

Streaked Horned Lark Working Group – Meeting Minutes

Annual Meeting | October 27-28, 2016 | Portland, Oregon

Day 1 – Project Updates

In Attendance Taya K. MacLean, *AKS Engineering and Forestry*; Bob Altman, *American Bird Conservancy (ABC)*; Elspeth Kim, Gary Slater, Jerrmaine Treadwell, Adrian Wolf, *Center for Natural Lands Management (CNLM)*; Michele McGraw, *Ecological Land Services*; Jeff Barna, *ESA and Associates*; Mike Paterson, *Eugene Airport*; Janell Barrilleaux, Cayla Morgan, *Federal Aviation Administration (FAA)*; Peter Moore, *Institute for Applied Ecology*; Christa LeGrande, *Joint Base Lewis-McChord (JBLM)*; Elaine Stewart, Katy Weil, *Metro*; Chris Hamilton, Les Bachelor, *Natural Resources Conservation Service (NRCS)*; Susan Barnes, *Oregon Department of Fish and Wildlife (ODFW)*; Sara Evans-Peters, *Pacific Birds Habitat Joint Venture (PBHJV)*; Dana Green, Nick Atwell, Marla Harrison, *Port of Portland*; Matt Harding, *Port of Vancouver*; Joe Liebezeit, Bob Sallinger, *Portland Audubon*; Joel Geier, *Portland Audubon Volunteer*; Christie Galen, *Pacific Habitat Services*; Kristine Lightner, *US Army Corps of Engineers (USACE)*; Cat Brown, Kim Flotlin, Martha Jensen, Brian Root, Michele Zwartjes, Laila Lienesch, Nate Richardson, Bill Ritchie, *US Fish and Wildlife Service (USFWS)*; Scott Pearson, Hannah Anderson, *Washington Dept. of Fish and Wildlife (WDFW)*; Valerie Thompson, *WH Pacific*;

Population Status

WA State Population Trends (Final Report Published) - Scott Pearson, WDFW

Highlights from report were explained. Using approved protocol from years 2010-2015 and repeated surveys, a total of 167 larks were detected in the Columbia River/Coast region, and 252 larks were detected in the Puget Trough. Overall, after seeing a decline of 40% per year, we are now seeing relatively stable numbers.

Scott showed results (jitter graphs) of abundance across all sites, emphasizing that detectability of males versus females is different due to surveyors usually hearing males and only seeing females:

- Between last year and this year we saw less of a diverging between male and female numbers except for Olympia and Shelton airports where males appear to be increasing and females are decreasing.
- On the coast and Columbia River, female counts are on the rise, while in the Puget trough, male counts are going up and females are in decline, (with the exception of 13th Division where female counts are on the rise).
- Bob Altman mentioned that the 2014 population crash at Corvallis resulting from a major, 50-year weather event, effects females more so than males.
- Airfields off JBLM are declining in lark numbers more so than on base
- Outstanding items for follow up: 1) Question: where do birds from airfields overwinter versus birds from other sites? 2) Decision: How often should sites be surveyed by WDFW? Every year, every other year, or every three years?

WA State Periodic Status Review (Final Report Published) Hannah Anderson, WDFW

The Washington Department of Fish and Wildlife is directed to conduct reviews of state-listed species at least every five years. The review for the streaked horned lark was recently carried out, and the Department presented the results of this periodic status review to the Fish and Wildlife Commission at a meeting in Olympia on 10 June 2016, and the Commission voted to retain the Streaked Horned Lark on the state list of endangered species.

The full document can be found here: <http://wdfw.wa.gov/publications/01774/wdfw01774.pdf>

Survey Results (see table on next page)

Population Management

JBLM update: Progress minimizing direct impacts - Adrian Wolf, CNLM

Lark numbers have increased on 2 of the 3 main nest monitoring sites in the last two years and evidence suggests that increased coordination and information sharing have played an important role. Direct impacts to the species had decreased at the 3 main monitoring sites on JBLM. Lark biologists continue to provide airfield managers and biologists with nest status maps on McChord and Gray Army Airfields and 13th Division Prairie, a process that was developed in 2013. On 13th Division Prairie, CNLM and JBLM Fish and Wildlife have collaborated to develop increased signage at prairies entrances in order to minimize impacts to larks from both recreational users and military training activities.

This increased coordination and information sharing has resulted in fewer direct negative impacts to lark nests over the last four years at these 3 sites; 4 in 2013 and none in the last 2 years. It was stressed that while parts of airfields are unsafe, airfields are necessary for population increase. There were 4 adult lark deaths at McChord Airfield this year due to airstrikes but both airfields saw an increase in lark population overall. It is speculated that increases at McChord could be due to the predator control activities set in place for airfield safety. 13th Division's lark population remains about the same as last year, although larks are starting to use a new area of the site thanks to habitat restoration activities linking two separate use areas within the site.

Juvenile radio telemetry and GPS tagging pilots - Gary Slater, CNLM

This year, CNLM launched two new pilot projects to understand vulnerable periods for larks.

