Streaked Horned Lark Annual Working Group Meeting

Metro Office | Portland, OR | October 28-29, 2013

Executive Summary

The annual streaked horned lark working group meeting includes updates to research, monitoring, and conservation actions as well as a needs discussion and update to the Action Plan, which lists and prioritizes next best actions for larks that can be accomplished in the next 3-5 years. The 2013 meeting had some major updates including the federal listing of the streaked horned lark as threatened under the ESA. In addition to this major change in the regulatory landscape, many partners have made substantial progress in lark conservation, more often than not carried out collaboratively with multiple partners across many sectors.

Day 1 of the meeting included specific project/initiative updates. Cat Brown of FWS provided an overview of impacts and opportunities resulting from the recent ESA listing of the streaked horned lark (SHLA) as threatened, including critical habitat designation and a special 4(d) rule. Scott Pearson of WDFW discussed his efforts to create a protocol for monitoring and provided preliminary results about regional population trends, finding an average population decline of 11.7% in Washington. Bob Altman of the American Bird Conservancy reported on his efforts to create population objectives in partnership with the Pacific Coast Joint Venture. Hannah Anderson of CNLM presented updates and preliminary outcomes to a partnership between CNLM, WDFW, JBLM, and Randy Moore, with input from FWS, to conduct a project using eggs from the Corvallis Airport to improve the genetics of the lark population at JBLM. Hannah also provided updates to her conspecific attraction feasibility study. Elspeth Hilton Kim, along with Rachel Maggi of NRCS, presented about an ongoing effort to create partnerships with the agricultural community to use voluntary incentive programs to increase lark compatible practices on seed farms in the Willamette Valley. Lastly, Hannah Anderson provided preliminary results from her work with the Port of Portland and the Army Corps of Engineers to manage the deposition of dredge material on the Columbia River to strategically provide habitat for larks while allowing for the continued regular dredging and deposition practices.

Two action items were developed following presentations:

1. *ESA Training* - FWS would like to do a Portland-based 2-day training on ESA, but they need a host. It would be a free event, open to 30 people. Port of Portland offered to host.
2. *Recommendations to form a monitoring subgroup* - Scott Pearson and Randy Moore will spearhead the analysis of the approach; USFWS, ODFW, WDFW (Mary Linders and Derek Stinson esp.), Bob Altman, and Hannah Anderson will contribute to design, protocols and implementation. The goal is to develop an interim range-wide strategy and protocols by Spring 2014.

The meeting also included updates regarding monitoring, habitat management, and habitat restoration. Partners made great progress in improving and expanding efforts to monitor; protect lands via acquisition, easement, and management plans; and to restore habitat. Presentations from multiple partners also showed the improvements made to activities in occupied areas, especially in regards to supporting lark populations at airports.

Day Two provided a review of the action plan, including updates and revisions, as well as a reprioritization of actions. The meeting agenda, minutes, and action plan are included below.

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Agenda

Monday, 28 October 2013

9:30	Welcome, Purpose, Introductions	
9:45	ESA Listing (40 min) - Proposed to final rule - Critical habitat designations and exemptions - 4(d) rule - Consultation and permitting process - Recovery Planning	Cat Brown, FWS
10:25	Population Monitoring (35 min) - Portland results (5min) - ODFW roadside surveys (5min) - Larks in VESP surveys (5 min) - WA results (10 min) - WA trend analysis (10 min)	 Port of Portland ODFW Summary Bob Altman, ABC Scott Pearson, WDFW
11:00	BREAK (10 min)	
11:10	Future Monitoring plans - Range-wide survey/monitoring discussion (10 min) - Developing presence/absence survey protocol and habitat decision matrix (5 min)	Scott Pearson, WDFW
11:25	South Puget Sound Genetic Rescue (20 min)	Hannah Anderson, CNLM Scott Pearson, WDFW
11:45	Conspecific Attraction Feasibility Study (10 min)	Hannah Anderson, CNLM
12:00	LUNCH	
1:00	Incorporating larks into WV incentive programs (40min) - Process, management scenarios, next steps	Elspeth Hilton Kim, CNLM
1:40	Managing habitat (20 min) - Prescribed fire mgmt on JBLM - WV refuges & adjacent private land	 JBLM, FWS Refuge, IAE
2:00	Protecting Habitat (15 min) - WV Mitigation Program update (10 min) - TNC Protection Efforts Yamhill Co. (5 min)	 Laura Tesler, ODFW Joe Buttafuoco, TNC
2:10	Strategies for working in occupied sites with multiple uses - JBLM training lands and airports (15 min) - Range-wide airports (15 min)	 Hannah Anderson, CNLM Port of Portland, WDFW

2:40	Columbia River Habitat Analysis and Deposition Recommendations (30 min)	Hannah Anderson, CNLM
3:30	ADJOURN	

Tuesday, 29 October 2013

9:30 Welcome to Day 2

9:45 Revisit Recovery Planning
- Scope and make-up
- Population goals

10:15 What is an action plan? What isn't it?
- Short term (5yr horizon)
- Define next best thing to accomplish
- Prioritized Actions

10:30 Review and discuss 2012 Action Plan
- Plan organization
- By priority

12:00 LUNCH

1:00 Revise Plan for 2013-14
- Identify new actions not represented
- Reprioritize all actions
- Discuss implementation of actions

