation.**

Sensitive species designation is intended to facilitate coordinated management of this species, which is recommended to prevent ESA listing and lessen related economic impacts. An ESA listing of pinyon jay would trigger regulatory consultations statewide, and potentially require mitigation for a variety of land management projects intended to benefit sage grouse and livestock grazing, as well as for wildfire prevention. Several other industries and activities would be affected in Utah, including energy development, transportation, and recreation. However,

expected costs are not high for conserving this still widespread and easily detected species, as there are inexpensive conservation and management options still available (i.e., pre-project surveys coupled with range-wide monitoring).

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