Post-fledging survival- The post-fledging period (fledging until independence) is one of the most vulnerable time for larks, especially the first two weeks after leaving the nest. Radio-telemetry units were used to identify the causes of mortality, estimate factors associated with survival, and evaluate

habitat use during this time. Each telemetry unit is 0.3 grams and transmits up to 45 days. 12 total nestlings were fitted with these units at 13th Division and McChord Airfield using the leg loop

	Site	2015	2016	+/-	Notes
Washington	South Puget Sound	(max males)			
	13 th Division	10	11	+	2 unpaired males (from nest monitoring data)
	Gray Army	22	30	+	~2 unpaired males (from nest monitoring data)
	McChord	15	25	+	Estimated 20-25 pairs (from nest monitoring data)
	91 st Range 76	6	12	+	Based on Abundance Transect data
	Range 50	3	9	+	Based on Abundance Transect data
	Olympia	48	34	-	AT not performed in 2016; #s from Banded Bird Survey
	Shelton	13	5	-	AT not performed in 2016; #s from Banded Bird Survey
	<i>SPS Total</i>	<i>117</i>	<i>126</i>	+	
	Washington Coast	(max males)			
	Damon Point	0	No survey	<i>n/a</i>	
	Graveyard Spit	0	No survey	<i>n/a</i>	Larks observed
	Johns River Island	0	No survey	<i>n/a</i>	
	Leadbetter Point	11	7	-	Five nests discovered, see notes
	Midway Beach	0	No survey	<i>n/a</i>	Larks observed
	Oyhut Spit	0	No survey	<i>n/a</i>	
	<i>WC Total</i>	<i>11</i>	<i>7</i>		
WA & OR	Columbia River	(max males)			
	Brown Island	17	17	=	
	Rice Island	14	20	+	
	Crims Island	6	5	-	
	Miller Sands	12	11	-	
	Pillar Rocks	2	6	+	
	Sandy Island	3	3	=	
	Tenasillahee	2	2	=	
	Howard Island	-	4	+	Larks detected here for first time this year
	Gateway	-	1	+	Larks were not detected here last year
<i>CR Total</i>	<i>56</i>	<i>69</i>			
Oregon	WV Airports	(pairs)			
	Eugene	12	No data	<i>n/a</i>	
	McMinnville	12-15	No data	<i>n/a</i>	
	Salem	0	No data	<i>n/a</i>	
	Corvallis	35	~50	+	
	<i>WVA Total</i>	<i>~59</i>			
	WV Refuges	(pairs)			
	Ankeny	8	12	+	2016 males: Apr=2 Jun=2 Jul=12 Fledglings: Jul=3 Aug=9
	Baskett	23	17	-	2016 males: Apr=14 Jun=13 Jul=17 Fledglings: Jul=4 Aug=9
	Finley	8	7	-	2016 males: Apr=6 Jun=8 Jul=7 Fledglings: Jul=7 Aug=7
	Private Lands - WRPs	15	27	+	
	<i>WVR Total</i>	<i>54</i>	<i>63</i>		
	Port of Portland, etc	(pairs)			
	SW Quad PDX	3	1-2	-	See notes
	PDX Airfield	0	1-2	+	See notes
Rivergate	5	2	-		
St. Johns (Metro)	0	0			
Sauvie Island (4 sites)	0	0		1 site targeted w/ decoys & playback. See notes for more info.	
<i>PoP Total</i>	<i>8</i>	<i>4-6</i>			

method. The telemetry error is about 5 meters and it was found that triangulating on the signal was more effective when lark juveniles were young, while biangulation was a better method for locating the older juveniles. Of the 12 nestlings fitted with the transmitters, 4 slipped or broke off, and 2 mortality events occurred, one during a radio-telemetry accident, and one where the signal disappeared. The remaining larks showed a high survival rate, most likely due to the transmitters being applied later in the season when food and weather was favorable. After collecting locations of these lark juveniles, habitat information was collected at a subset of locations for habitat use analysis. Take homes from this pilot include: reducing observer-caused mortality events by searching for tagged larks 5 days after fledging when they are less cryptic and difficult to see and refine knot tying to better secure telemetry units to the larks.

GPS Tags- Survival rates for SHLA are lowest during the 1st year, especially for females, and some of this mortality takes place outside of the breeding season. Little is known about lark wintering grounds and how/when larks arrive at these sites from the South Sound. GPS tags were applied to bluebirds this year to test the technology and bird response before applying to larks. Bluebirds are an appropriate surrogate for testing methodology because they represent a bird of similar size and migratory behavior as the lark. 16 Western Bluebirds were tagged and the units will collect 136 locations at a rate of 3 locations per week. It is necessary to recapture these birds in 2017 to collect that data. Further advances in this technology may allow for a unit small enough to transmit points in real time.

Washington Coast: nesting, predator control - William Ritchie, USFWS

Preliminary Streaked Horned Lark Breeding Survey Summary - Adult breeding surveys were conducted once monthly from May to July. Maximum count totals equaled 7 males with a mean of 11 total birds/survey. Five nests were discovered in an estimated 9 to 10 breeding territories within the survey area. The fate of these nests is unknown, but some juvenile birds were observed in the area and there was no confirmed nest predation. Two survey transects were each increased in length by 750m to include the south swale portion of the survey area. The current total length of the survey transects equal 13,430m.

Predator Management (includes Midway Beach) - Two potential predators were encountered in and adjacent to lark nesting areas. Seventy-six crows were dispersed and 11 were lethally removed. Twenty-one common ravens were dispersed and 8 were removed.

