Starkey Experimental Forest Upland Sandpiper Surveys 2017

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For La Grande Ranger District
Wallowa Whitman National Forest

Summary

Two historic upland sandpiper (*Bartramia longicauda*) breeding sites on the La Grande District, Campbell Flat and Marley Creek, were surveyed four times each to determine whether upland sandpipers were present. No upland sandpipers were seen or heard during any of the surveys. Early summer habitat quality was good (Marley) or excellent (Campbell Flat), but late summer habitat quality at both sites had declined over the past 20 years, primarily due to the invasion of the annual grass, ventenata (*Ventenata dubia*), replacing perennial grasses and native forbs.

Surveys have not been conducted in Pacific Northwest states in the last 15 years to assess the current status of upland sandpiper populations, but reports of breeding records have been uncommon. Recent population declines, local extinctions, or statewide extinctions are speculated to have occurred in Oregon, Washington, and Idaho. These survey findings do confirm that there is no longer a breeding population of upland sandpipers in the Starkey area. Given Oregon's historically small and scattered upland sandpiper population, the absence of nesting birds in the Starkey area may represent a local extinction.

Introduction

The upland sandpiper is a USFS Region 6 sensitive neotropical migrant. Local and professional birders have recently raised concerns over the status of the upland sandpiper in eastern Oregon. No confirmed sightings have been documented on the Wallowa-Whitman National Forest in over 10 years. The small breeding population of upland sandpipers in eastern Oregon has been the largest population west of the Rocky Mountains. The purpose of this survey was to confirm whether upland sandpipers continue to persist at known breeding sites in the Starkey Experimental Forest area. These historic breeding sites were previously surveyed by me for several years in the 1990s.

Survey Protocol

Upland sandpiper surveys were conducted according to protocol described by Akenson and Schommer (H.A. Akenson and T. Schommer. 1992. Upland sandpiper survey protocol for the Blue Mountains of Oregon and Washington. Unpublished report to Wallowa Whitman National Forest, Baker City, OR. 26 pp.). Meadows and meadow edges were systematically searched by one or two people walking 50 meters from the forest edge and parallel transects 50-100 meters apart to cover the meadow. Surveyors listened for upland sandpiper calls. In addition to the protocol, an electronic calling device was used at 100 meter intervals to elicit a response to recorded upland sandpiper courtship and alarm calls. Binoculars were used to search treetops, fencepost, and meadows for perched or flying birds. Habitat information was collected on plant associations, plant species composition, cover, and insect abundance.

Upland sandpipers have historically used two sites on the Wallowa-Whitman National Forest in the Starkey area. The Campbell Flat site is immediately east of Starkey Experimental Forest Headquarters and the Marley Creek/McCarty Spring site is just north of Camp Elkanah, 2.5 miles apart. Each site was surveyed four times from mid-May to late-July. Two surveys were done during the courtship period and 2 surveys during the post-hatching period, when likelihood of detecting birds was greatest. Each survey was started at 0630 to 0700 in the morning, lasted 3-5 hours, and covered 500-600 acres of grassland.

Results

Upland Sandpipers. No upland sandpipers were detected, visually or by calls, during any of the 8 survey days.

Habitat. Observations in May of vegetation at both Campbell Flat and Marley Creek suggested habitat was favorable for upland sandpipers, but by July habitat conditions declined significantly when native forbs were desiccated and non-native ventenata grass became the dominant vegetation cover.

Campbell Flat is a moist to dry meadow with seasonally saturated thin soils. The grassland is a bluebunch wheatgrass/Idaho fescue plant association surrounded by mature stands of ponderosa pine/snowberry or ponderosa pine/Idaho fescue plant associations. May (pre-nesting season) habitat quality was excellent: 1) grass-forb structure had variable densities, soil moisture, and vegetation heights in a patchy distribution, providing a range of sites for potential nesting and feeding, 2) plant species diversity was high, 3) ponderosa pine edge provided ample perch sites on treetops. Ground

cover was 25% grass, 55% forbs, 15% litter. Species composition included Idaho fescue, prairie junegrass, Sandburg bluegrass, bulbous bluegrass, blue camas, larkspur, biscuitroot, onion, prairie smoke, mule's ear. By late July, when juvenile upland sandpipers need abundant insect food, most plant species had died or become dormant. Dried out ventenata, an invasive non-native annual grass, covered up to 90% of the ground. Remaining vegetation cover was 5% native bunch grasses, and 5% live native forbs, including yarrow, buckwheat, and balsamroot. Crickets and grasshoppers were a very abundant potential food source in mid-July in areas with higher forb cover, but decreased substantially by late July. The invasion of ventenata at Campbell Flat has significantly altered vegetation diversity, structure, and habitat quality since the previous upland sandpiper surveys in the 1990s. No livestock grazing had taken place yet this year.

