



**Humboldt
Redwood™**

Snowy Plover Annual Report

2017

Gravel Extraction Surveys

February 1, 2018



Cover photo: Sean McAllister

Project Description

Title: Snowy Plover Surveys for Gravel Extraction

Purpose: Habitat Conservation Plan (HCP) monitoring

Date Initiated: March 1999

Projected End Date: Ongoing

Manager: Sal Chinnici, Manager, Forest Sciences

Executive Summary:

The HRC HCP Section 6.6 (PALCO 1999), Snowy Plover Conservation Plan, requires reconnaissance-level surveys for the Federally threatened western snowy plover (*Charadrius nivosus nivosus*) for implementation of gravel extraction permits on Eel River gravel bars upriver from the Rio Dell Bridge. The HCP objective is to avoid impacts to western snowy plovers nesting on gravel bars. The breeding season is defined in the HCP as 24 March to 15 September. In 2017 HRC conducted gravel extraction operations on the Dinner Creek, and 3-Mile bars near Scotia from 18 September to 13 October. Potential impacts to snowy plovers were avoided by conducting extraction operations outside of the snowy plover breeding season in 2017.

No change in monitoring strategies or intensity is recommended at this time.

Project Manager / Primary Author



Sal Chinnici

TABLE OF CONTENTS

PROJECT DOCUMENT DISTRIBUTION LIST	iv
Introduction.....	1
Methods	1
Results.....	2
Discussion.....	6
Recommendations.....	7
List of REFERENCES.....	8

PROJECT DOCUMENT DISTRIBUTION LIST

James Bond
U.S. Fish and Wildlife Service
Arcata Fish and Wildlife Office
1655 Heindon Rd.
Arcata, CA 95521

Susan Sniado
CDFW
610 2nd Street
Eureka, CA 95501

INTRODUCTION

The HRC HCP Section 6.6, Snowy Plover Conservation Plan, requires reconnaissance-level surveys for the federally threatened western snowy plover (*Charadrius nivosus nivosus*) for implementation of gravel extraction permits on gravel bars upriver from the Rio Dell Bridge. In 2017 HRC conducted gravel extraction operations on the Dinner Creek, and 3-Mile gravel bars along the Eel River near Scotia. Gravel extraction operations occurred from 18 September to 13 October, outside of the snowy plover breeding period, and thus no pre-extraction surveys were required in 2017.

The HRC gravel bars upriver from the mouth of the Van Duzen River do not currently require western snowy plover surveys per the Army Corps of Engineers (ACOE) Letter of Permission (LOP 2015-1) for gravel mining in Humboldt County. However, the snowy plover is a covered species of the HRC HCP, and the U.S. Fish and Wildlife Service (USFWS) has recommended that surveys be completed prior to extraction, although at a less-intensive level than is required where plovers have previously been found nesting on river bars (e.g. near Fernbridge). The less-intensive level of survey effort is in recognition of the history of negative surveys for the area, in addition to the location of the HRC gravel bars several miles upriver from any known snowy plover nesting. Surveys have been conducted since 1996 for plovers and other avian species along the Eel River on gravel bars where extraction may take place, including in 2016, with no snowy plover detections recorded.

In 2003 the USFWS clarified that the HCP reconnaissance-level surveys are those surveys conducted within a two-week period prior to operations on the gravel bars. In keeping with the HCP requirements, if the reconnaissance-level surveys detect snowy plovers, full protocol surveys are to be conducted on all gravel bars within one mile of the detection, and mitigation measures applied for any nests that are found.

METHODS

During the surveys a qualified biologist traverses the gravel bars searching for snowy plovers, and also records other avian species that are detected. Survey methods involve walking and stopping frequently to scan with binoculars the entire exposed, contiguous gravel habitat,

including areas separated by narrow river channels, as snowy plover chicks have been observed crossing such channels (McAllister 2016).

The reconnaissance-level surveys require each gravel bar to be thoroughly searched twice for adult plovers, young, and eggs prior to extraction, with searches six to seven days apart, and apply to gravel bars that are to be operated on between 1 March and 15 September.

RESULTS

The HCP objective is to avoid impacts to western snowy plovers nesting on gravel bars. The breeding season is defined in the HCP as 24 March to 15 September. In 2017 HRC conducted gravel extraction operations on the Dinner Creek and 3-Mile gravel bars from 18 September to 13 October, outside of the snowy plover breeding period, and thus no pre-extraction surveys were required in 2017.