3:30 ADJOURN

In Attendance

Bob Altman, American Bird Conservancy; Hannah Anderson, Elspeth Hilton Kim, Bill Kronland, Adrian Wolf, Center for Natural Lands Management; Janell Barrilleaux, Federal Aviation Administration; Valerie Elliott, Jeff Foster, John Richardson, Joint Base Lewis-McChord; Therese Mitchell and Elaine Stewart, Metro; Rachel Maggi and Jim Reagan-Vienop, Natural Resources Conservation Service; Joe Buttafuoco, The Nature Conservancy; Ann Kreager, Martin Nugent, and Shaun Woods, Oregon Department of Fish and Wildlife; Karen Lewis, Oregon Zoo; Randy Moore, Oregon State University; Joe Liebezeit and Bob Sallinger, Portland Audubon; Dave Helzer, City of Portland; Nick Atwell, Dana Green, and Marla Harrison, Port of Portland; Cat Brown, Kim Flotlin, Martha Jensen, Molly Monroe, Nate Richardson, and Rich Szlemp, US Fish and Wildlife Service; Mary Linders, Scott Pearson, Derek Stinson, and Michelle Tihiri, Washington Department of Fish and Wildlife.

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Minutes - Day 1 (October 28, 2013)

Cat Brown, FWS – ESA Listing

Summary
The streaked horned lark was listed as threatened on October 2nd and the listing is effective as of November 4th, 2013. The listing includes three new regulations: Threatened status, designation of critical habitat, and special rule pursuant to section 4(d). The listing prohibits take, critical habitat limits federal actions on specified lands, and the 4(d) rule allows certain activities on specified types of land to be exempt from the 'take' prohibition. Recovery planning will soon begin, which will focus on reducing threats to the lark.

Listing
Status: Threatened (defined as 'likely to become endangered')
Effect of listing: ESA Sections 9,7,10,4 are some that have the most relevance to the group.
Section 9: Prohibition against take. Harass and harm are the key words in this section.
Section 7: Interagency consultation, which is a powerful part of the act.
Section 10: Allows permits for non-federal actions, scientific research and recovery actions.
Section 4: Recovery planning and implementation, which is the bulk of the work.

Critical Habitat
Critical Habitat (CH) was designated at four sites on the WA coast, nine islands in the Columbia River, and three National Wildlife Refuge sites in the Willamette Valley. Critical habitat was exempted or excluded at occupied sites at Joint Base Lewis-McChord (approved Integrated Natural Resources Management Plan or INRMP and associated Endangered Species Management Plan, or ESMP); Shoalwater Spit (tribal portion) in an effort to preserve ongoing partnership with the Tribe; Civilian Airports – 7 occupied airport sites were proposed as CH, but due to strong comments from FAA and others regarding safety concerns, an effort to preserve conservation partnerships, and a focus on recovery in more natural habitats led the Service to not designate CH; CH was also not designated at M-DAC Farms, where larks were known to occur because the habitat no longer suitable now that wetland restoration has occurred and there are few birds present.

Primary Constituent Elements (PCS) for streaked horned lark outline where CH would occur. The PCS for larks are areas with more than 16% bare ground that have sparse, low-stature vegetation comprising primarily grasses and forbs less than 13 in in height, found in: large (300 ac) flat areas within a landscape context that provides visual access to open areas such as open water for fields, or areas small than that but that provide visual access to open areas such as open water or fields.

Effect of CH Designation: Only place it has effect is if there is federal nexus (federal entity funds, authorizes or carries out an action) occurring on land (Section 7). There is no 'take' prohibition for critical habitat, just a limit on federal actions.

4(d) Rule
Specified activities associated with airport management, agriculture and noxious weed control on non-Federal lands will not be considered 'take'. See pp 61500 (background) and 61502-3 (regulation) of the rule for more information.

The special rule recognizes activities that inadvertently benefit the species. The goal is to encourage landowners to continue those practices that provide habitat for the species (SHLA in this case) – even though the creation of lark habitat causes some adverse effects. The rule acknowledges that the lark's use of working industrial lands demands flexibility. At airports, the rule allows management activities at airports to minimize hazardous wildlife that cause safety issues. For agricultural lands, it allows routine agriculture and ranching activities consistent with state laws on non-federal lands. Noxious Weed control allows routine removal or management of noxious weeds on non-federal lands.

Another goal of the 4(d) rule is to establish partnerships with a community (ag for example), so in the case of concerns about vehicles being driven through habitat to access certain areas USFWS will work with folks to suggest 'least damaging' actions. There will always be an attempt to work out any issue that causes harm.

Section 7 - Interagency Cooperation
7a1: Affirmative Conservation Mandate (i.e. go out and do good things for endangered species)
7a2: Duty to Avoid Jeopardy - Ensure that any action authorized, funded, or carried out by a Federal entity is not likely to jeopardize the continued existence of any Endangered or Threatened species or result in the destruction or adverse modification of critical habitat.

Section 10: Exemptions & Permits
For projects with incidental take and no federal nexus: [HCP, 10(a)1(b)]. For scientific research with direct take, recovery actions with incidental take, enhancement of survival (safe harbor agreements for private landowners): 10(a)1(a). If actions are covered under another permit or consultation, don't need to do a second. For more info, Rich Szlemp is the lead on Section 10.

Recovery Planning
Goal is to reduce threats, not restoration to the historical range and population size. Recovery Plans are due about two and a half years after listing. The plan is NOT: a regulatory doc or a source of criteria for down/de-listing decisions. Recovery is the destination and the plan is a map – FWS's best assessment, with knowledge that FWS has today – about how to get there. There is more than one way to get from here to there, we have to be adaptive. Recovery actions are a long list, and a big part is building partnerships.