The Marley area is mostly dry meadows, with some areas of seasonally saturated scablands or a spring fed draw. The moist sites were the historic locations of breeding upland sandpipers. Like Campbell Flat, the grassland is a bluebunch wheatgrass/Idaho fescue plant association surrounded by mature stands of ponderosa pine/Idaho fescue plant associations. Marley has a lower proportion of forb cover than Campbell Flat, as was the case twenty years ago. May (pre-nesting) habitat quality was good: 1) grass-forb sites had variable height and density, but proportionately less forb-dominated wetter areas than Campbell Flat, 2) plant species diversity included grasses and forbs, but less forb species and ground cover than Campbell Flat, 3) ponderosa pine edge provided ample perch sites on treetops. Ground cover was 75% grass, 15% forbs, 6% litter. Dominant plant species in May were Idaho fescue, Sandburg bluegrass, bluebunch wheatgrass, biscuitroot, onion, yellow lupine, and blue camas. By late July most plants were dead or dormant; ventenata had up to 90% ground cover, Idaho fescue 9%, and live forbs (lupine, buckwheat, yarrow, gumweed) less than 5%. Cricket and grasshopper density at Marley in July was much lower than Campbell Flat. These insects were most abundant in high-density forb sites. Ventenata has invaded these grasslands since surveys twenty years ago and has created a uniform vegetation height and density that would not be beneficial to upland sandpipers for foraging or cover.

Discussion

The purpose of these surveys was to determine presence or absence of nesting upland sandpipers. The cause of abandonment of these breeding sites could not be determined from this survey. There are a variety of potential limiting factors that could affect upland sandpiper occupation of the Starkey area. The upland sandpiper population in the Pacific Northwest states has historically been geographically isolated from the primary breeding range in the central and northern Great Plains. The Northwest birds have occurred in small scattered groups. These features make the Northwest population vulnerable to local extinctions. Limited evidence suggests that Oregon, Washington, and Idaho upland sandpiper sites have been abandoned in the last 15 years. Eastern states have also had recent population declines and upland sandpipers are listed as state Threatened or Endangered Species in 16 states, including Washington. Upland sandpipers are neotropical migrants, wintering in the pampas of South America. Little is known about upland sandpiper survival during winter or migration. Local site-specific causes for upland sandpiper breeding population declines or site abandonment are often attributed to significant grassland habitat conversion – to crops or urbanization. Although not as extreme as cropland or urbanization, the Starkey area has experienced recent habitat change with the replacement of native bunchgrasses and forbs by ventenata. This simplified plant assemblage resulted in lower populations of grassland insects – the primary food source for young upland sandpipers.