A brief summary of operations follows:

Dinner Creek Bar (Figure 1): This bar was proposed for a 29,684 cubic yards (cy) extraction. The actual extraction volume calculated by Kolstad Land Surveyors was estimated at 22,178 cy.

3-Mile Bar (Figure 2): This bar was proposed for a 29,725 cy extraction. The actual extraction volume calculated by Kolstad Land Surveyors was estimated at 22,138 cy.

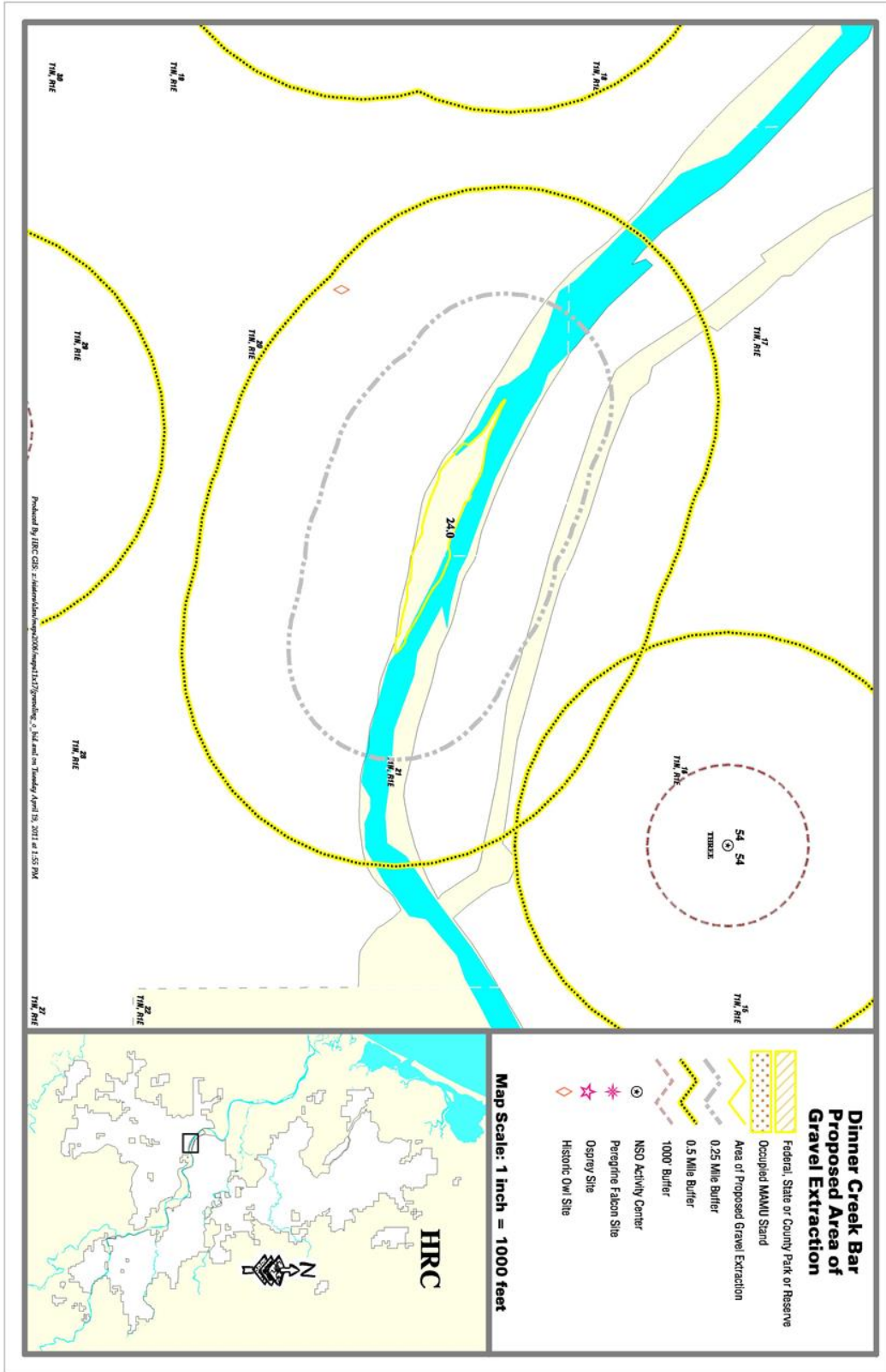


Figure 1. Dinner Creek Bar.