***Action Item*:** *ESA Training*
FWS would like to do a Portland-based 2-day training on ESA, but they need a host. It would be a free event, open to 30 people. Port of Portland offered to host.

Population monitoring

Summary
Projects by ODFW and ABC undertook population monitoring for Vesper sparrows and other prairie oak birds, but very few SHLA detections occurred. Although surveys were thorough, limited access to potential occupied areas or a lack of overlap between the targeted survey species and SHLA leaves open the opportunity for more surveying. Randy Moore continued his work at the Corvallis Airport to identify potential nests and eggs for the genetic rescue project and in doing so has observed steady population numbers over the past 6 or 7 years. At the Port of Portland, SHLA have been detected at multiple sites. Work to improve habitat and monitoring are ongoing. Details for each project are provided below.

Ann Kreager (ODFW Roadside Surveys)
Roadside surveys in the north Willamette Valley were conducted spring 2013 to complement the geographic coverage of previous efforts. 150 point count stations were established but there were only 3 detections of Oregon Vesper Sparrow and no detections of SHLA. A lot of areas they wanted to access that were likely to have detections were excluded (due to safety of surveyor as most were busy and super loud roads). These are disappointing results. In terms of coverage, the survey was thorough – if it looked like habitat and there was reasonable access, then it was surveyed. Saw an absence of larks in areas that had previously been detected in 2006 and 2008 – land has been converted to vineyards, causing a lot of habitat displacement.

Bob Altman (Vesper Sparrows Survey)
Set up about 200 stations in WV, several hundred in WA, with a total of 700 in western Washington and western Oregon. Keyed in on what felt was likely vesper sparrow habitat. In Puget Sound, there was overlap with SHLA habitat. Otherwise, not much overlap. In Oregon, the overlap is on Christmas tree plantations (they overlap in transitional period). Just a single horned lark was detected at the 700 spots in the survey, but it was a survey for Vesper Sparrows.

Randy Moore (Corvallis Airport)
Worked on finding nests and eggs for genetic rescue project in South Puget Sound (CNLM, WDFW, JBLM). The population at the airport has been rock steady over the last 6 or 7 years, always about 100 pairs of larks (upper 70's at the least). The variability depends on the state of agricultural fields in the area, as larks need young stage grass seed crops. When there are new or bad fields, there are lots of larks. As a side note – M-DAC farms, which was excluded from CH, has rebounded slightly from 1-2 pairs to 5-6 pairs – they are responding to the mowing regime happening. Next year they will likely find between 200-300 lark nests in a season (pairs make multiple nests), as 80 pairs will create 200 nests easily.

There was not enough monitoring to say if there is a predation issue, though the sense is that grass harvest really affects predation rates at certain sites, because as soon as grass is harvested, small mammal prey is exposed and northern harriers appear to switch prey targets and leave larks alone for the most part. Because of this, larks have end-of-season success rates much higher than beginning. This year there was an early grass harvest, so it is likely there was longer season of reproductive success for larks.

Dana Green, Nick Atwell, Marla Harrison (Port of Portland)
Commercial properties: 2nd full year of implementing WDFW's monitoring protocol to create a baseline that is consistent with data set up for other places. Several of the Port's industrial properties are monitored, larks have only been detected at the 50-acre Rivergate site. 4-5 nesting pairs were detected this year.

Airports: The occupied area at PDX is the SW quad, there are 2 confirmed territories (down from 4), but has been holding pretty steady. Out of the 2 territories, there was one confirmed nest with 3 hatchlings that seemed to fledge. Standard avian point counts are conducted every week on the airfield. Sometimes there are mixed flocks of HOLA, and also detections of SHLA but it is thought that SHLA are not breeding on the active airfield since detections are not consistent. At Hillsboro airport, they are looking to expand survey protocols, which would be for point count locations. At Troutdale airport, they have been doing point counts, but no HOLA or SHLA detections.

The Port of Portland is also actively engaged with the dredged material placement along the Columbia River. Port is working with CNLM to figure out best placement for the dredge material and what timeframe is optimal (see section below).

Scott Pearson – Monitoring in WA

Summary
Although annual monitoring at occupied sites has occurred, there is currently no protocol for assessing occupancy (presence/absence). Creating an occupancy protocol will provide better data and will utilize a combination of methods to suit larks. The initial analysis of transect survey data that partners have been collecting in Washington found an average decline of 11.7% for the lark populations at known occupied sites in the Columbia River, South Puget Sound, and the Washington coast. Results also showed that only two survey visits to a site were needed to detect a trend at the regional scale. The recommendation is to form a monitoring subgroup, with a goal to develop an interim range-wide monitoring strategy and protocols by Spring 2014.

Occupancy Protocol
Scott plans to use a nested hierarchical approach to create an occupancy protocol for assessing the breeding adult population. This involves three steps:
1. Range-wide map of probability of occurrence based on environmental factors.
2. Assessment of site occupancy within suitable habitat.
3. Statistically based sampling plan (or set of plans) to assess population abundance and trends.