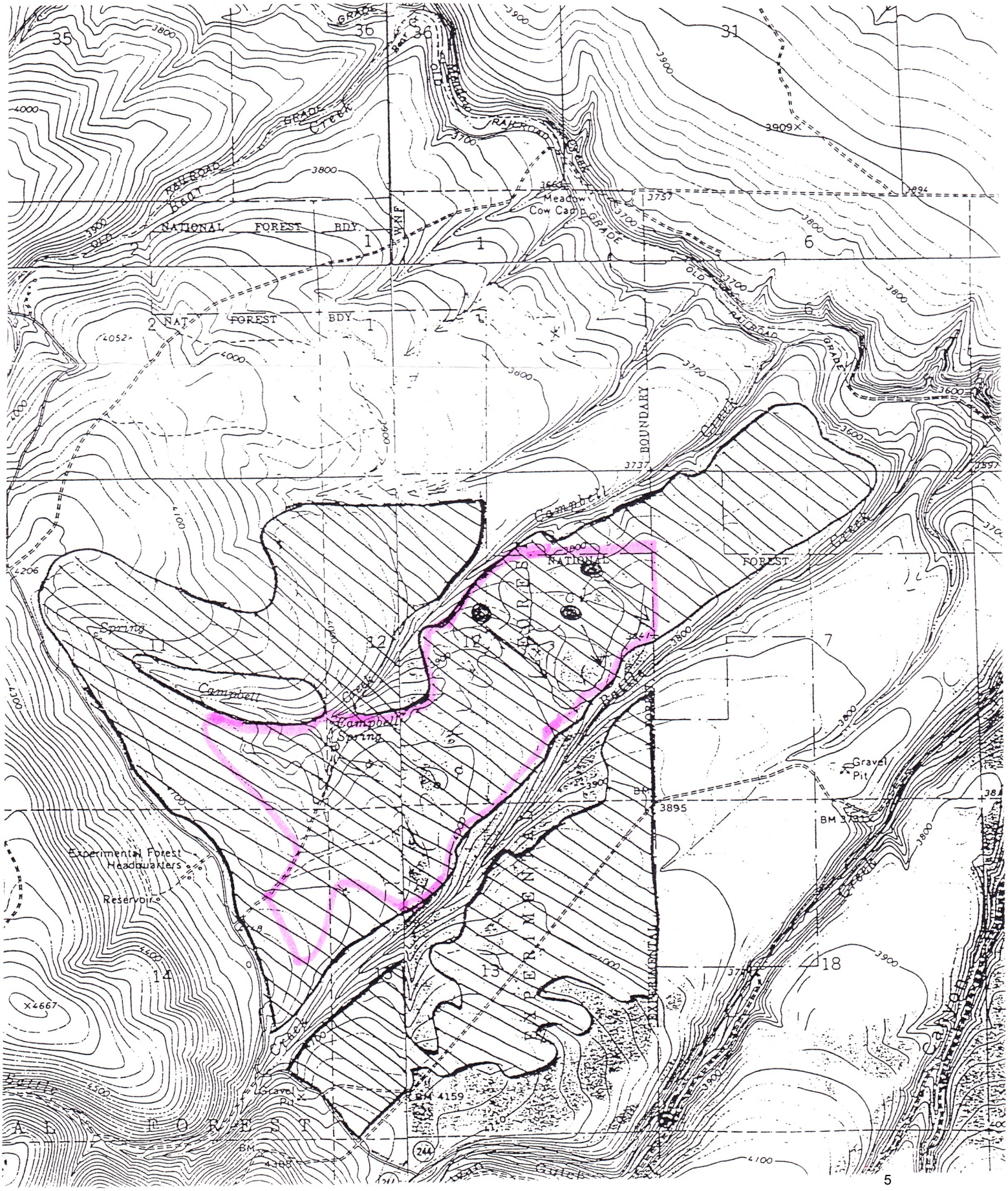
Conclusion

This survey confirms the concerns of Oregon birders and conservationist, that upland sandpipers no longer use the historic breeding sites on the Wallowa Whitman National Forest. I surveyed many acres of grassland on the Wallowa-Whitman in the 1990s to locate nesting upland sandpiper sites and only identified these two. So these historic sites probably represent the best upland sandpiper habitat in the area, making it unlikely that birds have moved to alternate sites. These birds have strong site fidelity, so in the absence of a region-wide population increase, upland sandpipers will probably not recolonize the Starkey area. They have likely been extirpated from the Starkey area.