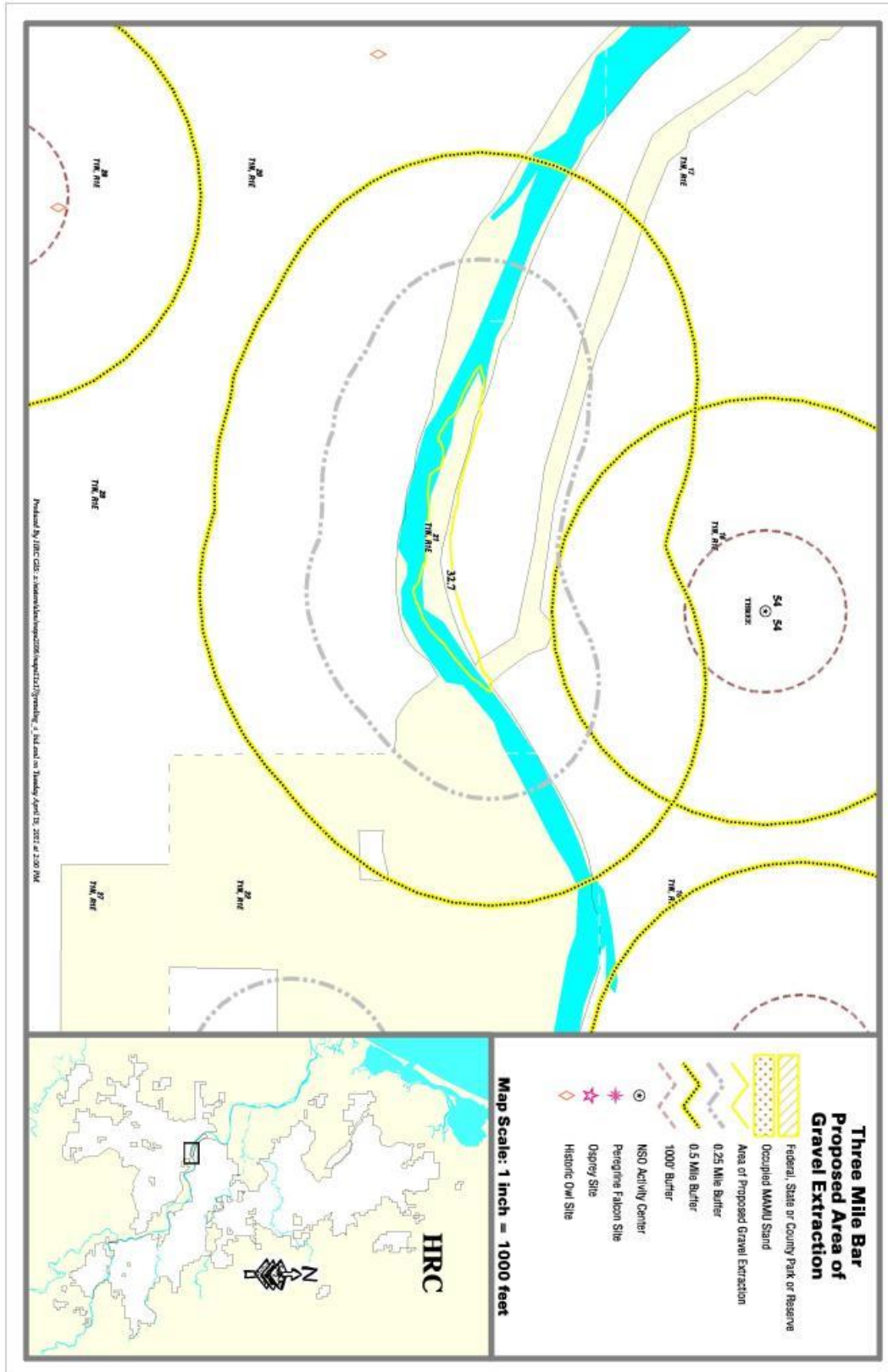


Figure 2. 3-Mile Bar.



Figure 3. Example of Eel River gravel bar prior to operations in 2011 (conditions were similar in 2017).



Figure 5. Excavator on Truck Shop Bar during 2012 operations (for example of operations).



Figure 6. Excavator and trench on Truck Shop Bar during 2012 operations (for example of operations).

DISCUSSION

No snowy plover surveys were conducted prior to the 2017 extraction operations because the operations were conducted outside of the established plover breeding season.