Pre-Breeding Habitat Restoration - The 10 acre habitat restoration area at the north end of Leadbetter Point State Park was increased by approximately 5 acres by bulldozing and disking to remove non-native beach grasses. About 10 acres of new habitat in the habitat restoration area on the Willapa National Wildlife Refuge was cleared with a bulldozer and disk. Maintenance activities were conducted by disking invasive plants on another 50 acres of Refuge lands along the outer beach.

Post-Breeding Habitat Restoration - Volunteers assisted with maintenance by hand pulling beachgrass on 1.3 acres of the restoration area.

Corvallis Airport: nest success and juvenile survival – Randy Moore, OSU

Note: This was presented by Gary Slater, CNLM with a follow-up discussion with Randy on day 2.

During a normal breeding season, runways and taxiways of Corvallis Airport support lark breeding habitat. To control weeds, mowing occurs on taxiway edges when equipment is available, 1-2 times per year. This year, available habitat for larks was increased from 315 to 1000 acres due to management of adjacent agricultural fields coinciding with the breeding season. The fields were cleared in February and bare all season long. The result was an increase in breeding pairs and number of territories. It would be ideal to replicate this in a way that doesn't affect the following year crop. This is great news considering the drop in population in 2014. 2017 will be an opportunity to see how pairs respond to the ag fields growing back up and decreasing the amount of available habitat.

WV Partner Biologist Update - Sara Evans-Peters, PBHJV

This is a Willamette Valley position which has received funding from NRCS, FWS, and ABC for a 2-3 year term. The position will be hired by the Pacific Birds Habitat Joint Venture, and will be located in an NRCS office in Salem. The selected applicant will find ways to engage with landowners to advance lark habitat through financial incentives, volunteer actions, land easements, acquisitions, etc. 62 applications were received and 6-8 of these are currently in the review process. Interviews are set to begin before Thanksgiving and the position filled by the first of the year. This person would be stationed in Salem or the NRCS office outside Corvallis. A spring 2017 meeting will be planned for lark biologists to meet with the new partner biologist.

Last year, as a way to pilot this position, ABC contracted Steve Smith, USFWS Partners Program retiree, to get a feel for how receptive private landowners would be to lark conservation opportunities. He conducted various outreach activities and went to numerous meetings but no individuals came forth and no new developments came out of this contract. Despite these results, it helped shape parameters of this position and got a realistic sense of some of the challenges.

Discussion for Follow Up

There was a call for further discussion of playback and decoys after questions arose such as how long they last, if there was a risk of deterring the lark by play calls and songs, and where to set up the callback systems. WDFW's Scott Pearson and Hannah Anderson commented that there is no data to suggest that larks will be deterred from playing callbacks and that these systems should be placed adjacent to good habitat in order to lure them to suitable habitat. A conference call or webinar will be planned to share information gained through prior playback and decoy use.

Sauvie Island Citizen Science Grassland Bird Monitoring - Audubon Society of Portland

Audubon Society of Portland's team of citizen scientists monitored grassland birds at 4 grassland / pasture sites at the Sauvie Island Wildlife Area from Late March through Late July 2016. One of the grassland sites (128 acre Grandma's Kitchen) is specifically being managed to attract Streaked Horned Larks and includes a playback device that broadcasts during the breeding season. Observers had no visual or aural detections of Streaked Horned Larks at the Grandma's Kitchen site or the other

3 grassland sites this season. Results for 2016 have not been compiled yet but the 2015 results are available in the 2015 report: <http://audubonportland.org/files/species/sauvie-island-grassland-bird-surveys>.

Lark Integrated demographic analysis and database – CNLM, WDFW, OSU, USFWS

In 2015, CNLM, WDFW, and OSU received funding from USFWS to create a coordinated and consolidated database for regional demographic data and to conduct integrated demographic analysis. To date, most effort has gone towards building and populating the database with banding, nesting, and resight data from project partners. Over the next year, we will finalize database tasks and complete reports on quantifying movement patterns among regional subpopulations; nest survival, and adult and juvenile survival. This project advances multiple objectives identified as priorities in the lark action plan.

Genetic Rescue Project – Center for Natural Lands Management, WA Dept. of Fish and Wildlife, Oregon State University

We continue to monitor the progress of the Streaked Horned Lark Genetic Rescue program, which was initiated in 2011. Although no egg-translocations were conducted in 2016, we collected/salvaged 228 samples (central rectrice feather) from 185 individuals, 25 eggs, and 18 nestlings). To date, we have collected 506 feathers, 131 eggs, 41 nestlings, 6 fledglings, and 5 adults for the genetic analysis, and results will be forthcoming. The Streaked Horned Lark Genomics study, led by WDFW, is ongoing and aims to answer whether there are genetic differences between OR and WA Streaked Horned Larks; whether there is an association between genetic differences and hatchability; is there evidence of inbreeding in the WA and OR populations; and if there is an increase in genetic diversity in the WA population receiving the OR genes.

Habitat Management

Note: Further discussion surrounding habitat management actions was requested by the group. A meeting will be planned for Spring 2017 to bring together land managers and lark biologists.