Appendices

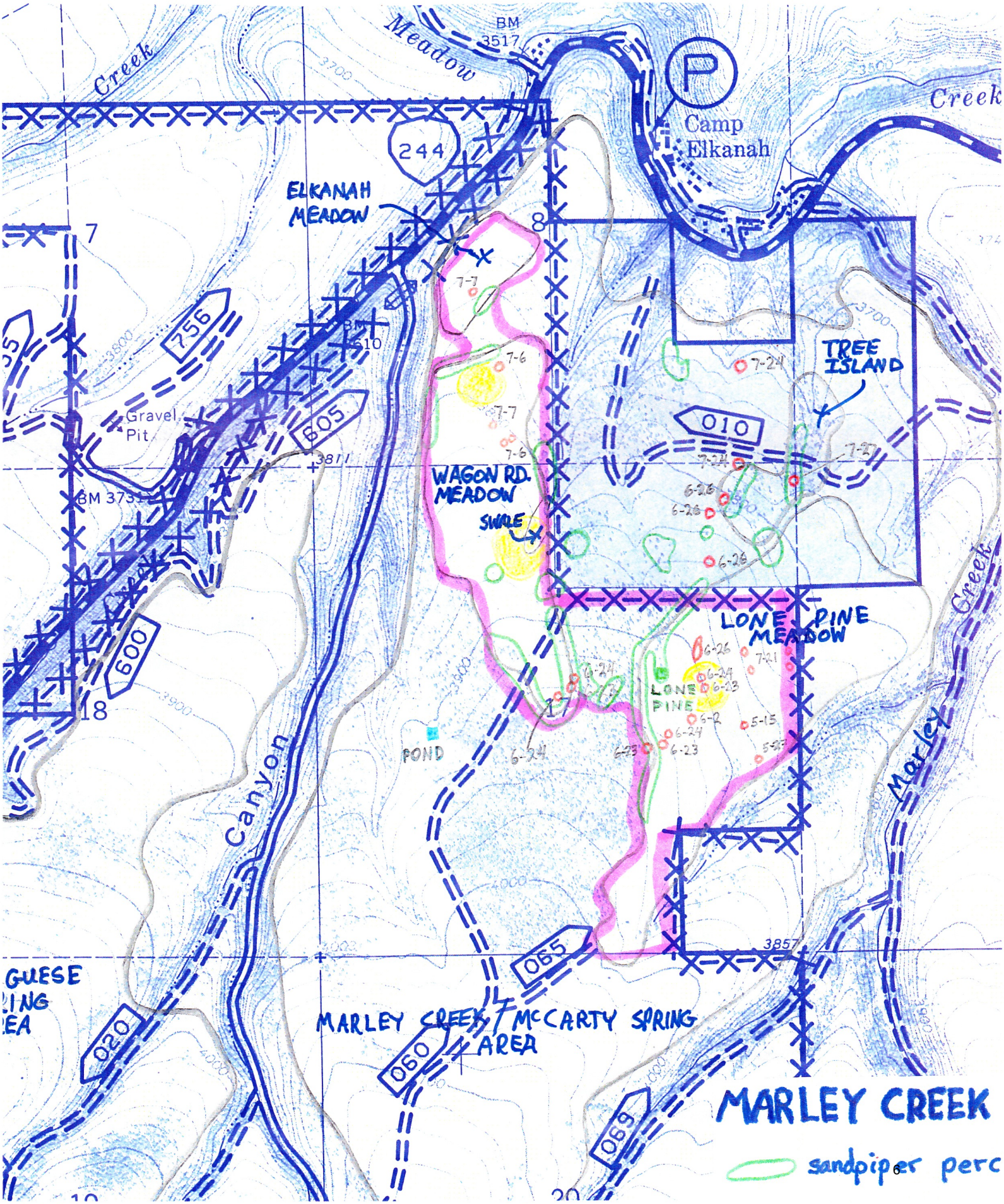
A) Maps of 2017 Upland Sandpiper Survey Sites: A1. Campbell Flat, A2. Marley
B) Maps of 1992 Upland Sandpiper Survey Sites with Sandpiper Locations: B1. Campbell Flat, B2. Marley
C) Field data forms

Appendix A1.
Campbell Flat 2017 Upland Sandpiper Survey Site, Starkey Experimental Forest