In 2016, pre-extraction reconnaissance-level surveys were conducted prior to the beginning of operations. No snowy plovers were detected. Although methods have not been consistent over all years, the 2016 surveys marked more than 13 years of snowy plover surveys on the HRC gravel bars along the Eel River, all with negative results for snowy plovers.

There may be several reasons why snowy plovers are not nesting further upriver than their current extent, including on the HRC river bars. Some biologists have suggested a difference in nesting habitat; for example increasing confinement of the river channel and narrowing of the canyon, and differences in nesting substrate (for example, see previous HRC annual reports). Recent research indicates that snowy plovers nest on wider beaches compared to random locations (Patrick and Colwell 2014).

In the Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (USFWS 2007) HRC lands fall within Recovery Unit 2 (RU2), including Del Norte, Humboldt, and Mendocino counties.

Colwell et al (2017) reported that, from 2001 to 2016, the number of breeding adults in Recovery Unit 2 (RU2) varied between 19 and 74, and that there were two distinct time intervals of change: first, there was a decline from 2001 to 2009 of 74 to 19 breeding adults, which was followed by seven consecutive years of growth at an annual rate of 22%. During the seven-year period of growth, immigrants from other sites comprised an average of 62% of the breeding adults.

Snowy plovers have bred at eight sites, including Clam Beach, Eel River Wildlife Area, and Centerville Beach. No breeding has been recorded on Eel River gravel bars since 2011. Based on results from 2001 – 2016, reproductive success for RU2 has remained below the estimated value needed to maintain the population (Colwell et al 2017).

Based on their 2017 results, Feucht et al (2017) have reported that the RU2 population did not grow in 2017, which ended a trend of positive growth for seven consecutive years. Immigration continues to play a critical role in this population growth, as the arrival of 24 first-time breeders from outside RU2 were observed. Breeding occurred on 11 beaches, with the majority nesting occurring on the South Spit of Humboldt Bay (26%), Clam Beach (26%), and Centerville Beach (17%). Breeding was documented at Freshwater Lagoon for the first time. The principal cause of nest failure was predation by corvids and other species. Reproductive success (fledglings per male) was greater than the recovery objective for RU2 for the second year in a row (Feucht et al 2017). There were no breeding activities recorded on Eel River gravel bars in 2017.

Predation of eggs and young by ravens, crows, gulls, and other species, as well as human disturbance of nesting habitat, continue to be significant problems for snowy plover reproduction in this recovery unit.

RECOMMENDATIONS

- Continue using reconnaissance-level surveys as currently required for gravel extraction operations.
- No changes in monitoring strategies or intensity are recommended at this time.

