

# Clapper Rail

*Rallus longirostris*



Photo by Jenny Ross

## Habitat Use Profile

Habitats Used in Nevada	
Marsh (Mojave Lowland Riparian)	
Key Habitat Parameters •	
Plant Composition	Cattail, bulrush, sedges, willows, saltcedar
Plant Density	Low to moderate stem densities (< 80 / m <sup>2</sup> [7.5 / ft <sup>2</sup> ]) required <sup>9</sup>
Mosaic	Shallow marsh with low to moderate stem densities and little residual vegetation, interspersed with dry spots, mudflats, and open water, and buffered by riparian zones <sup>5, 9</sup>
Water Depth	Some water < 30 cm [12 in] around margins of marsh, with some deeper water acceptable <sup>3, 9</sup>
Hydrology	Minimal fluctuation in stage <sup>9</sup>
Response to Vegetation Removal	Positive to prescribed burns in densely vegetated marshes <sup>4, 9</sup>
Area Requirements •	
Minimum Patch Size	8 ha [20 ac] <sup>9</sup>
Recommended Patch Size	> 150 ha [370 ac] <sup>9</sup>
Home Range	< 24 ha [59 ac] <sup>9</sup>

## Conservation Profile

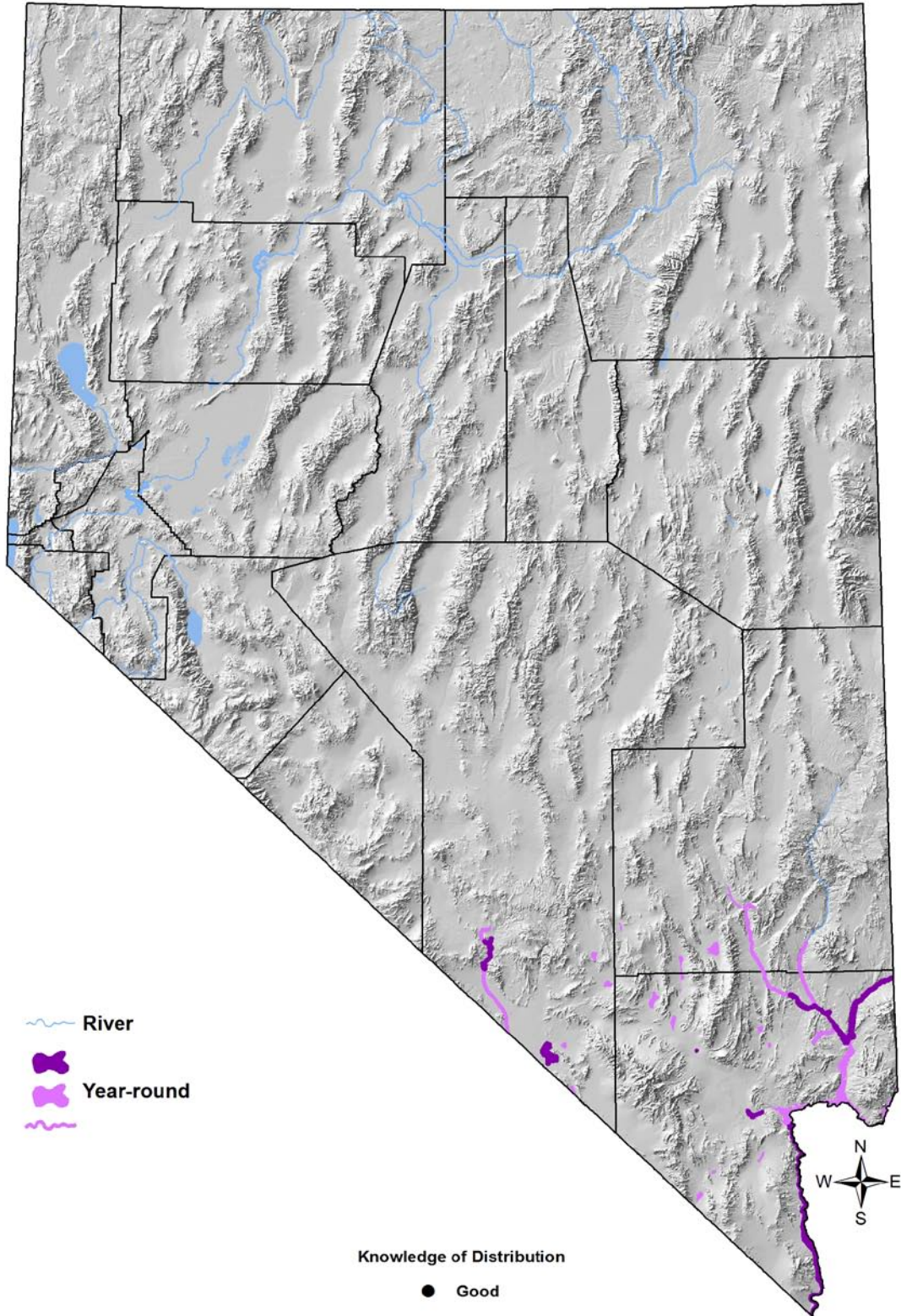
Priority Status	
Conservation Priority Species	
Species Concerns	
ESA listing: Endangered subspecies (Yuma Clapper Rail) Small population size Habitat threats Restricted Habitat	
Other Rankings	
Continental PIF	None
Audubon Watchlist	None
NV Natural Heritage	S1
USFWS	Endangered subspecies, Migratory Bird
BLM	Sensitive Species
USFS	None
NDOW	Endangered
Other	Covered by Clark County MSHCP amendment, <sup>1</sup> Lower Colorado River MSCP, <sup>8</sup> Virgin River HCRP <sup>11</sup>
Trends	
Historical •	Rangewide subspecies declines, but pattern in Nevada unclear <sup>5</sup>
Recent •	Stable or increasing <sup>6</sup>
Population Size Estimates	
Nevada •	20 – 40 <sup>6</sup>
Global •	7,000 (Yuma Clapper Rail only) <sup>9</sup>
Percent of Global	0.4%
Population Objective	
Maintain / Increase <sup>E0</sup>	
Monitoring Coverage	
Source	Secretive marshbird surveys by USFWS, BOR, SNWA, NWR's and others
Coverage in NV	Good
Key Conservation Areas	
Protection	Muddy and Virgin Rivers, Amargosa River, Ash Meadows NWR
Restoration	LV Wash and degraded or overgrown marshes