There is currently no occupancy protocol, just a monitoring protocol. It's nuanced difference, but important. A common abundance survey method is to mark and resight to determine abundance – but it is expensive and for larks, difficult. The project is instead will use a combination of point counts and transects to estimate adult lark abundance and trend with an n-mixture model approach, which is a new approach to use with larks. For more information about the approach: Assessing Occupancy & Estimating Abundance Trend (N-Mixture Model, J. Andrew Royle 2004).

*Initial Analysis of Transect Data – *Two Major Findings**
The key to this project was to achieve replicated counts within multiple sites. WDFW and CNLM have been doing surveys with a standard protocol and have been visiting sites for the last 3 years. The initial effort to model lark density and trends using the N-mixture approach performed poorly. However, when they included a regional covariate in the model - the analysis separated the sites into habitat groups, the Washington Coast, South Sound prairies, and Columbia River islands – the model performed much better and indicated differences in density among these habitats/regions. The coast has the lowest and the river has the highest density. They modeled the three years (2010-2012) of data and found an average decline in density of 11.7% (with 95% confidence interval) and the probability of decline at 97.1% . These are preliminary results. Also did power analysis to figure out how many visits to a site were needed to detect trends at the regional scale: results suggest that beyond 2 visits there is no difference, so just 2 visits are needed to detect trends (good news!). There were different observers at all sites. Because the SHLA is an early successional bird, they move all around, so you need to use a hierarchical approach, to make sure you're not confusing a decline with a move. Raw 2013 survey data was presented beside with 2012 data. There were 232 individuals detected for all WA sites in 2012, versus 236.7 for 2013, a relatively consistent measure.

***Action Item*:** *Recommendation to form a monitoring subgroup*
Scott and Randy will spearhead the analysis of the approach; USFWS, ODFW, WDFW (Mary Linders and Derek Stinson specifically), Bob Altman, and Hannah Anderson will contribute to design, protocols and implementation. The goal is to develop an interim range-wide strategy and protocols by Spring 2014.

Bob Altman – Population Objectives

As part of Bob's work with the Pacific Coast Joint Venture (PCJV) he was tasked with setting population objectives for priority species. He has started this process and drafted a document, just for Willamette Valley currently. USFWS is doing a WV conservation study that is part of the Great America Outdoors Initiative. Now Bob is working together with PCJV, USFWS, and ODFW to come up with singular objectives for the birds for both purposes. The point of presenting this information is to make sure the group is aware of this initiative so they can think about it and give feedback to Bob. This is NOT about setting targets for viability or about settings goals for recovery. It is about setting numerical targets for partners to use to stimulate their actions and gauge context for their actions for these species. This will be a companion to the similar objectives set a few years ago in WA, which set the objective to double the population from 200 to 400 by 2020 (10 years). The document can be found here.

Hannah Anderson – South Puget Sound Genetic Rescue

The project is being carried out by a partnership between CNLM, WDFW, JBLM, and Randy Moore, with input from FWS. The genetic rescue project is aimed at addressing the low egg hatchability noticed in South Puget Sound by replacing eggs in south sound nests with eggs from a population not exhibiting low egg hatchability.

The objective is to increase hatchability, genetic diversity and assess the feasibility of their method of bringing in eggs from a new population. The project is using the Corvallis Airport population as the source population and 13th Division Prairie on JBLM as the rescue site. This year (2013) is the 3rd year of project.

The project brings eggs from a source nest in OR to a nest in South Sound that is in the same stage of incubation. The entire OR clutch is collected, which typically results in a re-nesting attempt by the source breeding pair. If the group were to take just one egg, a re-nest would not occur, thus taking the whole clutch actually allows for the removed egg to be replaced. In Corvallis, early season fledglings are often predated, so removing early season eggs and allowing a later re-nest also improves the success of the hatchlings. The first step is to determine egg age with an egg floating technique (Rizzolo and Schmutz, 2007; Hays and LeCroy, 1971). They move the eggs on the same day – put the egg from the source population in an incubator and drive up to S. Sound, replacing the egg in that nest with an egg of the same age. The project also tracks nest success, bands fledglings, and collects genetic material for analyses.

In 2011 eggs from four nests, all with 3-egg clutches, were translocated. 11 of the 12 eggs hatched and 5 fledglings were resighted. In 2012 no translocations were conducted, but one returning individual (named the 'Oregon Male') was observed. He tried really hard but did not breed (that we know of). He successfully paired with an unbanded female in 2013, resulting in 2 nests with 100% hatchability. From this nest there was 1 fledgling resight. This year (2013) the team translocated eggs from three nests (2-egg and 3-egg clutches). In all, 4 eggs hatched, 1 was abandoned, and there was 1 resight.

As for the SHLA eggs that are removed from the S. Sound nests when the Corvallis eggs are brought up, the 2011 eggs were collected for future genetic research. Subsequent discussions among partners have identified alternatives to culling. One option is to place the removed eggs in active SHLA nests that have small clutches, another is to place the removed eggs in Savannah Sparrow (SAVS) nests (to serve as a surrogate, and cull SAVS eggs), while another is to captive rear removed the eggs. If none of these options work, the last option is to cull the removed eggs and do genetic analysis. For two of the translocations in 2013, the first method was implemented – adding the eggs to active SHLA nests. One was abandoned and one was depredated, so results were not good. The other two clutches were added to SAVS nests within the area of SHLA. One was depredated, but one chick was raised to fledgling, but it was not resighted. In these nests, the SAVS eggs were brought to a wildlife rehab site for rearing, but they were not successful.