Columbia River dredge placement - USACE Staff

In 2015, the Corps contracted with the Port of Portland's dredge OREGON to mobilize for the dredging season and placement activities began June 15, 2015 at Welch Island (river mile [RM] 34) and concluded November 24, 2015 at Lower Deer Island (RM 77). In 2015, dredging activities impacted 30% of the total area that was estimated for use in the Corps' five-year placement plan (119 acres versus the estimated 400 acres). In addition, only 1,236 kCY of material was dredged and placed on sites, approximately 66% less material than was anticipated during the development of the five-year plan (1,236 kCY versus the estimated 3,450 kCY). There were four sites where placement was planned and did not occur in 2015: Miller Sands Island (RM 23.5), Howard Island (RM 68.7), Puget Island (RM 44) and Crims Island (RM 57). The Corps did not have permission to access the Puget Island site, so placement activities did not occur there and were shifted to the 2016 dredging season. In other areas, shoaling was not of a magnitude to necessitate dredging and placement. There

were no impacts to habitat suitability as a result not placing material at Miller Sands Island, as placement activities at Miller are limited to shoreline placement, which is not expected to develop into suitable streaked horned lark habitat. Not placing material at Howard and Crims islands may delay the development of suitable nesting habitat in future years (2017 and 2018).

The 2016 placement activities were initiated July 26, 2016 at Howard Island and are expected to finish mid-December. In good news, streaked horned larks were detected at Howard Island for the first time, as well as Hump Island (RM 59.7) which was last used for placement in 2014. The Port of Portland dredge OREGON crew has systematically removed dense scotch broom from Howard Island in advance of using the area for dredge placement. Placement activities in 2016 have occurred at Howard Island, Pillar Rock Island (RM 27.2), Miller Sands Island, and will occur next at Tenasillahe Island (RM 38.3), and Crims Island. The Corps' five-year placement plan had planned to also place material at James River (RM 42.9), Brown Island (RM 46.3), Hump Island, or West Hayden Island (RM 105); however, limited shoaling in these areas does not warrant continuing dredging efforts beyond the Corps' in-water work window with regulatory agencies which ends December 15, 2016. Impacts to suitable nesting habitat will be assessed at the end of the dredging season in December.

It was noted that the Corps can manipulate the habitat with machinery to maintain open bare ground for larks even if the site is not slated for placement that current year, in anticipation of planned future placement of dredged materials. For example, at Lower Deer, only half the site was slated for placement in 2015, but they were able to also disturb the other half of the site in a way that benefits larks because of future placement plans there.

Columbia River territory mapping: Brown Island update - Jerrmaine Treadwell, CNLM

In order to help refine the USACE's habitat suitability model, territory mapping efforts continued this year on the Columbia River by CNLM biologists. Of the 4 sites mapped last year, Brown and Crims Islands were the focus this year. Visits were conducted from mid-May to early July, starting a little earlier this year to capture adult locations before juveniles arrived. Pairs were followed 30-60 minutes and 5/10 locations were collected each visit with a total goal to collect >30 locations.

Crims Island- After the 2015 breeding season, site prep activities were conducted on the western side of the island in the Fall. This year, while the number of pairs did not change, larks seemed to avoid the prep area, causing these use areas to overlap a bit more and move slightly east. All four territories showed signs of breeding.

Brown Island- Great improvement over last year! In 2015, following a fresh deposition, there were 7-8 pairs observed, but breeding only observed in 3 use areas and there were an additional 5-8 single males. This year, year two after the deposition, there were 13 pairs, 12 of which were confirmed breeding, and no confirmed single males. Besides an increase in breeding pairs, use areas began filling in the deposition area this year, although full saturation of this area is not complete.

Based on these trends of habitat avoidance within one year of deposition and some, but not full saturation of the habitat within two years of deposition, we can expect to see similar patterns in future years on these islands. This rate of recolonization by larks may be different along other parts of the river system due to changes in weather, tides, and other geographic components.

Although CNLM does not conduct vegetation mapping, USACE does flyovers to do fairly detailed veg mapping. When asked about interest in seeding areas in order to speed up the process of creating habitat for larks, USACE's Kris Lightner noted that when they seeded in the past, geese ate up most of the seed.

WA Coast habitat management - William Ritchie, USFWS

USFWS received a grant for the next two years to restore 500 acres. This will allow for 5 seasons of monitoring money and to help track human use and disturbance.

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Predator Management (includes Midway Beach) - Two potential predators were encountered in and adjacent to lark nesting areas. Seventy-six crows were dispersed and 11 were lethally removed. Twenty-one common ravens were dispersed and 8 were removed. Northern portion of preserve is closed to public use during the breeding season to decrease potential negative human impacts.

Pre-Breeding Habitat Restoration - The 10 acre HRA at the north end of Leadbetter Point State Park was increased by approximately 5 acres by bulldozing and disking to remove non-native beach grasses. About 10 acres of new habitat in the HRA on the Willapa National Wildlife Refuge was cleared with a bulldozer and disk. Maintenance activities were conducted by disking invasive plants on another 50 acres of Refuge lands along the outer beach. Oyster shell spread to control invasives seems to lure in snowy plovers but does not affect nest success.

Post-Breeding Habitat Restoration - Volunteers assisted with maintenance by hand pulling beachgrass on 1.3 acres of the restoration area.