LIST OF REFERENCES

- Army Corps of Engineers. 2015. **Letter of Permission Procedure (LOP 2015-1) for Gravel Mining and Excavation Activities Within Humboldt County.** 53 pp.
- Colwell, M.A., L.J. Eberhart-Phillips, R.R. LeValley, S.E. McAllister, A.M. Patrick, W.J. Pearson, and S.A. Peterson. 2011. **Final Report: 2011 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 10pp.
- Colwell, M.A., L.J. Eberhart-Phillips, D.M. Herman, W.P. Lawton, S.D. Leja, S.E. McAllister, D.J. Orluck, A.M. Patrick, J.L. Patterson, and S.A. Peterson. 2012. **Final Report: 2012 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 12pp.
- Colwell, M.A., A.M. Patrick, D.M. Herman, M.J. Lau, S.D. Leja, D.J. Orluck, A.D. DeJoannis, A.R. Gottesman, T.R. King, G.J. Moulton, and S.E. McAllister. 2013. **Final Report: 2013 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 14pp.
- Colwell, M.A., D.M. Herman, A.M. Patrick, M.J. Lau, S.D. Leja, A.D. DeJoannis, D.J. Orluck, D.P. Harvey, K.L. Bonnette, G.B. Sandy, E.J. Feucht, M.R. Greitl, J.A. Ruvalcaba, and S.E. McAllister. 2014. **Final Report: 2014 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 15 pp.
- Colwell, M.A., E.J. Feucht, T.R. King, M.J. Lau, D.J. Orluck, and S.E. McAllister. 2015. **Final Report: 2015 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 17 pp.
- Colwell, M.A., E.J. Feucht, T.R. King, M.J. Lau, D.J. Orluck, S.E. McAllister, and A.N. Transou. 2017. **Recent Snowy Plover population increase arises from high immigration rate in coastal northern California.** Wader Study 124(1): 000-000.
- Feucht, E.J., M.A. Colwell, T. R. King, S. E. Murphy, D.J. Orluck, N. C. Papian, and S.E. McAllister. 2016. **Final Report: 2016 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 17 pp.
- Feucht, E.J., M.A. Colwell, D.J. Orluck, N. C. Papian, K.M. Raby, and S.E. McAllister. 2017. **Final Report: 2017 Snowy Plover Breeding in Coastal Northern California, Recovery Unit 2.** Final report submitted to U.S. Fish and Wildlife Service. 17 pp.
- Patrick, A.M. and M.A. Colwell. 2014. **Snowy Plovers select wide beaches for nesting.** Wader Study Group Bulletin. 121(2): 17-20.
- McAllister, S. 2012. **Upper Truck Shop Snowy Plover Survey Results.** Memorandum to Sal Chinnici, Humboldt Redwood Co. September 24, 2012. 1 p.
- McAllister, S. 2014. **Upper Truck Shop and 3-Mile Gravel Bar Snowy Plover Survey Results.** Memorandum to Sal Chinnici, Humboldt Redwood Co. September 15, 2014. 3 pp.
- McAllister, S. 2016. **Snowy Plover Surveys – Upper Truck Shop, Dinner, and 3-Mile Gravel Bars.** Memorandum to Sal Chinnici, Humboldt Redwood Co. September 9, 2016. 4 pp.
- PALCO 1999. **Habitat conservation plan for the properties of The Pacific Lumber Company, Scotia Pacific Company LLC, and Salmon Creek Corporation.** The Pacific Lumber Company, Scotia, California, USA.

U.S. Fish and Wildlife Service. 2007. **Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*)**. In 2 volumes. Sacramento, California. Xiv + 751 pages.

MEMORANDUM

To: Sal Chinnici, Forest Sciences Manager, Humboldt Redwood Company LLC

From: Sean E. McAllister

Date: September 9, 2016

Re: Snowy Plover Surveys – Upper Truck Shop, Dinner, and 3-Mile gravel bars

Dear Sal,

As per your request, I performed 2 consecutive weekly surveys for **Western Snowy Plover** (*Charadrius nivosus nivosus*) at the three sites, known as 'Upper Truck Shop', 'Dinner' and 'Three-Mile Bridge' gravel bars, along the Eel River just upstream from the town of Scotia. Surveys were performed August 24th and 30th, 2016.

I have nearly 20 years of experience with Snowy Plovers on the lower Eel River, where a population of up to 40 breeding adults have occurred.

Survey methods involved walking and stopping frequently to scan with binoculars the entire exposed, contiguous gravel habitat, including areas separated by narrow river channels, as we have observed Snowy Plover chicks successfully crossing such channels. A thorough search was made for Snowy Plover adults, young and eggs. Since the three survey areas are adjacent, I surveyed all of them as one. Maps depicting the actual survey routes are attached.

No Snowy Plovers were detected during either of the two surveys.

During each survey, a complete list of all bird species was kept, and particular attention was paid to the possible presence of special status species, **Willow Flycatcher** (*Empidonax traillii*) and Western **Yellow-billed Cuckoo** (*Coccyzus americanus occidentalis*), which have known, albeit rare, occurrences elsewhere along the lower Eel River. **Neither of these species was detected.**

A complete list of all species detected during these surveys is attached.

If there are any questions regarding the survey methods or results, please contact me.

