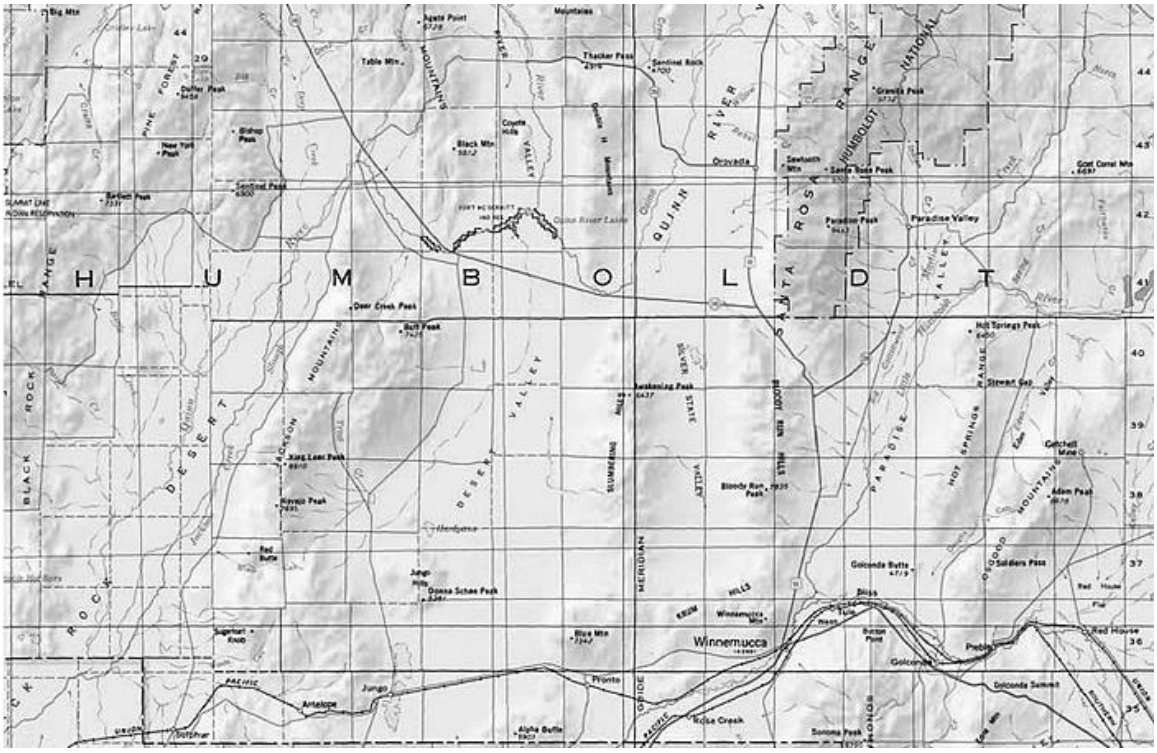
8. Quinn and Little Humboldt Rivers



Boundaries and Ownership
These rivers have primarily marshes as a riparian corridor. Therefore, much of the areas around the main stems consist of dispersed wetlands, unless they are modified for agriculture. The site includes all lowland wetlands of the Quinn River drainage between Santa Rosa Mountains, Montana Mountains into the Black Rock Desert; Little Humboldt drainage from Little Humboldt Ranch (east of Chimney Dam Reservoir) through Paradise Valley to confluence with Humboldt River. Owned by BLM and private landowners (ownership dispersed among different parcels).

Focal Species

Greater Sandhill Crane, Long-billed Curlew
Great Egret, Snowy Egret
Great Blue Heron, Black-crowned Night Heron

Location of Type I and II Habitat
River habitat includes rock walls, willow flats and open wetlands with emergent vegetation. Only few areas have open water. Exact delineation of Type I and Type II habitats may need to be determined in pilot study.

Access and Visibility
All sites are about 2 to 3 hours from Reno. Aerial surveys have been done in the past, but were difficult and time consuming. Significant emergent vegetation will be a problem for

secretive and marsh species. Some sites, e.g. Chimney Reservoir, are fairly open with good visibility, but for the most part, emergent marshes are the primary wetland type of this site.

Past & Current Surveys
Aerial counts and discovery flights were done at least sporadically, if not regularly, by NDOW as part of statewide waterfowl monitoring. No other previous surveys known.

Potential survey methods

Description
Aerial counts best for surveying the entire river course, but emergent vegetation may reduce visibility. Sampling of sites should be conducted in ground surveys, but the entire area is probably too extensive for comprehensive counts on the ground.

Selection bias
Permission of multiple private landowners needed to be able to access all areas. Some areas may also be very remote (i.e. away from access roads) which may create bias in ground based surveys.

Measurement Error and Bias
Emergent vegetation is a significant factor in measurement error and bias against secretive species for both aerial and ground surveys. Aerial coverage of the site involves a fairly long flight, so observer fatigue may also be a source of error.

Needed Pilot Studies
Delineation of Type I and II habitats and development of survey plan logistics.

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