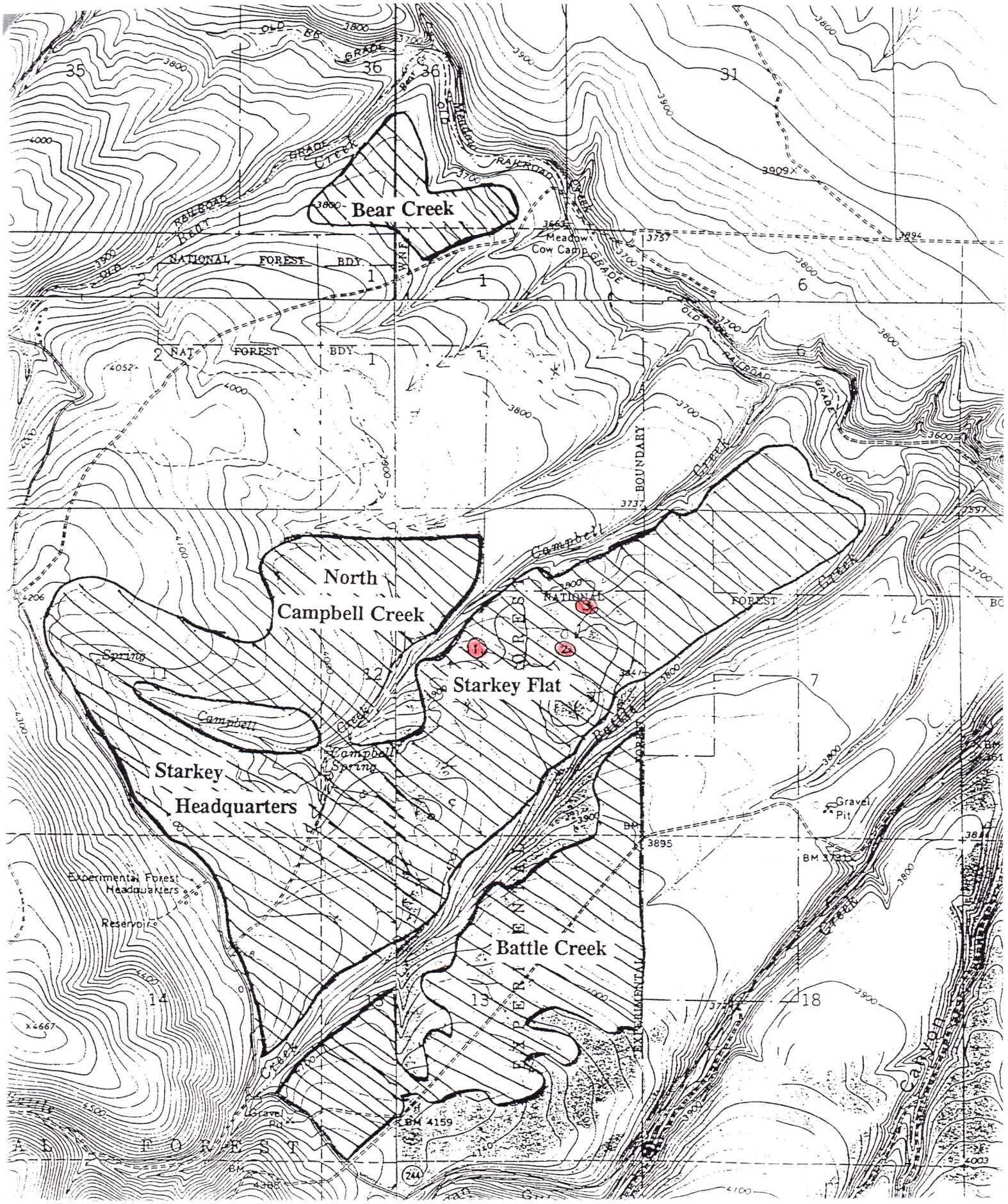
Appendix A2.

Marley (McCarty Spring) 2017 Upland Sandpiper Survey Site, by Starkey Experimental Forest



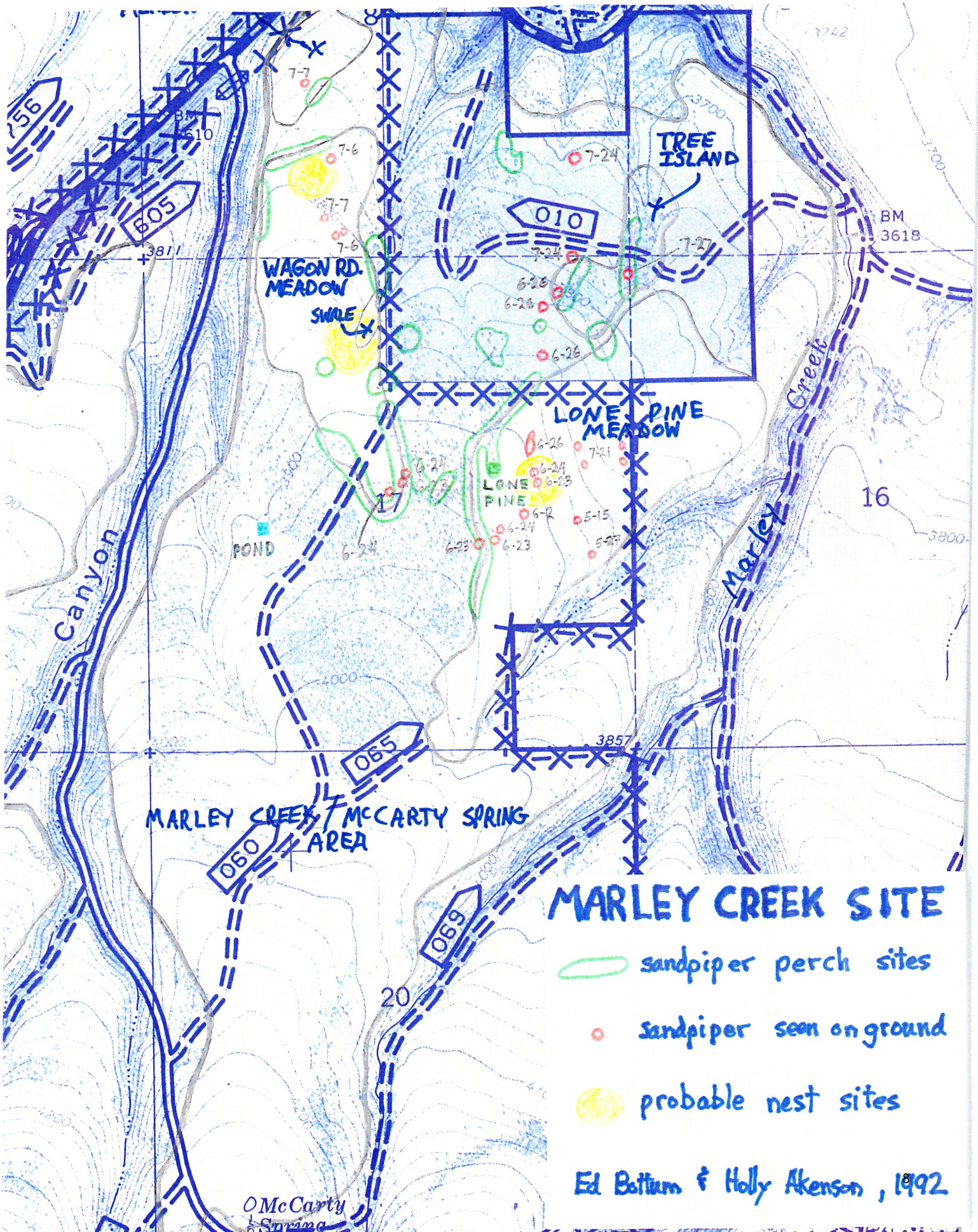
Appendix B1.

