

Ouray National Wildlife Refuge Aquatic Bird Surveys

Background

The Refuge lies in the Uintah Basin located in northeastern Utah in Uintah County. The Refuge can be accessed by driving U.S. Highway 40 west 14 miles from the town of Vernal, then turning South on State Highway 88 and traveling 14 miles to the Refuge entrance.

Refuge habitats are classified into eight different types: riverine, riparian woodlands, wetlands/bottom lands, moist-soil units, croplands, semidesert shrubland, grasslands, and clay bluffs. Riverine habitat consists of approximately of 1,180 acres with minimal aquatic vegetation. Riparian woodlands occur along and adjacent to the 16 miles of the Green River that flow through the Refuge. This habitat totals approximately 1,282 acres and consists primarily of Fremont's cottonwood with an understory of peach-leaf willow, narrow-leaf willow, whiplash willow, skunkbush sumac, silver buffaloberry and some western wheatgrass. Wetlands/bottom lands habitat is comprised of six flooded bottoms totaling 3,110 acres. In down stream order they are, Johnson Bottom, Leota, Wyasket Pond, Wyasket Lake, Sheppard and Woods. Moist soil units consist of five independently controlled impoundments which total 50 acres. Croplands comprise 150 acres and are farmed by a cooperative farmer on a rotational basis with alfalfa, barley and grain sorghum. Semidesert shrubland is 2,731 acres and consists of plants species such as greasewood, big sagebrush, black sagebrush, rubber and low rabbitbrush. Grasslands make-up 1,520 acres and consists of alkali sacaton, inland saltgrass, western wheat grass and Great Basin wildrye. Clay bluffs total 1,935 acres on the Refuge but little is known on the role they play as habitat for wildlife.

Designated Area: BCR 16, BCS 96, Site Number 2, Ouray National Wildlife Refuge

Survey Type:

- 1) General Avian Survey – ground-based all waterbird, including shorebirds, waterfowl, breeding colonies.
- 2) Secretive marshbird survey

General Avian Survey

Target Area: Ouray National Wildlife Refuge including all bottoms, Parker Tracts (moist soil areas), farm fields, and Green River. See attached map.

Sampled Area: An established route taken by vehicle has been established. The route is followed in the same direction in each bottom, though the bottoms may not be surveyed in the same order each time. Route will vary if bottoms are dry (Wyasket Pond has not had any water in for many years and Wyasket Lake was flooded briefly in 2005 but had not had water in during the years of the drought) and no wetland birds are known not to

be present, or if roads become inaccessible due to river flooding or excessive snow or rain. Areas missed are noted in the survey notes.

From the survey route, birds are counted that are within 1,000 feet of road. Later, extrapolations are made for each individual unit to cover the entire unit based on water levels and visibility. These extrapolation factors are established at the end of the year. Visibility is mapped twice a year, summer and winter and entered onto a GIS database to measure the difference between what is actually surveyed within the 1000' survey area. Water levels are recorded throughout the year and based on topographic tables created by wetland engineers, the surface acreage can be determined for corresponding water levels.

Survey Locations: Many of the bottoms are divided into distinct wetlands. Leota is divided up into 10 wetlands named L-1 through L-10. Sheppard Bottom is divided into 5 wetlands named S-1 to S-5 and the Parker Tracts are divided into 5 areas named P-1 through P-5. Woods Bottom is separated into Woods Main and Woods Back. Wyasket Bottom is divided into Woods Pond and Wyasket Lake. Johnson Bottom is now one wetland (used to be divided but dikes were removed). The Green River is divided into viewing from the west side and east side. Routes through the bottoms were established to cover as much of the units as possible in a reasonable time. See attached map.