WV Refuge habitat management; nest monitoring update – Brian Root, USFWS

During the 2016 streaked horned lark (SHLA) breeding season, the Willamette Valley NWR Complex (WVNWRC) provided >2000 acres of potentially suitable SHLA breeding habitat at the 3 Complex refuges: Ankeny, Baskett Slough, and W.L. Finley. Habitat management was a combination of active (SHLA-targeted) and passive (operational grass-production practices) efforts, and included herbicides, mechanical disking/harrowing, and prescribed burns (Rx). Substantial breeding-pair (and limited nest) monitoring resulted in documenting at least 36 SHLA pairs (max. #

of males), which was similar to 2015 (39 pairs). We recorded at least 39 independent fledglings – a few in late June, but most in July and August – which was substantially more than during 2015. See

Table below for details.

Refuge	Management	Acres	Breeding SHLA use	Fledglings Documented	
Ankeny NWR	Active:	Fld 5 - chemical fallow, disk/harrow; untreated patches	57	4-5 pr	Y
		Fld 6 - disk/harrow; chemical fallow + Rx burn; untreated patches	130	2 pr	Y
		Flds 2 & 3 - 2 vernal pools created in each field (2015); disk/harrow	262	0	--
	Passive:	Fld 5 - newly planted grass	88	5 pr	Y
		Fld 6 - perennial grass	6	1 pr	N
		Fld 15 - newly planted perennial grass	90	0	--
		633	12 pr	Y (12)	
Baskett Slough NWR	Active:	Flds 4B & 10B - chemical fallow, disk/harrow; untreated patches	73	5-6 pr	Y
		Flds 6Z & 7Z - chemical fallow, disk/harrow; untreated patches	50	2-3 pr	N
	Passive:	9 newly-established perennial grass fields	267	4-7 pr	Y
		18 grass seed/hay/oat production fields	650	6-8 pr	Y
			1040	17 pr	Y (13)
W.L. Finley NWR	Active:	Flds 12 NE/E - chemical fallow; untreated patches	12	2-3 pr	Y
		Flds 7, 57, 66 - newly-established perennial grass; planned Rx	79	0	--
		Fld 5 - fallow + disk/harrow; planned Rx	63	0	--
	Passive:	Flds 12 S/SE/W - perennial grass seed & hay production fields	93	3-4 pr	Y
		Fld 19/20 - annual grass production field	125	3-4 pr	Y
		Fld 10, 64 - annual grass production fields	106	0	--
			478	7-8 pr	Y (14)
WV NWR Complex		2150⁺ acres	36⁺ pairs	39 Fledglings	

Willamette Valley Private Lands – WRPs – US Fish and Wildlife Service

Willamette Valley Partners Program staff conducted SHLA surveys on 19 different sites during the 2016 season. All of these sites are on USDA-NRCS Wetlands Reserve Program (WRP) conservation easements in various stages of wet prairie/emergent marsh/vernal pool restoration that have the objective of establishing native plant communities. Though habitat management techniques were not

employed to specifically restore habitat for streaked horned larks, these techniques did however create certain site conditions (i.e. structural attributes) that did provide suitable habitat that was in fact utilized by streaked-horned larks.

On all of these sites some targeted mowing and spraying (both spot and/or broadcast) for the purpose of weed control and establishing native vegetation occurred throughout the breeding season. In the emergent marsh habitat, spraying the volunteer non-native vegetation after the water had drawn down helped to prevent this vegetation from going to seed and provided additional SHLA habitat during July and August. We found that birds utilized these habitats as adjacent habitats became unsuitable due to the density of vegetation.

Summary: 27 pairs on 10 different sites. One new site near the Eugene airport and the rest historically have had individuals or pairs over the past few years. Of the 10 sites that were occupied this season with SHLA's 5 were occupied in wet prairie habitat, 3 in emergent marsh (as water draws down), and 3 were in a combination of both emergent and wet prairie habitat.

The one site with management objectives to create and maintain habitat for Streaked horned larks at Herbert Farms will be covered by Peter Moore (see below). Willamette Valley Partners Program are a partner in this project and are helping with a few parts of the restoration (permitting/dirt work/seeding).

Herbert Farm Natural Area Project Update - Peter Moore, IAE

IAE has a two year habitat experiment project, funded by USFWS and supported by City of Corvallis and Oregon Department of Fish and Wildlife, to compare three cost-effective techniques for creating SHLA habitat along roadsides. The treatments in fall and spring are: herbicide + herbicide, disking + herbicide, disking + mowing along 600m x 6m strip. The herbicide treatment was the most effective at creating bare ground and sparse vegetation during the first year. Due to equipment availability, a harrow was substituted for the disk and ryegrass grew back strongly in the spring. Subsequent mowing and herbicide treatments were less effective. A disk will be used this fall so a more valid comparison can be made. USFWS Partners Program has constructed 12" berms across two swales in a 24 acre restoration field to hold water for longer in the spring and create more bare ground. Follow-up seeding of low-stature native species will include areas of bare ground.

Larks are being monitored in the experimental area and over the rest of Herbert Farm. No larks were attracted to the experimental area in 2016, but at least one pair was present in an adjacent 24 acre restoration field early in the season. A pair of birds was also present in 2014 and 2015 in another 37 acre prairie which was in the early stages of restoration.

