

Wet Meadow



Wet meadow in south Steptoe Valley, White Pine County. Photo by Elisabeth Ammon.

Key Bird-Habitat Attributes

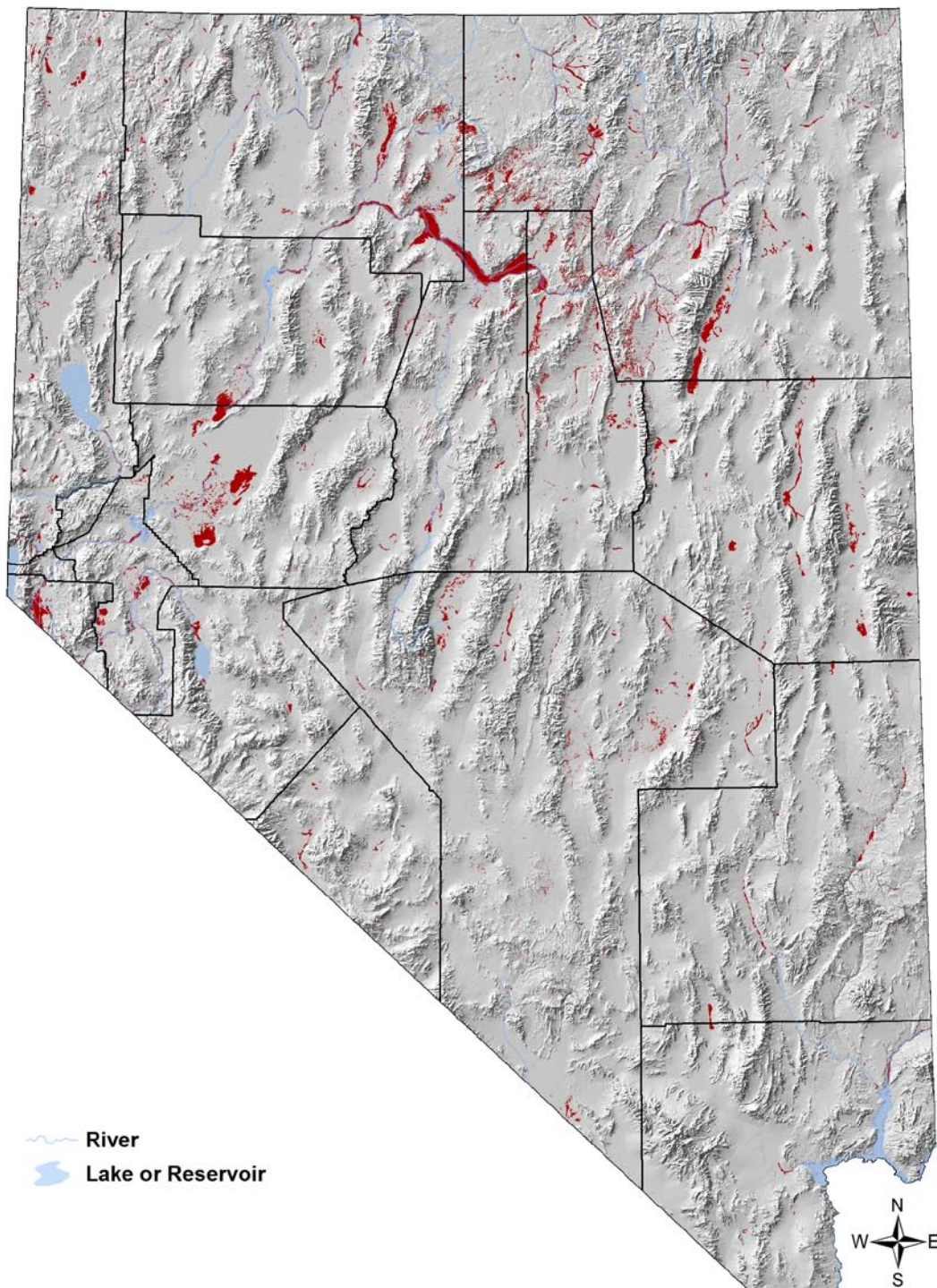
Plant Species Composition	Multi-species mixtures of graminoids and forbs ideal
Ideal Scale for Conservation Action	Whole meadow and border habitats
Land Uses	Haying schedules that avoid the main breeding season (May – mid-June) most suitable; flush-bars on agricultural equipment extremely beneficial; grazing practices that avoid creation of bare soil
Windbreaks and Hedgerows	Rows of native willows, alders, and other shrubs along ditches and streams particularly suitable for some species
Other Features	Protection of nearby streams, springs, rivers from chemical and livestock impacts enhances overall wildlife value; feral cat colonies should be discouraged

Conservation Profile

Estimated Cover in Nevada	222,100 ha [549,000 ac] 0.8% of state
Landownership Breakdown	BLM = 46% Private = 43% Other = 11%
Priority Bird Species	Greater Sage-Grouse White-faced Ibis Sandhill Crane Willet Long-billed Curlew Short-eared Owl Rufous Hummingbird (Lesser Scaup) (Swainson's Hawk) (Golden Eagle) (Prairie Falcon) (Wilson's Phalarope)
Indicator Species	Bobolink (in northern and NE Nevada)
Most Important Conservation Concerns	Change in agricultural practices Surface water diversion, impoundments Groundwater pumping Invasive weeds Climate change (change in precipitation and temperature) Livestock and wild horse grazing Motorized recreation
Habitat Recovery Time	5-10 years
Regions of Greatest Conservation Interest	Northeastern and eastern Nevada
Important Bird Areas	Boyd Humboldt Valley Wetlands Carson Valley Franklin Lake High Rock Resource Area Lahontan Valley Wetlands Meadow Valley Wash Monitor Valley North Ruby Valley Oasis Valley Pahrangat Valley Complex Sheldon NWR Washoe Valley