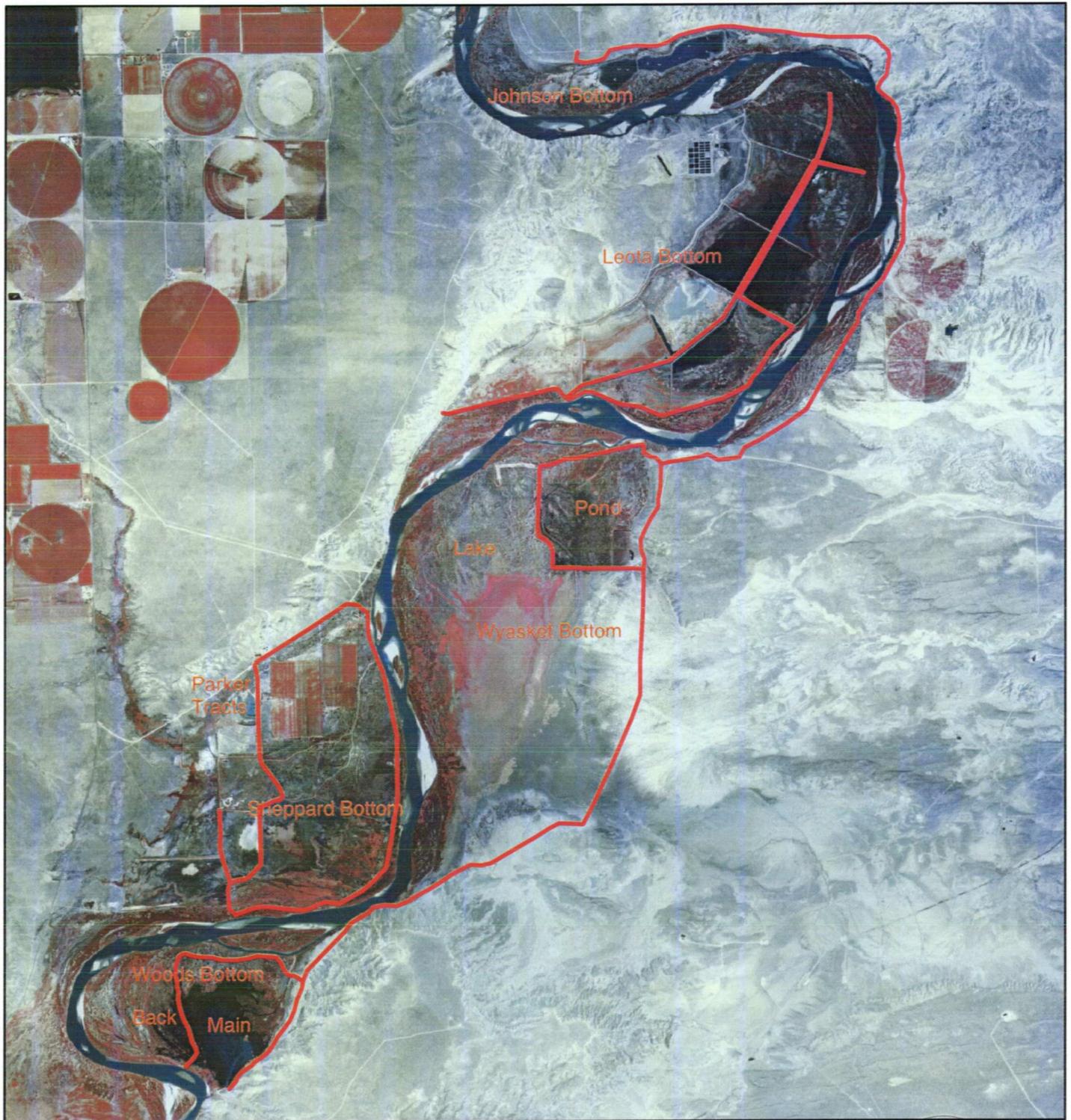
Information Recorded: Date, surveyor name, weather and temp at start and end, time at start and end, wetland name (L-1, S-4, etc), species (long-billed and short-billed dowitchers are not differentiated and greater and lesser scaup are also not differentiated), and number. Species recorded include all waterfowl, grebes, pelicans, cormorants, herons, egrets, bitterns, rails, ibises, raptors, cranes, shorebirds, gulls and terns. Other variables when appropriate: If it is known in a specific wetland that all birds of one species are being counted that will be noted. Large birds such as pelicans are often easy to count for the entire unit or are grouped together in just one area. Also, a wetland unit may be drying up and the entire area may be counted easily. Another variable noted are brood sizes and ages. This brood data is used to generate production information. The last variable that may be noted is if a species is in a nesting colony. This only applies to great blue herons and double-crested cormorants. There are several colonies on the Refuge, all visible from the survey route early in the spring but only a few are still visible by early summer.