Coyote Creek South: Wet Prairie-Vernal Pool Restoration – ODFW and Long Tom Watershed

This Oregon Watershed Enhancement Board-funded project is located on ODFW's 309-acre Coyote Creek South property in the Coyote Creek sub-basin of the Long Tom Watershed among a complex of more than 8,500 acres of protected lands comprising the West Eugene Wetlands and Fern Ridge

Wildlife Area. Coyote Creek South hosts native riparian habitat and intact and restorable oak savanna, ash swale, wet prairie, emergent wetland, and vernal pool habitat. Coyote Creek bisects the property. Streaked horned larks have occupied lands just north of the site, lands ODFW is also acquiring. The project seeks to restore 116 acres in the north portion of the site from agricultural wetlands to a mosaic of wet prairie and vernal pool habitat supporting diverse native plant species, northern red-legged frogs and other native amphibians, and grassland birds, in particular federally threatened streaked horned larks. In 2016, site prep and monitoring activities occurred. In 2017, a scraper will create 8 acres of vernal pool habitat to support streaked horned larks. Pools will be designed to be .5-2+ acres in size with uneven edges and hold water into April for larks to initiate nesting by May. The pools will be managed for bare ground and sparse cover of short-statured forbs. Plant establishment and monitoring activities will continue into 2020. The project hopes to contribute to recovery efforts for streaked horned lark on non-refuge lands by restoring public conservation lands and identifying effective techniques transferrable to private lands.

Regulatory Actions

FAA Update Janell Barrilleaux, FAA

At the last airport working group meeting FAA, FWS, and airports discussed their positions on mitigation and management. They covered what the sponsors can and can't do to comply with grant assurances, minimize wildlife hazard risks, and to be financially sustainable. The FAA and USFWS are currently discussing how FAA can participate in recovery for the lark in ways that will not negatively affect airports. FAA cannot support any activities on airports that will enhance lark populations on airports or create habitat. USFWS is drafting a recovery plan and once written, this document will provide critical information that FAA and USFWS can use in Section 7 consultations. The group talked about the possibility of offsite mitigation projects since lark recovery has to occur off airfields.

USFWS' Martha Jensen mentioned that Port of Olympia is working on HCP for land acquisitions and they are looking for section 10 and 7 needs.

JBLM and FAA mitigation crediting methodology - Martha Jensen, Kim Flotlin, USFWS

USFWS and JBLM are developing a credit/debit methodology in order to allow for maximum training flexibility on JBLM (which may impact larks) while simultaneously working toward lark recovery. JBLM's goal is that eventually much or all lark conservation could occur off-base (i.e., allowing maximum training flexibility on-base), but until then, they recognize that they will continue to play a major role in the conservation of the species in the South Sound. JBLM has thus far managed mostly to avoid impacts to larks due to training-related activities. In one location, they provided on-site mitigation for lark impacts (GAAF). USFWS has spoken generally to JBLM about whether and when and under what circumstances we might allow off-base mitigation for larks, and potential service areas into which mitigation may be allowed. Status of larks on the base is relatively poor, as is total population status (not surprising considering the species was only listed 3 years ago).

We've discussed requiring "like for like" (e.g., occupied for occupied), and using different credit ratios when mitigating within a service area than between them (if allowed). These discussions are still in their draft stages. It's likely that the overall population will need to show a significant upswing in status before larger-scale impacts to the South Sound population could reasonably be permitted.

Creating Lark Habitat Adjacent to Gray Army Airfield – JBLM, CNLM

One strategy for lark recovery at airfields is to create new habitat in adjacent, more compatible, areas, luring larks away from high-risk areas on airfields. JBLM and CNLM are implementing this strategy on JBLM as part of mitigation to offset impacts to larks on Gray Army Airfield (GAAF) from planned construction activities. Last year, JBLM and CNLM created an implementation plan to restore approximately 85 acres of disturbed land to the south of GAAF. This area includes stands of poplar and Scot's broom and piles of partially buried concrete adjacent to non-native grasslands. Over the next two years, we will be implementing actions to restore this area to habitat conditions favored by nesting and foraging larks using a variety of strategies and techniques. This project serves as a demonstration of the feasibility of this lark conservation strategy, acknowledging the difference between DOD and private lands.

Safe Harbor Agreement at St. Johns - Elaine Stewart, Metro

There have been some complications/hurdles in negotiating the Safe Harbor Agreement at St. Johns. Metro wants flexibility in planning their habitat practices and to be able to renegotiate the agreement over time. One specific hang-up is with the effects of herbicide; mechanical effects are covered but not the effects of herbicide. USFWS is trying to accommodate these requests and be flexible.

Port of Portland HCP - Dana Green, Port of Portland

The Port of Portland has a proposal out to USFWS for an alternate conservation strategy under Section 10 of ESA. The result would be an Incidental Take Permit (ITP). The overall goal is to support conservation of the SHLA where it can be accomplished in a manner that does not put the species at risk and where it is a compatible and sustainable land use. The HCP science advisory team consists of TNC, CNLM and ABC. Conservation sites in the HCP are Rivergate, SW Quad at PDX, and Sandy Island.