## Natural History Profile

Seasonal Presence in Nevada	
Year-round	
Known Breeding Dates in Nevada	
Late March – August <sup>5</sup>	
Nest and Nesting Habits	
Nest Placement	Near shoreline in emergent vegetation, over ground or water < 2.5 cm [1 in] deep <sup>5, 9</sup>
Site Fidelity	Moderate for breeding territory <sup>45</sup>
Other	Multiple nests, re-nesting, moving of eggs <sup>5, 9</sup>
Food Habits	
Basic	Prober and pecker
Primary Diet	Crustaceans, especially crayfish, <sup>9</sup> clams
Secondary Diet	Small fishes, other vertebrates, seeds, insects, eggs <sup>5</sup>

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Dark colors represent critical Year-round habitat designated by USFWS. Lighter colors represent the areas within which the species could potentially occur.

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## *Rallus longirostris*

### Overview

Clapper Rails inhabiting the inland southwest, including southern Nevada, belong to the “Yuma” subspecies, *R.l. yumanensis*. Unlike their coastal relatives, Yuma Clapper Rails are mostly restricted to a freshwater environment along the lower Colorado River system and its tributaries. Clapper Rails are found in large, shallow marshes with a moderate density of emergent vegetation, avoiding both open water and overgrown emergent stands.<sup>9</sup> Prescribed fire in overgrown marshes has recently been shown to be beneficial for this species without adversely affecting sympatric species, and thus might be a replacement for the historical floods that once provided the necessary disturbances.<sup>4</sup>