Field Procedures: The General Avian Survey is conducted twice a month about 15 days apart. The survey starts at 7:30 am and conducted until complete. Weather conditions to conduct the surveys should be no or very little precipitation and winds less than 20 mph. The order that the bottoms are surveyed does vary some depending on weather conditions and possible disturbance factors. For instance, if there is a chance of rain, Johnson Bottom may be conducted first because the road is very steep and clay and becomes very slippery and dangerous. Or if maintenance work is planned to be conducted in a bottom that will cause disturbance, that bottom may be surveyed first before the disturbance. In Leota Bottom, the direction of the survey is to start at the L-10 gate at the bottom of Leota, travel up the center canal dike on the NW side of the canal, go to the top of L-1/L-2, travel to the NE corner of L-3, then down the dike on the SE side of the canal to the

corner of L-5 and L-7, travel between L-5 and L-7, and follow the road along the river side of L-7. Sheppard Bottom is run 'backward' from the auto tour route entering from the north side of the bottom along the river surveying in order of S1a, S2, S5, S3, and S4. To survey S5, the route includes a section of dike between S3 and S5 up to the cross dike of S3 and S4. Parker Tracts are adjacent to Sheppard Bottom and are completed after Sheppard. Woods and Johnson Bottoms are one way in and out. Wyasket Bottom and the dike around the Pond can be surveyed in either direction.

Birds are counted within each impoundment, preferably before they are flushed off the unit or in the case of raptors and terns that are most often flying, the unit they are flying over is the unit they are recorded in. A spotting scope mounted on the vehicle window is often needed to make accurate species determinations.