Rivergate and PDX are not sustainable locations for SHLAs and don't offer long-term habitat. The sites are highly urbanized industrial landscapes posing continual threats to resident birds, including deadly aircraft interactions. Furthermore, in the absence of intervention to manage vegetation, the sites will not remain occupied. Given these limitations, we propose innovations in habitat management that take advantage of current resources available along the Columbia River. The proposed conservation measures achieve the ESA's statutory objectives by:

- 1) Preventing the natural degradation of designated Critical Habitat for SHLA at the proposed Sandy Island Conservation Area;
- 2) Expanding the amount and improving the quality of suitable nesting habitat at the proposed Sandy Island Conservation Area.

The proposed conservation measures present opportunities, that include:

- 1) Research to inform BMP's and Recovery Planning efforts.
- 2) A template for future management of other dredge placement sites filled to capacity.
- 3) Ideal habitat in an appropriate location, re-creating disturbance ecology regimes disrupted long-ago by shoreline development, dams and water-level modifications.

Each of these measures contributes to the minimization and mitigation of impacts of the potential take of SHLA on Port properties. The Port will secure a conservation easement for the maximum term [30-year] allowed by Department of State Lands (DSL).

Following this presentation, Audubon raised several concerns regarding the mitigation plan including concerns about using lands that are already in public ownership and under the management of a natural resource agency for mitigation and questions about whether this proposal would result in an overall net loss of streaked horned lark habitat and individuals. These concerns were raised in the past, and Audubon feels they had not been addressed. As a result, the Audubon Society of Portland submitted a letter detailing their concerns to FWS.

Portland Airport Survey Notes – Port of Portland

SW Quad - SHLA surveys began in SW quad on May 3rd, 2016 and were completed on August 16th, 2016. There were five surveys completed in the evening, and six completed in the morning for a total of eleven surveys. The most recent occupancy and abundance draft protocol developed by the Washington Department of Fish and Wildlife (Pearson, et al. 2016) was followed for all surveys.

Airfield - SHLA information was collected during daily airfield patrols. There was one confirmed nesting pair between taxiway C5 and C6 between the taxiway and perimeter road. A nest was located in this area with two eggs that later appeared to have been depredated.

On June 15th one young of the year was observed with a female between runway 10R/28L and taxiway B. This was the only time the bird was observed, but an old attempt to build a nest was documented along the RSA several days later.

Recovery Planning & Discussion - Cat Brown, USFWS

The Service is moving into a new way of recovery planning. This new approach is called the Recovery Enhancement Vision (or REV) and was outlined at last year's meeting. The old model is no longer viable, given the huge number of species needing recovery plans. Rather, the new model will be more dynamic, but will still include a species status review, recovery strategy, goals and objectives with specific measurable targets, and schedule and budget. With the old way, recovery plans were very out of date within a year or two, which hampered actions and funding as things changed. The action plan will remain a very important piece of the Recovery Plan, and will be a more nimble, flexible way to identify the specific steps necessary to meet the overall recovery goals for the species. The action plan will continue to be used to guide funding and actions as long as they

are in service to the goals/objectives that are set in Recovery Plan. Recovery plan is not quite done. The recovery plan will go beyond the current working group action plan by setting longer term goals. Once completed, the recovery plan can help direct money and provide momentum for funding for big projects that are necessary for recovery – things like HCP planning, land acquisition, expansion of the refuge expansion analysis, and so on.

Discussed as a group, the three main objectives for this recovery plan are:

Sufficient numbers

- Important for use as an indication of how species is doing, not a strict criteria

Habitat protected and managed

- Lease-a-lark: lease lots of land to identify opportunities or mechanisms that lure larks
- Perhaps this could be done on portions of land, not whole property, temporarily
- USFWS's Martha Jensen suggest enrolling farmers into conservation programs (NRCS)
- For Columbia River dredge sites, we should get more groups involved

Key threats

- Started brainstorming threats to larks that were not a result of small population size such as pox, pesticide, mowing regimes...

The SHLA Recovery Outline can be found here: <http://cascadiaprairieoak.org/documents/recovery-outline-for-the-streaked-horned-lark>

Follow Up Items (In Review)

1. Where do birds from airfields overwinter versus from other sites?
2. WDFW will continue discussions to determine if conducting surveys every year or every three years is the best strategy to accomplish lark conservation goals.
3. Cost of nest monitoring for others interested in accomplishing same tasks in other regions?
4. Further discussion of playback and decoys; best practices and ways to improve

Action Items (In Review)

1. A Willamette partners meeting should be scheduled in combination with the airport working group meeting to address the specific needs of restoration in this region.
2. Call for separate meeting between habitat managers in the Spring.
3. Focus on research questions that will benefit airports, perhaps exploring a credit/benefit system?