Campbell Flat 1991 Upland Sandpiper Survey Site with Sandpiper Locations, Starkey Exp. Forest



Appendix B2.

Marley 1992 Upland Sandpiper Survey Site with Sandpiper Locations, Starkey Experimental Forest



UPLAND SANDPIPER SURVEY

Observer Laura Navarette Holly Akenson Survey start 7:00 end 10:00 Date May 22, 2017

Legal description _____ Acres surveyed _____

Area surveyed Campbell Flat Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews ~~_____~~

Greater sandhill cranes ~~_____~~ Tricolored blackbirds ~~_____~~

Location _____ Type of siting _____

Wind speed _____ Sky condition _____ Aspect _____

Percent slope 5% Water: (spring / seep / stream) Extent _____

Percent ground cover: Grass 25 Forb 55 Shrub 0

~~Moss~~/litter 15 Rock 1% Bare ground 4%

Plant association AGSP/FEID Dense/sparse vegetation ((y) / n)

Microrelief (y / (n)) Roads/other use (y / (n)) Recent grazing ND

Edge (plant assoc., density/stories, management) PIPO / FEID

Dominant grasses FEID

Dominant forbs CAQU Allium GETR, Lomatium Larkspur

Dominant shrubs SYAL & RIBE on forest edge

Other plants _____

_____

Habitat quality for upland sandpipers excellent

Comments:

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Survey start 0700 end 1115 Date 5-31-17

Legal description _____ Acres surveyed 640

Area surveyed Campbell Flat Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews 0

Greater sandhill cranes 0 Tricolored blackbirds 6

Location _____ Type of siting _____

Wind speed light Sky condition mostly overcast Aspect _____

Percent slope >10% Water: (spring / seep / stream) Extent <1%

Percent ground cover: Grass 25 Forb 55 Shrub 0

Moss/litter 15 Rock 1% Bare ground 4%

Plant association moist meadow, seasonally saturated thin soils Dense/sparse vegetation ((y) / n)

Microrelief (y / (n)) Roads/other use (y / (n)) Recent grazing NO

Edge (plant assoc., density/stories, management) PIPO/SYAL PIPO/FEID mature, open stands

Dominant grasses FEID, KOCR Poa bulbosa POSE

Dominant forbs CAQU, Larkspur Lomatium, Allium, Geum, Bistort, Bighead clover

Dominant shrubs _____

Other plants Brodiea, Zigadenus, Iris, Calachortus

_____

Habitat quality for upland sandpipers excellent - great grassland structural & species diversity & patchy habitats

Comments: Surveyed prime historic upland sandpiper area and NW & SW edge of Campbell Flat on Headquarters side.