General Avian Survey Route Ouray National Wildlife Refuge



0 0.2 0.4 0.8 Miles

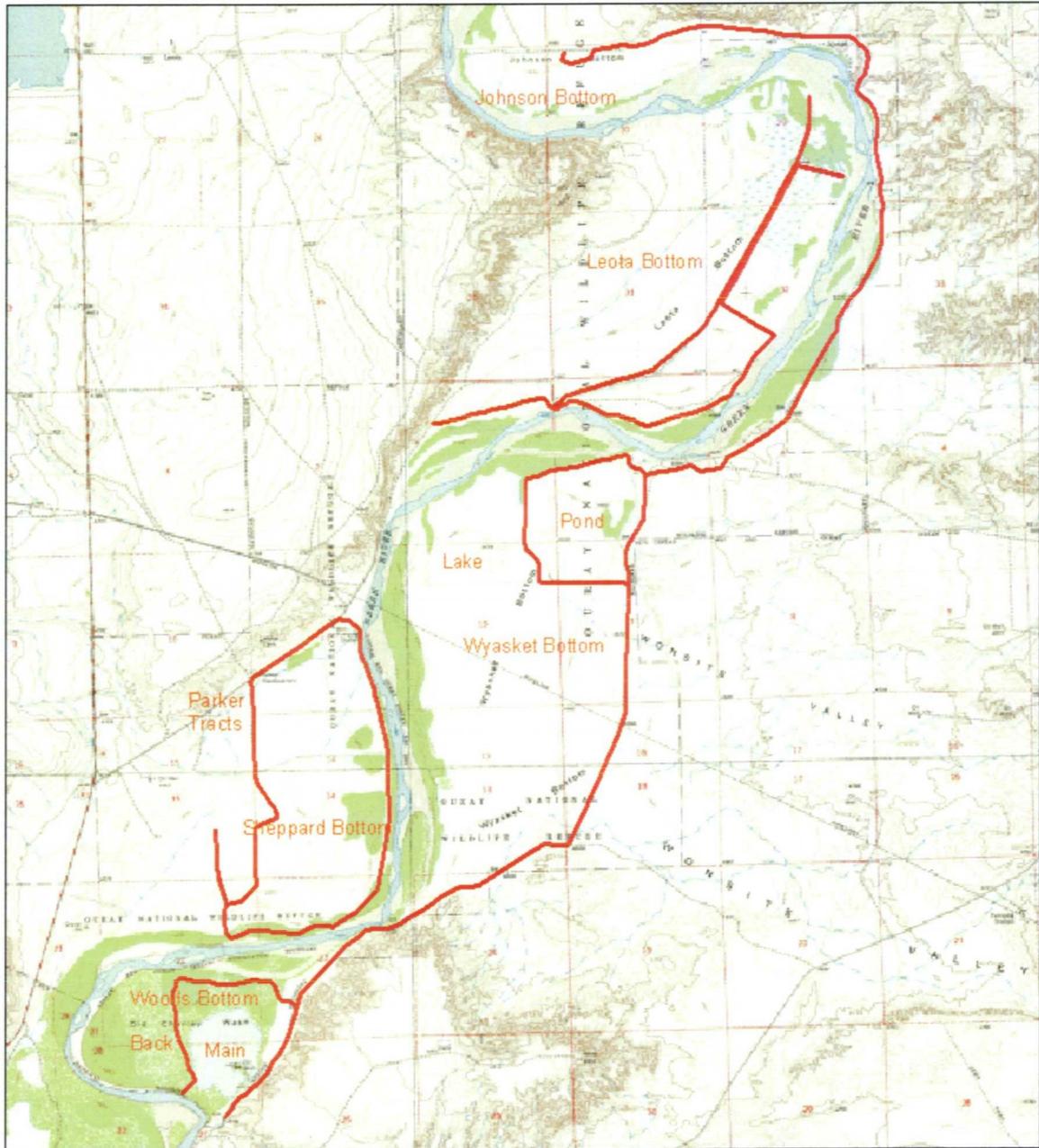
0 2,550 5,100 10,200 Feet

Legend

— Survey route



General Avian Survey Route Ouray National Wildlife Refuge



0 0.2 0.4 0.8 Miles

Legend

— Survey route

0 2,600 5,200 10,400 Feet

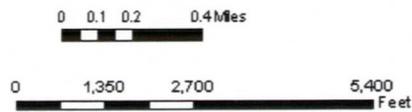


General Avian Survey Ouray National Wildlife Refuge Leota Bottom



Legend

-  Survey route
-  1000 foot survey area



Secretive Marshbird Survey

Target Area: Ouray National Wildlife Refuge, Sheppard and Leota Bottoms.

Sampled Area: Point counts have been established through Sheppard and Leota Bottoms. There are 15 points in Leota making up one route and 10 points in Sheppard that make up a second route. See attached map.

Survey Locations: This survey was established using the "Standardized North American Marsh Bird Monitoring Protocol" written by Courtney Conway. The initial routes were established in 2001 by David Klute, Assistant Nongame Migratory Bird Coordinator for Region 6 at that time. A specific protocol has been written for Ouray NWR. Following are summaries from that protocol.

Points are 400 meters apart and cover most of Leota Bottom and all of Sheppard Bottom that is accessible by vehicle.

Sheppard Bottom

<u>Station</u>	<u>Approximate Mileage</u>	<u>NAD 83 GPS Coordinates</u>	<u>Description</u>
S-1	0.00	0615496 4442426	Across from the gate at the NW corner of S-1.
S-2	0.25	0615712 4442091	Drive south. Just before the observation tower at the SW corner of S-1.
S-3	0.50	0615492 4441753	Drive west. Between S-2 and S-3 before the WCS.
S-4	0.75	0615484 4441353	Drive south. Between S-2 and S-3 at a curve in the road.
S-5	1.10	0615178 4441094	Drive south. At the west side of S-2, between S-2 and S-5.
S-6	1.40	0615550 4440946	Drive south and turn left (east) along the south side of S-2. South side of S-2.
S-7	1.65	0615948 4440918	Drive east. South side of S-2.
S-8	1.90	0616339 4441005	Drive east. South side of S-2.
S-9a	2.90	0616480 4441877	Drive east/northeast. Turn left (northwest) at gate at northeast corner of S-2. Drive northwest. Northeast side of S-2.
S-9	3.15	0616110 4442027	Drive northwest. North side of S-2. End of survey route.