The results of this project to date are that so far, there has been some success. There was high hatchability in translocated eggs - in 2011, the South Sound population had a 61% hatch rate, with 92% of Oregon –sourced clutches hatching. In 2013, the S. Sound hatch rate was 77%, with 100% of the Oregon clutches hatching. SHLA females continue to incubate replaced clutches, birds are raised, and there is one returning Oregon individual. Just one individual inserting genes into the South Sound population can have the desired "rescue" effect. The 2014 plans and recommendations are as follows: genetic analysis will be done by WDFW to see if there are differences in the genes between WA and OR. This will utilize data collected from feathers taken from nests; additional translocations will be conducted in 2014; and the project will explore

expanding the receiving sites (more potential nests increases egg match opportunities) and will continue the conversation about SAVS surrogate. Additional related work includes comparing hatchability pre- and post-translocation, habitat enhancement for potential sites, and publishing the findings from this project

Hannah Anderson - Conspecific Attraction Feasibility Study

The purpose of the study is to find out if SHLA will respond to audio/visual conspecific cues, and is being conducted on plots at JBLM and St. Johns landfill, both adjacent to occupied breeding sites. The sites needed to be close to occupied sites, as the study aimed to see if a stepping stone can be created. The group actively managed habitat for streaked horned lark habitat conditions in both treatment and control plots with the support of USFWS, Port of Portland, Metro, and JBLM. Two years ago, source-specific recorded calls and song playbacks and 3-D decoys were placed in treatment plots. All plots were monitored for SHLA detections twice per week. Although they have had some detections of SHLA in the plots, they appeared to be individuals that responded to the cue quickly and didn't stay long. St. Johns often hosts wintering flocks of HOLA (including some SHLA), but no individuals use the site during the breeding season. In March 2013, there was early presence of a male that was possibly a SHLA that hung out, but eventually disappeared, fate unknown. As soon as the bird arrived, the playback was removed. A future strategy could be to move the playback outside the habitat plot so that conspecific presence is retained, but perceived competition does not inhibit colonization. The decoys are unisex and quite large. Michelle notes that for GBH research, gender of decoy and playback made big difference.

Randy Moore noted that it has been difficult to attract larks in their northern range to created habitats. Organizations such as the zoo could play a role in doing captive breeding, and raising SHLA in an area that has been prepared for them. This method greatly improves the chances of establishing a breeding population as opposed to attracting larks.

Habitat Protection

Summary
Multiple partners are working to protect habitat via acquisition, easements and management plans. ODFW's Wildlife Mitigation Program has $117 million in funding to purchase property, to benefit SGCN and has already purchased a property that has an emphasis on SHLA. The Nature Conservancy is acquiring a property in the Yamhill area where larks have occurred, but it is yet to be decided if it will or should be a focus area for SHLA recovery. Metro is continuing to acquire land, both new properties and to expand existing sites, including those that are potential lark habitat. Finally, CNLM is working with JBLM to expand the protection of prairie habitat off-base through acquisitions and easements. This work could possibly be leveraged to increase the priority of larks in NRCS work with agricultural landowners in the Willamette Valley. Details for each project can be found below.

Ann Kreager, Wildlife Mitigation Program
The program is obligated to acquire at least 16,880 acres of wildlife mitigation property by the end of 2025, and has approximately $117 million in mitigation funds to secure these lands. The program is focused on benefit to Oregon's Species of Greatest Conservation Need as identified in their State Wildlife Action Plan. January 2nd, 2014 will be the open date for solicitation of funding requests. The money has already enabled the purchase of 350 acres at Coyote Creek in 2013, where there is an emphasis on SHLA. There are multiple neighboring sights that they are trying to acquire.

A component of this program is focused on working lands. The SHLA community could use this part of the program to give an ecological lift to larks. If the site is chosen specifically for SHLA, then it can be a candidate for funding. There is no money for long term management, so using production that is generated as long term management is a potential method. The sponsor of a project has 18 months to develop a management plan, and needs to have an up-front plan for restoration actions and restoration funding.

In NW Oregon, Metro is carrying out a lot of work to find strategies for long term management, dealing with the fact that burning is not an option. With limited tools in the tool box, the group needs to know how to carry out long term management for lark habitat.

Joe Buttafuoco, TNC
TNC has been working in the Yamhill area for the five or ten years and are currently working on an acquisition in Polk County. It is a ~500 acres preserve that previously hosted African wildlife. There were two breeding pairs of larks on the property this year, and unclear on if it is an appropriate site for larks, and if so how and if they should be part of a restoration plan. TNC is still acquiring funds and carrying out due diligence, but hope to start restoration planning this winter. This is currently the only project in the pipeline in the geographic region, but the Columbia Land Trust is scoping projects in the area to look at capacity and if they should expand. Also considering the idea that Greenbelt expand their cover north.

Elaine Stewart, Metro
Metro is continuing to acquire land in the three county area around Portland, including the recent acquisition of a property between Forest Grove and the Tualatin Refuge. It is a nice big open spot to add to the restoration landscape. Metro is also working on acquiring another 17 acres, and with a new operating levy Metro will be able to get 50 acre chunks of St. Johns here and there.