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Map shows combined extent of Marsh and Wet Meadow habitat types



Habitat classified from a synthesis of Landfire and Southwest ReGap vegetation maps, combining Marsh and Wet Meadow habitat. Habitat polygons have been buffered on this map to improve visibility, and thus the extent of the habitat is slightly exaggerated. Small patches of habitat may not be visible on this map, and some areas may be misclassified.

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Overview

Wet Meadow habitat supports a number of Priority bird species in Nevada, most notably the Long-billed Curlew and Sandhill Crane. Greater Sage-Grouse also make use of wet meadows in the brood-rearing period, especially as shrubland forbs start to dry out as the summer progresses. For the purpose of this plan, we define Wet Meadow habitat as non-irrigated areas that are dominated by herbaceous vegetation. Most wet meadows receive water from spring runoff, near-surface groundwater, spring outflows, or by virtue of proximity to floodplain wetlands, lakes, and marshes. Although not intentionally irrigated, many wet meadows develop along the paths of water runoff from agricultural areas

Wet meadows are not very common in Nevada, and most are managed by the BLM and private landowners. As is the case with most “wet” habitats, wet meadows may enhance landscape quality for birds that are primarily associated with drier habitats. For instance, Short-eared Owls typically nest in uplands, but focus their hunting efforts in nearby wet meadows where voles are far more abundant. High-quality Wet Meadow habitat is characterized by dense, uninterrupted groundcover comprised of a diversity of grasses, sedges, rushes, and forbs (Figure Hab-20-1). Plant species diversity is important, as it maximizes foraging value for birds that feed on forbs, insects, or rodents. Old, deciduous border trees are rare in native wet meadows in Nevada, but as in agricultural lands, if they are present, they may support raptor nests and roosts. Nearby wetlands and riparian areas add significant landscape value for birds, many of which are most abundant where these different habitat types are juxtaposed.

Main Concerns and Challenges

The following top eight conservation concerns were identified in our planning sessions for Wet Meadow habitat in Nevada:

- Change in agricultural practices
- Surface water diversion, impoundments
- Groundwater pumping
- Invasive weeds
- Change in precipitation and snowmelt related to climate change
- Change in temperature related to climate change
- Overgrazing by livestock, wild horses and burros
- Motorized recreation

The most serious concerns are those that could deprive wet meadows of their water source. Climate change is among these in that it could reduce some sources of moisture for wet meadows. Locally intensive grazing may be harmful to birds if it exposes bare soils and facilitates invasive weeds. However, grazing can also benefit some wet meadow birds, notably the Long-billed Curlew, if properly managed (p. Spp-34-1), and wet meadows can recover

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rapidly if they are rested from overgrazing. Weeds and soil erosion are also a concern where OHV traffic is intensive, particularly in areas that have water-saturated soils.



Wet meadow complex in Spring Valley, White Pine County.
Photo by John Boone.

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Not To Scale



Figure Hab-20-1: Idealized wet meadow landscape to maximize the number of wet meadow associated Priority bird species.

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Conservation Strategies

Habitat Strategies

- Manage at the scale of the **whole wet meadow or meadow complex**, ideally with each unit having a buffer of native vegetation, and the entire area having a 100 m [330 ft] buffer of mostly native vegetation (but may include maintenance roads, fences, or trails)
- Grazing should be managed to avoid permanently reducing vegetation cover or plant species diversity
- Organize **grazing and haying schedules** leave some wet meadow areas undisturbed during the main nesting period (**1 April – 1 July**), and other areas undisturbed during the brood rearing period (July – early September), especially if Greater Sage-Grouse use the area
- If a wet meadow is supported by groundwater, **maintain pumping levels** that do not cause habitat conversion
- Removal of invasive plants should be followed by **active restoration of native vegetation** in the removal sites, as weedy species often take advantage of disturbed soils and become more easily re-established in the absence of competition
- Proximity to **water** (riparian areas, springs, marshes, etc.) and presence of **cliffs** > 30 m [100 ft] tall raise the priority level of a site for bird conservation.
- Maintain **OHV use** at levels that does not permanently impact the grass and forb layer or cause soils to be exposed

Research, Planning, and Monitoring Strategies

- **Map and monitor extent and condition of wet meadows** statewide in light of climate change, and develop an adaptive management strategy
- Continue **long-term monitoring of landbirds** statewide through the Nevada Bird Count
- Monitor status of **invasive weeds** to assess threat level locally and statewide

Public Outreach Strategies

- **Promote pride of landowners and ranchers in wildlife** attracted to their lands. Outreach may include tips on agricultural practices and habitat features that enhance habitat value to birds
- **Provide educational materials** on threats from domestic and feral cats to birds, benefits of birds to agricultural operation (control of rodents), and on wildlife-compatible grazing practices and weed control.