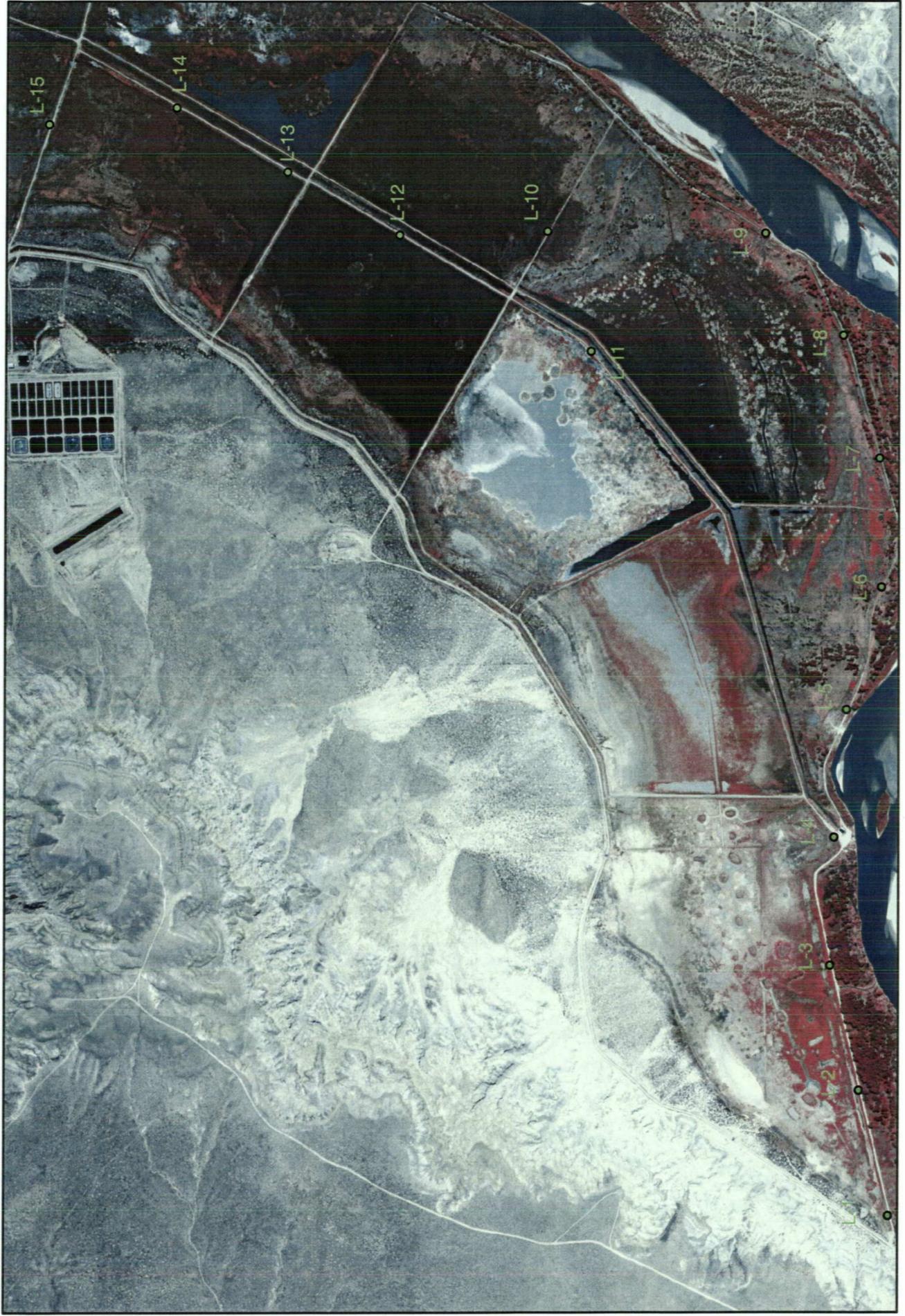
Leota Bottom

<u>Station</u>	<u>Approximate Mileage</u>	<u>NAD 83 GPS Coordinates</u>		<u>Description</u>
L-1	0.00	0617425	4445950	50 m inside gate at the western corner of L-10.
L-2	0.25	0617817	4446043	Drive east. South side of L-10.
L-3	0.50	0618208	4446133	Drive east. South side of L-10.
L-4	0.75	0618608	4446121	Drive east and round corner of L-10.
L-5	1.00	0619007	4446082	Intersection of L-10 and L-7a. Drive east/SE along south side of L-7a along river. South side of L-7a after levee breach.
L-6	1.25	0619390	4445973	Drive east/southeast. Southeast side of L-7a.
L-7	1.50	0619793	4445980	Drive east. Southeast side of L-7 past the boundary between L-7a and L-7 and the old rookery tree.
L-8	1.75	0620177	4446094	Drive east/NE along SE side of L-7. Southeast side of L-7.
L-9	2.00	0620496	4446335	Drive northeast. Southeast side of L-7 just past levee breach.
L-10	2.75	0620502	4447010	Drive NE. At about 2.5 miles turn left (northwest) on dike between L-7 and L-5. Drive northwest. In low spot between L-5 and L-7.
L-11	3.00	0620127	4446872	Drive northwest and then turn left (southwest) onto the northwest dike road of canal between L-7 and L-8. Drive southwest. Between L-7 and L-8 just past slight bend in road.
L-12	0.25	0620492	4447474	Return to the intersection of L-5, 6, 7 and 8. Reset odometer to 0.00 and drive northeast on northwest dike road between L-5 and L-6. Between L-5 and L-6.
L-13	0.50	0620689	4447822	Drive northeast. Between L-3 and L-4 just past the intersection of L-3, 4, 5 & 6.
L-14	0.75	0620890	4448167	Drive NE. Between L-3 and L-4.
L-15	1.10	0620837	4448565	Drive northeast, turn left (northwest) on dike between L-4 and L-2 and drive northwest. Between L-4 and L-2. End of route.