Hannah Anderson, CNLM and Jeff Foster, JBLM - Sentinel Landscape Designation
Prairies of south Puget Sound have recently been made the pilot for a new national designation, the Sentinel Landscape (SL). SL's are geographic regions where the priorities of the Departments of Defense, Interior, and Agriculture converge. Those agencies pledge to focus priorities and funding toward these regions resulting in mutual benefit to all. In Sound Sound's case, by working to increase the number of protected prairie sites through acquisition and easements (supported by DOD and NRCS) provides benefit to the military by reducing their regulatory burden of ESA species, benefits the private landowner who can continue ranching and agricultural practices, and benefits the species themselves through increased habitat protection.

In particular to SHLA, if the Sentinel Landscape designation for South Puget Sound prairies could be leveraged to the Willamette Valley, an increase in priority and support for NRCS funding on agricultural lands could have significant positive impact for streaked horned larks.

Habitat Management

Summary
Multiple partners are undertaking habitat management to benefit SHLA. Bob Altman of ABC started with discussion about messaging and perceptions about lark habitat, challenging the group to modify the perception that larks cannot be integrated into restoration plans in the WV that are targeted for other species, or that lark restoration is single species management. At JBLM, burning and invasives control is providing benefit to larks and there is potential for new land to be restored that would move larks away from an occupied airport. In the Willamette Valley, USFWS has multiple NWR areas and adjacent sites that are potential lark habitat, some with lark detection. There are additional Federal lands in Oregon that are potential lark sites. In addition to purposeful management, the Port of Portland is observing a site that had an unintentional fire set to it, reducing moss cover and creating potential lark habitat. Details for each project and partner can be found below.

Bob Altman, ABC – A Note on Perceptions and Messaging
Bob noted that he has done a lot of work with land trusts in the WV, and he has noticed that the image of lark habitat is perceived as contrary to goals of prairie restoration. Bob feels there is an opportunity for the working group to help modify that perception and demonstrate how larks can be integrated into restoration plans in the WV that still meet the objectives for other species. Our use of talking about lark habitat as 'highly degraded areas' is problematic for widespread lark-friendly restoration. If we better communicate the needs of larks early in acquisitions and easement protection opportunities, and restoration and management planning, there are a lot of potential locations for lark-friendly restoration.

Elaine Stewart adds that one of the problems is that when we talk about lark restoration, often people interpret it as single species management, which is something we rarely are actually pursuing. It is important that we focus on creating habitat components within a diverse healthy system. Lark habitat is compatible with turtle nesting, other larks, nighthawks, geese and other species. Hannah adds that it would be ideal to have a mix of core sites and satellite sites. Though it is hard to tell people exactly what we need, it is easy to tell people what habitat characteristics to avoid (such as tall grasses).

John Richardson, JBLM
The prescribed fire and habitat management for larks at JBLM is part of their prairie management plan. Burning and mowing has resulted in shifts in lark distribution to use the burned areas. In addition, some cottonwoods were removed recently to create a larger open appearance. The focus of the restoration work at JBLM is to remove the most threatening structure changing invasives, a great benefit to larks. The last five years have seen an average of

1500 acres burned annually, which is half of their goal to burn 3000 acres per year. In addition to the current work, there is a 500 acre pit on JBLM that they have submitted a proposal to fill, add vegetation and create lark habitat, which would ideally move lark use away from an occupied airport.

Molly Monroe, USFWS – National Wildlife Refuges & Adjacent Sites
There are two farm fields at the refuges that weren't leased by farmers this year. They are lands that geese grazed heavily. Larks were present when the fields started to grow up, so they chose to disk the draining areas and the larks moved right to the site – a fifty acre block. There is another area approximately 120 acres in size that had a few good habitat areas but no larks were observed. There is also a gravel lane nest to the fields that the geese graze heavily where larks are frequently detected. Management actions also include burning, and two burns were conducted on Finley. The site grows up thick and fast so it's not great lark habitat, but there are vernal pools that could potentially be a good site for larks.

NRCS
There are Wetland Reserve Program private lands managed adjacent to WV Refuges. Some 25-30 year easements were added in 2013, expanding the potential habitat. Larks were detected on surveys but no nests were located.

Dana Green, Port of Portland
On Government Island in Portland fireworks set a fire that burned approximately 90 acres. Prior to the burn there was 90% moss cover. After the late August and September burn, less than 20% of the area was visually burned, a lot of the land didn't burn very hot. The site will be closely monitored for larks.

Elspeth Hilton Kim - Larks & Agriculture in the Willamette Valley

A sub-committee has been formed to increase lark conservation on agricultural lands. The main goal is to increase larks as priorities in incentive programs, especially those through NRCS. The first stakeholder meeting was held earlier in the year, with the goal of trying to understand the NRCS process in Oregon. Funding for different activities is very dependent on being prioritized at the local, per county level. We need to make the case for local work groups and will target Benton, Linn, and Marion Counties. A local working group will entertain a CIS, which is basically a mini-RFP. This is a lot of work so we have to be very well prepared in our proposal to the local work group that is a good idea to increase lark conservation on ag lands.

We need to talk about the problem and ask for their help to ask for suggestions and help. Marion Co. local work group has quite a few ag commodity groups at the table and lots of growers at the table. Once we get past the CIS authoring and accepting by NRCS we need to make sure the practice scenarios are built into the payment schedules.

One example of an action that can be beneficial to larks includes pea gravel placement, which gives improved roads to farmers. Identifying what the explicit benefit to farmers is will be our biggest challenge, though the benefits are there, we need to make them clear. The group will meet with NRCS and SWCD to disseminate information on lark ecology and will draft a one-pager that can be distributed to farmers.