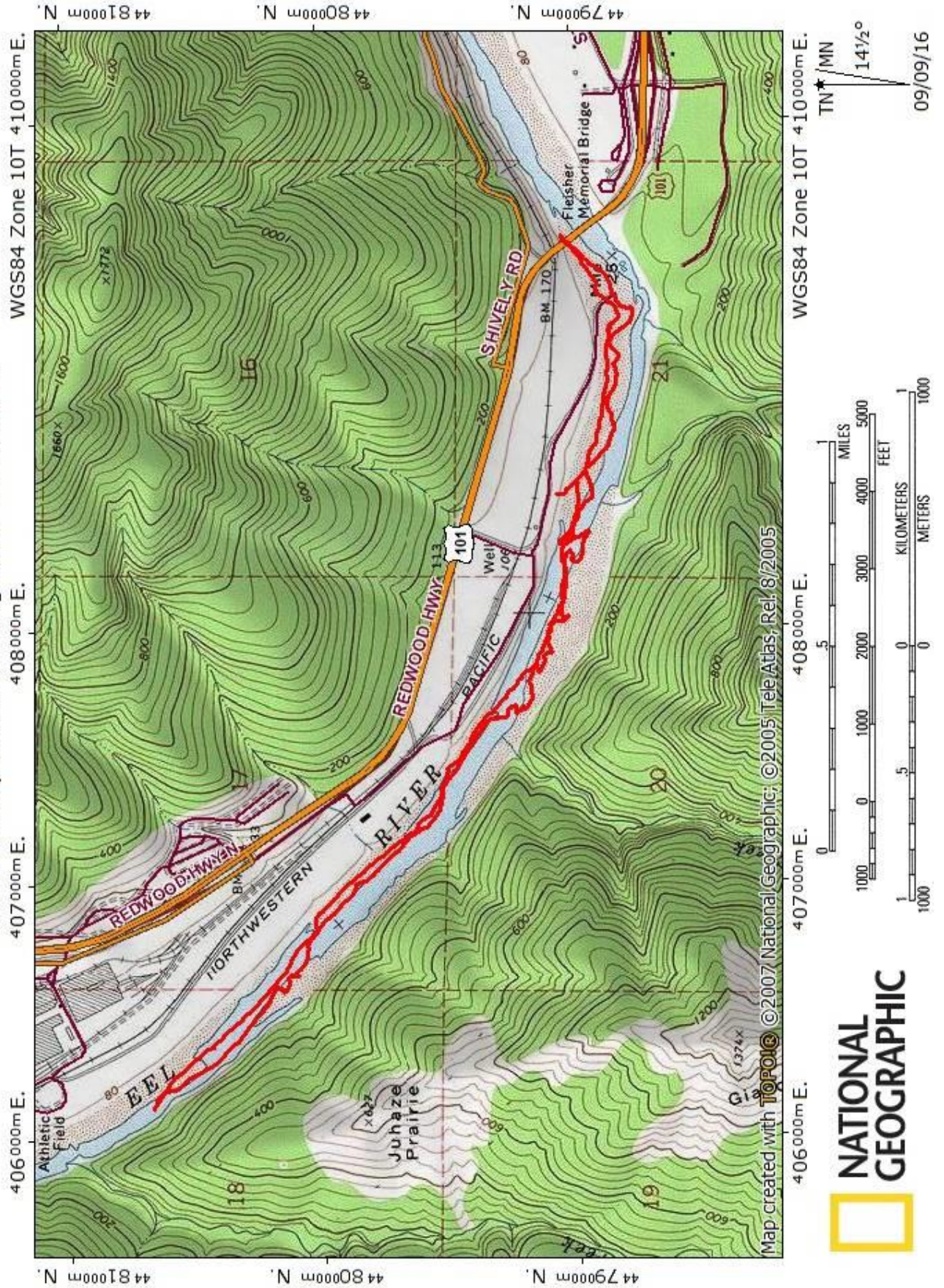
Sincerely,

Sean McAllister
(707) 496-8790
whiteouters@gmail.com

Attachment 1. Bird species list for Three-mile Bridge, Dinner, and Upper Truck Shop gravel bars, August 24 and 31, 2016.

Mallard	<i>Anas platyrhynchos</i>
Common Merganser	<i>Mergus merganser</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Ardea alba</i>
Turkey Vulture	<i>Cathartes aura</i>
Killdeer	<i>Charadrius vociferus</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Least Sandpiper	<i>Calidris minutilla</i>
Baird's Sandpiper	<i>Calidris bairdii</i>
Band-tailed Pigeon	<i>Patagioenas fasciata</i>
Mourning Dove	<i>Zenaida macroura</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Western Wood-Pewee	<i>Contopus sordidulus</i>
Cassin's Vireo	<i>Vireo cassinii</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Barn Swallow	<i>Hirundo rustica</i>
Chestnut-backed Chickadee	<i>Poecile rufescens</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Orange-crowned Warbler	<i>Vermivora celata</i>
Wilson's Warbler	<i>Cardellina pusilla</i>
Song Sparrow	<i>Melospiza melodia</i>
Lesser Goldfinch	<i>Carduelis psaltria</i>

SNPL Survey Route_24 Aug 2016_S.McAllister



SNPL Survey Route_30 Aug 2016_S.McAllister