Information Recorded: Information recorded is listed in the Ouray NWR protocol. Four primary species are recorded: Least bittern, sora, Virginia rail, and American bittern. Secondary species recorded are yellow-headed blackbird, red-winged blackbird, marsh wren, common yellowthroat, and willow flycatcher. All data is entered into Excel and sent to Courtney Conway.

Field Procedures: Specific procedures can be found in the Ouray NWR protocol. In summary, at present each route is surveyed four times. This is an additional survey period than the recommended three because timing of peak breeding season has not yet been fully determined. The four survey periods are April 26 – May 5, May 13 – 22, May 30 – June 8, and June 16 – 25. Survey time can start 30 minutes before sunrise, but due to the difficulty seeing the secondary species, 15 minutes before sunrise is generally used. At each point a CD prepared by Conway is broadcast. It includes 5 minutes of silence, 30 seconds of calls of each primary species followed by 30 seconds of silence after each species, ending with a verbal end of survey. Primary species are recorded throughout the survey into appropriate columns. Each primary species is recorded on a separate line for each individual with repeat calls. Secondary species are only recorded when they are heard the first time (no repeat calls are recorded) and most species are generally done during the 5 minutes of silence. The routes are followed in the same order each time starting with the first point. During periods of high river flows, some of the points are accessed on foot, while someone else drives the vehicle to the other side of the flooded roadways.

Leota Bottom Secretive Marsh Bird Points



Sheppard Bottom Secretive Marsh Bird Points



0 500 1,000 2,000 Feet