Survey route GPS Tracked.

Meadowlark nest on ground with 2 eggs.

Bluebird (western?) nest in elk feed box inside a pallet - 3 eggs & 1 just hatched chick.

Meadowlarks, ravens, blackbirds, nuthatches (RB), pygmy nuthatch, robins, woodpecker black (Lewis?)

0530 – 1030 @ LG RD

UPLAND SANDPIPER SURVEY

Observer Laura Navarette / Holly Akenson Survey start 0650 end 0920 Date 7-19-17

Legal description _____ Acres surveyed _____

Area surveyed Starkey – Campbell Flat Aerial photo/Quad to be attached w/ survey route

Birds observed: Upland sandpipers 0 Long billed curlews —

Greater sandhill cranes — Tricolored blackbirds —

Location — Type of siting —

Wind speed <5 mph Sky condition Clear Aspect _____

Percent slope 0–5 Water: (spring / seep / stream) Extent Temp 60–85°F

Percent ground cover: Grass 95 Ventanata in summer desiccated conditions Forb 5 Shrub 0

Moss/litter 0 Rock 1 Bare ground 0

Plant association AGSP/FEID Dense/sparse vegetation (y / (n)) All plants dessicated

Microrelief (y / (n)) Roads/other use (y / (n)) Recent grazing NO

Edge (plant assoc., density/stories, management) PIPO/AGSP/SYAL open mature stands

Dominant grasses Ventanata 90%+, FEID, AGSP, KOCR, juncus

Dominant forbs CAQU, ACMI, Buckwheat, Balsamroot

Dominant shrubs _____

Other plants _____

Habitat quality for upland sandpipers Annual ventanata has invaded

Comments: AGSP/FEID grassland & significantly changed veg structure, but crickets & grasshoppers are abundant (altho less abundant in Ventanata that does not have forb diversity. Overall, it seems that the abundant food source (grasshopper/cricket) available for growth of sandpiper chicks outweighs the Ventanata invasion, at this time.

No upland sandpipers detected. Used FoxPro alarm & breeding (whistle) calls, ~100m intervals.

Left home 0450.

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Survey start 0715 end 1200 Date 7/26/17

Legal description _____ Acres surveyed _____

Area surveyed Cambell Flat Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews —

Greater sandhill cranes — Tricolored blackbirds —

Location — Type of siting —

Wind speed 0 - 5mph Sky condition Thin clouds < 30% ~60% Aspect _____

Percent slope _____ Water: (spring / seep / stream) Extent Temp 50-85°

Percent ground cover: Grass Ventenata 95% Forb <5% Shrub 0

Moss/litter 0 Rock 1 Bare ground 0

Plant association AGSP/FEID Dense/sparse vegetation (y / (n))

Microrelief (y / (n)) Roads/other use (y / (n)) Recent grazing NO

Edge (plant assoc., density/stories, management) PIPO/FEID

Dominant grasses See other form 7-19-17

Dominant forbs _____

Dominant shrubs _____

Other plants _____

Habitat quality for upland sandpipers _____

Comments: Fewer grasshoppers this week, 1/4 as many. Doesn't look so desireable this year for food for upland sandpiper broods.

Both Starkey area historic upland sandpiper sites are drier than most other OR sites (Ukiah Cable Cr, Albee; Logan Valley, Bear Valley) except Bridge Cr. Starkey population may have been more vulnerable to hotter drier climate in recent years.

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Laura Navarette Survey start 6:40 end 9:40 Date 6-1-17

Legal description _____ Acres surveyed _____

Area surveyed Marley-historic site Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews 6

Greater sandhill cranes 0 Tricolored blackbirds 6

Location _____ Type of siting _____

Wind speed 0-5mph Sky condition Overcast Aspect _____

Percent slope ≤10% Water: (spring / (seep) / stream) Extent <1%

Percent ground cover: Grass 75 Forb 15 Shrub _____

Moss/litter 6 Rock 3 Bare ground 1

Plant association FEID forb seasonally wet scabland/mdw Dense/sparse vegetation ((y) / n)

Microrelief (y / n) some deeper soil mounds Roads/other use (y / (n)) Recent grazing NO will be sheep on this week

Edge (plant assoc., density/stories, management) PIPO FEID

Dominant grasses FEID, POSA, AGSP

Dominant forbs Lomatium, Allium, Lupine(yellow), Camas

Dominant shrubs _____

Other plants _____

Habitat quality for upland sandpipers GOOD

Comments: Used caller 100-200m intervals. Vegetation condition looks good for sandpipers.