Working With Larks in Occupied Sites

Efforts are being made by multiple partners to support compatible land use by larks at airports. CNLM is working with JBLM to improve notification about lark nest locations on base to reduce the threat of adverse impact. WDFW convened an airport working group for south Puget Sound that will support improvements to airport practices and management in occupied lark habitat. The Port of Portland presented at the most recent Oregon Airport Managers Association meeting about lark habitat and compatible practices, will the FAA thanked the group for the education they've provided – as they provide funding for development projects rather than manage any specific airports, it's helpful for them to be better able to judge what projects are 'justifiable'. More details for each project and partner are below.

Hannah Anderson, JBLM & Airports
CNLM worked actively with JBLM in 2013 to identify as many lark nests as possible with the intention to reduce human-caused impact (e.g. mowing) to those nests and individuals. Nest monitoring was conducted at 13th Division Prairie, Gray Army Airfield, and McChord Airfield. The 13th division prairie is an active training site, and also the genetic rescue site. The project identified where the territories are and identified as many nests as possible – this year twenty nests were found. The group made a weekly map of lark territories and use areas, known nest locations, and status of those nests. This process if very labor intensive but did provide up-to-date information for managers of those sites to avoid sensitive areas.

WDFW & Port of Portland, Range-wide airport strategies, next steps
Michelle Tirhi reported that an airport working group has been convened for south Puget Sound. A half-day workshop is set for January to bring in reps from each airport in the region to do overviews of SHLA management, burn programs, mowing regimes and more. Just the act of talking will be a good first step.

At the last meeting of the Oregon Airport Managers Association, Dana and Nick gave a presentation about larks and management. Part of the effort is starting dialogue within the agency about if regularly occurring airport projects can be done in agreement with lark habitat requirements on a programmatic basis. An example of this would be widening shoulders to meet FAA requirements.

Janell Barrilleaux was encouraged to hear discussions of creating a protocol for spring monitoring. The FAA's NEPA information is due January 15, so everyone needs to move quickly in getting a process in place for upcoming compliance work. The FAA does not own or operate airports, so the only way they are involved is by providing funding for certain eligible development projects. They only fund things they deem justified and eligible, which is the federal nexus that tips off the NEPA process. The education that the working group has provided the FAA is very much appreciated. Randy adds that because airport practices are super repetitive, larks are very consistent at airports, unlike at other sites.

Hannah Anderson - Columbia River Habitat Analysis, Deposition Management Scheme

Hannah (with help from others in the group) has been working with the Port of Portland, Army Corps and USFWS to create a strategy for dredged material deposition on the Columbia River

with the purpose of continuing the dredging while minimizing impact to larks. In order to create a strategy and provide recommendations, Hannah needed to define the tie it takes for dredge material to become suitable habitat, how long the habitat remains suitable and create a method for mapping said suitable habitat. The remote analysis indicated that on many sites, particularly those further upriver, lark habitat conditions are achieved within 1-2 years after deposition and are maintained for up to 7 more years. For sites closer to the mouth of the river, erosive forces delay succession and habitat conditions are not met until 3-4 years post deposition.

These results will be used to help guide strategic placement of dredge material and complementary actions to maintain a certain amount of acres in suitable condition for streaked horned lark at any one time. Using dredge material to address beach grass invasion and complementing placement with other habitat-creating actions such as tilling, scraping, herbicide, and fire are just some of the options. With that said, there are a lot of considerations to be undertaken when it comes to dredging such as frequency, distance from shoal to placement site, shoal volume and placement area, situational context and so on. Further considerations for this project include looking at the impacts to other species, answering outstanding questions and refining lark movement and colonization, larks in buffered refugia, habitat based planning and potential lark limitations.

Overview - Day 2 (October 29, 2013)

Action Planning

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. New items included: develop criteria to determine if habitat is suitable for all life history stage; apply criteria to develop a range wide map of potential habitat; develop and hold SHLA ID training and certification process; evaluate effects of different crops and ag management techniques on larks; evaluate effect of predator management; seek opportunities to secure sites dedicated to lark conservation; work with NRCS and others to ensure lark are a priority for funding programs; package existing habitat knowledge specifically for producers; provide information to the regulated community.

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. The top three priorities actions are:

1. Seek opportunities to secure sites dedicated to lark conservation.
2. Secure protection commitment on core occupied sites, e.g. management plans, Safe Harbor, BA.
3. Enhance existing habitat and increase amount of available habitat in the Willamette Valley, with an emphasis on implementing habitat restoration activities on breeding and wintering grounds.