Most Clapper Rails in Nevada have been documented along the Virgin and Muddy Rivers,<sup>8</sup> but more recently, they were also confirmed at Ash Meadows NWR (C. Lundblad, *pers. comm.*). In addition to known breeding areas, other sites where breeding could potentially occur include the Las Vegas Wash and Pahranaagat NWR. In Nevada, an average of about 14 Clapper Rails are detected during annual inventories,<sup>6</sup> but research indicates that only about 40% of the rails that are actually present are detected using standard survey methods.<sup>3</sup> Therefore, our conservative population estimate for Nevada is 20 - 40 individuals, with the range of values allowing for the annual variations that have been observed since the species was first surveyed in 2000. It is possible that Clapper Rails have become more common in Nevada in recent decades due to water impoundments and resulting marsh development along the lower Colorado River in areas that are farther north than the species’ presumed historical range.<sup>6</sup> Clapper Rails may therefore be able to respond to projected warming trends with continue northward movements, if sufficient marsh habitat is available to them. Clapper Rails are thought to be mostly sedentary,<sup>5</sup> but their ability to disperse or move seasonally has not been examined in great depth.

As one of only two federally endangered bird subspecies in Nevada, detailed management recommendations for the Yuma Clapper Rail have been developed,<sup>9</sup> and are currently undergoing revision.<sup>10</sup> Our current understanding of the Yuma Clapper Rail’s population trends, threats, and habitat requirements is derived largely from studies of Arizona populations, but with a continuation of current Nevada-based research and monitoring programs, a better understanding of Nevada’s population will likely emerge.

### Abundance and Occupancy by Habitat

- Nevada population estimate based on average of 14 birds detected annual, with a 40% detectability correction factor<sup>3,6</sup>
- Density ranges from 0.1 – 0.8 birds / ha [0.04 – 0.32 / ac] in suitable habitat in Arizona<sup>5</sup>

### Nevada-Specific Studies and Analyses

Species inventories by USFWS, SNWA, BOR, and others

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## Main Threats and Challenges

### Habitat Threats

- Loss or degradation of marshes due to water diversions, decline in water quality, development, or overgrowth
- Large changes in water level during nesting period

### Research, Planning, and Monitoring Challenges

- Yuma Clapper Rails are assumed to be sedentary, but seasonal movement patterns have not been studied
- Clapper Rails require special survey techniques<sup>2</sup> because of their secretive habits

## Conservation Strategies

### Established Strategies

- The Yuma Clapper Rail Recover Plan,<sup>9</sup> currently under revision,<sup>10</sup> specifies conservation strategies for the subspecies. Key elements include:
  - Maintain consistent water levels in marshes in the Virgin and Muddy River Valleys
  - Control invasive plants in marshes
  - Control nest predators where unusual predation levels are documented
  - Continue ongoing monitoring and research to better determine population trends, threats, and habitat requirements

### Habitat Strategies

- The Marsh (p. Hab-9-1) habitat conservation strategy benefits this species
- Yuma Clapper Rails probably respond positively to creation of artificial wetlands if habitat parameters are suitable
- Prescribed fire in overgrown marshes has been shown to have beneficial effects for these rails<sup>4,9</sup>

### Research, Planning, and Monitoring Strategies

- Implement secretive marshbird survey protocols<sup>2</sup> in potential habitat
- Conduct studies to determine whether seasonal movements occur

### Public Outreach Strategies

- None identified

References: <sup>1</sup>Clark County (2000); <sup>2</sup>Conway (2009); <sup>3</sup>Conway et al. (1993); <sup>4</sup>Conway et al. (2010); <sup>5</sup>Eddleman and Conway (1998); <sup>6</sup>Garnett et al. (2004); <sup>7</sup>LCRMSCP (2004); <sup>8</sup>Rathbun and Braden (2003); <sup>9</sup>USFWS (1983); <sup>10</sup>USFWS (2009); <sup>11</sup>(Jeri Krueger, *pers. comm.*); <sup>EO</sup> Expert opinion