No Lewis' WP at nesting snag, but flicker in hole in that snag. 10 snags (PIPO) 16-30+" dbh, mixed amt of decay, all in small 100m² area.

Elk ~ 14 cows & 2 new calves. Later saw hiding newborn calf after elk had moved on.

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Survey start 0630 end 1030 Date May 23, 2017

Legal description _____ Acres surveyed _____

Area surveyed Marley / McCarty Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews —

Greater sandhill cranes _____ Tricolored blackbirds —

Location _____ Type of siting _____

Wind speed < 5 mph Sky condition _____ Aspect _____

Percent slope < 5% Water: (spring / seep / stream) Extent _____

Percent ground cover: Grass _____ Forb _____ Shrub _____

Moss/litter _____ Rock _____ Bare ground _____

Plant association AGSP / FEID Dense/sparse vegetation (y / n)

Microrelief (y / n) Roads/other use (y / n) Recent grazing _____

Edge (plant assoc., density/stories, management) PIPO / FEID mature

Dominant grasses FEID, POSA, AGSP

Dominant forbs Lomatium, Lupine

Dominant shrubs _____

Other plants _____

Habitat quality for upland sandpipers _____

Comments:

2 Lewis' woodpeckers at recently dead PIPO snag on NE edge of Elkanah Mdw. Several other snags nearby. Flicker in large decayed snag 70 m. away.

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Survey start 0630 end 10:20 Date 7-20-17

Legal description _____ Acres surveyed _____

Area surveyed Marley Cr/Tybow Canyon Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews —

Greater sandhill cranes — Tricolored blackbirds —

Location _____ Type of siting _____

Wind speed < 5 mph Sky condition clear Aspect Flat/N 50°-70°

Percent slope <5% Water: (spring / seep / stream) Extent _____

Percent ground cover: Grass 94% Forb 2 Shrub 0

Moss/litter 2 Rock 2 Bare ground 0

Plant association FEID/AGSP grassland Dense/sparse vegetation (y / (n)) All plants desicated

Microrelief (y / n) Roads/other use (y / (n)) Recent grazing NO

Edge (plant assoc., density/stories, management) PIPO/AGSP/SYAL open mature stands

Dominant grasses Ventenata up to 90+%, FEID 9%, KOCR

Dominant forbs Few: Lupine, buckwheat, ACMI, Juncus,

Dominant shrubs _____

Other plants _____

Habitat quality for upland sandpipers Annual ventenata has invaded grassland & significantly changed veg structure to be more uniform in height & density.

Comments: Marley site has less forb cover and diversity than Campbell Flat. Grasshoppers/crickets in low abundance, in contrast to Campbell Flat. No sandpipers detected. Used FoxPro to broadcast U.S. alarm call & occasional breeding whistle call; ~100M intervals.

Swale in Wagon Rd. Mdw has best habitat (veg diversity). Lone Pine meadow worst habitat since almost exclusively Ventenata cover.

Laura Navarrete
Barb Wales

UPLAND SANDPIPER SURVEY

Observer Holly Akenson Survey start 6:25 end 0910 Date 7-27

Legal description _____ Acres surveyed _____

Area surveyed Marley Aerial photo/Quad _____

Birds observed: Upland sandpipers 0 Long billed curlews —

Greater sandhill cranes — Tricolored blackbirds —

Location _____ Type of siting _____

Wind speed 0-5% Sky condition clear Aspect _____

Percent slope _____ Water: (spring / seep / stream) Extent 50-60°F

Percent ground cover: Grass _____ Forb _____ Shrub _____

Moss/litter _____ Rock _____ Bare ground _____

Plant association _____ Dense/sparse vegetation (y / n)

Microrelief (y / n) Roads/other use (y / n) Recent grazing _____

Edge (plant assoc., density/stories, management) _____

Dominant grasses _____

Dominant forbs _____

Dominant shrubs _____

Other plants _____

_____

Habitat quality for upland sandpipers _____

Comments: Very dry dessicated veg. except gum weed.

Bumblebees Bombus

Yellow bumblebee

Central

Two form...

B. fervidis - all yellow hairs

B. centralis - orange on abdomin, blk tail

B. bifarius - y. face, V. back, Yellow-Blk-Yellow-Black