Day 2 – Lark Interactive Action Planning and Vesper Sparrow Coordination

In Attendance Bob Altman, *American Bird Conservancy (ABC)*; Elspeth Kim, Jerrmaine Treadwell, Gary Slater, Adrian Wolf, *Center for Natural Lands Management (CNLM)*; Mike Paterson, *Eugene Airport*; Janell Barrilleaux, Cayla Morgan, *Federal Aviation Administration (FAA)*; Christa

LeGrande, *Joint Base Lewis-McChord (JBLM)*; Elaine Stewart, Katy Weil, *Metro*; Valerie Thompson, *WH Pacific*; Jeff Barna, *ESA and Associates*; Susan Barnes, Martin Nugent, *Oregon Department of Fish and Wildlife (ODFW)*; Randy Moore, *Oregon State University (OSU)*; Dana Green, Nick Atwell, Marla Harrison *Port of Portland*; Bob Sallinger, *Portland Audubon*; Cat Brown, Kim Flotlin, Martha Jensen, Michele Zwartjes, Bill Ritchie, *US Fish and Wildlife Service (USFWS)*; Scott Pearson, Hannah Anderson, *Washington Department of Fish and Wildlife (WDFW)*.

Oregon Vesper Sparrow Discussion. Planning for Coordinated Actions

Vesper Sparrow Update - Bob Altman, ABC

The Vesper Sparrow is in fast decline and is currently listed as endangered in BC, a candidate for state listing in WA, sensitive-critical in OR, and extirpated as a breeder in CA. Objectives to increase and conserve this species consist of 2 phases:

- 1) Conduct a range wide inventory and describe the habitat.
- 2) Identify limiting factors

Range wide inventory was done across the vesper sparrow range (BC to CA) and 150 territories were mapped. Generally, the vesper sparrow is rare to uncommon north of Seattle, uncommon in the Willamette Valley, uncommon to common in the Rogue Valley, rare to uncommon in the Rogue Basin, and rare on the south Oregon Coast. Shelton Airport supports the only well-known vesper sparrow populations north of the South Puget lowlands. Current estimates of the total vesper sparrows is 2900 range wide, with the majority of these birds occurring in the Willamette and Umpqua valleys. Unfortunately, the Willamette Valley population has seen a 79% decline between 1996 and 2008.

Vesper Sparrow habitat preferences include bare ground, 20 acres or more of space, upland and dry, structurally diverse, and include herbaceous cover of about 1-2 feet tall. Hard edges near grasslands, coastal dunes, even Christmas tree farms make for suitable habitat.

This songbird faces many challenges such as habitat loss and degradation, negative impacts of land management use, and having many small, isolated, declining populations. In addition, 80% of vesper sparrow populations are on private lands with no populations on refuges. An increasing challenge for these birds is the conversion of suitable habitat to vineyards.

Other impacts that require further investigation are that many unoccupied sites exist that are suitable for the vesper sparrow, local extirpations have happened with no apparent change in habitat, and there has been no known establishment of the population in restoration areas.

Resources that are available or will be soon include:

- 2013 report from SWG inventory on CPOP website
- Conservation Assessment, 2017

- Petition to list under ESA, was submitted on December 4, 2016
- Demographic Parameters report, 2017

JBLM vesper sparrow update – Gary Slater, CNLM

Monitoring for vesper sparrows was included as part of bird monitoring program on JBLM. In 2015, 91 line transects, 250 m in length, were established and surveyed over 3 major prairies (91st Division [AIA], 13th Division, and Weir prairies) on JBLM. During the first visit, 25 birds were detected, of which 22 were detected on the AIA. The AIA was not surveyed in subsequent visits and on only 4 individuals were detected Visit 2 and Visit 3 on 71 transects. In 2016, 110 transects were surveyed three times. The max count of vesper sparrows was 33 individuals.

AIA is the core area of sparrow populations. Vegetation sampling has also been conducted on line transects, although 2016 was the first year that veg sampling was conducted on transects in the AIA. This should help us identify habitat relationships that vesper sparrows prefer.

Vesper sparrow territories were mapped in the RTA in 2015 and 2016. In 2015, 7 individuals were mapped in the RTAs. In 2016, 9 territories were mapped but only 5 were maintained by paired individuals; on the other 4, only single males were detected, suggesting that surveys could be overestimating breeding pairs. We also color-banded 9 individuals. Sparrows appear to be more associated with open, low-density oak rather than Doug Firs. Depending on funding, we intend to continue bird surveys and expand demographic monitoring (color-banding and locating nests).

Update of State Status – Hannah Anderson, WDFW

Locations of these birds are drastically decreasing across their range over the years as Hannah shows us with a series of location maps. A draft of the status report is expected to be completed by March 2017 and will be sent to USFWS.

Near term actions

As identified and discussed by the group:

1. Genetic Study
2. Generate restoration targets
3. Implement management by bringing folks together to share ideas
4. Understand demography
5. Find funding sources
6. Working group (for now, add on to the annual SHLA meeting)

The group discussed best approach for getting the group together. Options include a working group, regional working groups, and meetings between land managers and biologists. An incremental approach will be taken. For now, it was decided that the group would meet as an add-on to the SHLA meeting as it did this year, with additional meetings as needed.

Action Planning- *See following pages for full list of ranked items and full action plan.*

Updates: The group went through the action plan line by line and updated it based on completed items, items that are no longer relevant, improving language and adding new items. Updates to the action plan had a big emphasis on streamlining protocols, synthesizing range wide data and expanding research questions.

Ranking: Following the updates to the action plan, the group went through the ranked priorities line by line and noted if the priority has increased, remained the same, or decreased. The group identified action items that were new or not previously ranked that should be ranked. A discussion then followed to determine the new rank order.