2013 Streaked Horned Lark Action Plan

	Ref. #	*Task Synopsis*	*Rank*	*Status and Implementing Party (Options: Ongoing, In Progress, Planned, or No Action Yet)*
1. Determine Population Status, Current Distribution And Limiting Factors	**1.1**	**1. Identify threats to population viability**		
	1.1.a	a. Determine factors limiting juvenile and adult survivorship in OR & WA (e.g. predation, airstrike). Does adult and juvenile survivorship limit population growth in OR (answered in WA)?	4	OSU
	1.1.b	b. Evaluate the role of disturbances (e.g., recreation, military activities, industrial uses, researchers, dredge material deposition) that may affect survival in all life stages (i.e. nests, juveniles, adults).	11	WDFW, OSU/ Randy does have some quantified mowing regime, so does CNLM/JBLM.
	1.1.c	c. Track current climate change science to inform the role of climate change to streaked horned lark conservation decision making, e.g. northward expansion of prairie habitat		WDFW, OSU, USFWS, CNLM
	1.1.d	d. Examine genetic variability and population structuring		WDFW, Smithsonian
	1.1.e	e. Determine factors limiting reproductive success in private working lands of the Willamette Valley		
	1.1.f	f. Evaluate effect of different crops and agricultural management techniques to larks		
	1.1.g	g. Evaluate effect of predator management		
	1.2	**2. Finalize standardized survey and monitoring protocols range-wide that address occupancy, abundance, trends, use and spatial distribution.**	6	Working Group* see notes re: implementation timing
	1.3	**3. Develop and hold SHLA ID training and evaluate the need for a certification process**	12	
	1.4	**4. Develop criteria to determine if habitat is suitable for all life history stages, how can I tell if I have habitat?**	*	
	1.4.a	a. Apply criteria to develop a range wide map of potential habitat		
	1.5	**5. Conduct annual monitoring at occupied breeding sites**		WDFW, OSU, CNLM, JBLM, PDX, ODFW
	1.6	**6. Survey new and historic sites. Potential examples: Rogue River valley, Roger's Washington townships, OR Coast, Cowlitz River, Port of Longview industrial area & coast, Regional airports**		Portland Audubon, WDFW, CNLM, Metro, Port of Portland, ODFW
	1.7	**7. Identify important habitat features**		
	1.7.a	a. Determine effect of habitat parameters on nest success, esp. on private working lands, synthesize OR & WA data.		OSU/Ongoing, collecting OR nest habitat variables.
2. Protect Existing Populations and Habitat	**2.1**	**1. Seek opportunities to secure sites dedicated to lark conservation - lark preserves.**	1	Working Group
	2.2	**2. Secure protection commitment on core occupied sites, e.g. management plans, Safe Harbor, BA**	2	
	2.2.a	a. Range-wide Airports - Corvallis, PDX, South Sound		IAE, OSU, City of Corvallis, FWS, CNLM
	2.2.b	b. Columbia River Islands - management plan with Army Corps, CCP at JBH complete		CNLM, USACE, FWS
	2.2.c	c. Willamette Valley NWRs - CCP complete, mgmt plan in process		USFWS NWR
	2.2.d	d. Joint Base Lewis-McChord - ESMP		JBLM, FWS
	2.2.e	e. Washington Coast - signed CCP at Willapa that includes larks, WA State Parks (Twin Harbors, Grayland Beach), Damon Point (DNR/WDFW)		FWS, WDFW, WSPRC, WDNR
	2.2.f	f. Rivergate		Port of Portland
	2.3	**3. Define and identify core sites for recovery**		
	2.4	**4. Work with the regulatory community if/when conservation banks for larks is a potential**		
	2.5	**5. Support land protection plans inclusive of measures to benefit streaked horned larks when opportunity available (e.g. Great American Outdoors Initiative, Willamette Wildlife Mitigation Program, SWAPs, legislatvie initiatives)**		FWS, ODFW, WDFW, CNLM
	2.6	**6. Identify mechanisms to establish long-term management funding for important sites (e.g. endowments)**		Working Group
	2.7	**7. Address identified threats range-wide: Initiate protection measures, reduce predator impacts, redirect recreation, airport disturbance**		OSU, WDFW, FWS Refuges, CNLM, JBLM

	2.7.a	a. Redirect, adapt, or modify timing of incompatible aspects of land uses, e.g. airshows, police training, dog trials, model airplane use, ATVs, dredged material placement, airport management practices		OSU, WDFW, FWS Refuges, CNLM, JBLM
	2.7.b	b. Evaluate the use of modified nest exclosures limited to coordination with grass seed harvest schedule in WV		CNLM, JBLM, WDFW, ODFW, OSU
3. Enhance Viability Of Extant Populations And Habitats	**3.1**	**1. Enhance existing habitat and increase amount of available habitat in the Willamette Valley**		
	3.1.a	a. Update and implement management prescriptions to create breeding habitat and develop winter habitat prescription in agricultural matrix		OSU, USFWS, NWR, NRCS
	3.1.b	b. Implement habitat restoration activities on breeding and wintering grounds (WV)	3	NRCS, Private, Refuges, USFWS
	3.2	**2. Conduct genetic rescue aiming at stabalizing South Sound population. Evaluate success after third year.**	5	WDFW, ODFW, OSU, CNLM
	3.3	**3. Evaluate appropriateness and feasibility of population augmentation, relocation or reintroduction (e.g., investigate lark colonization, captive rearing, hacking, cross fostering)**	7	WDFW, OSU, Oregon Zoo, CNLM
	3.4	**4. South Puget Sound habitat restoration**		
	3.4.a	**a. Implement habitat restoration activities on breeding ground using all available tools (e.g. herbicide, fire). Focus on invasives that change the structure of the habitat - ongoing**	9	JBLM, CNLM, FWS, WDFW
	3.5	**5. Columbia River and Coast habitat restoration**		
	3.5.a	a. Implement habitat restoration activities on breeding and wintering grounds (e.g. Damon Point, Midway Beach)	10	FWS, WDFW, WSP, ACOE, CNLM, WDNR
	3.5.b	b. Implement and monitor effectiveness of created lark habitat by dredge material deposition and implementing complementary strategy to control structure-modifying vegetation.	*	ACOE, CNLM, Port of Portland, FWS
	3.5.c	c. Implement habitat restoration activities on unoccupied sites within the breeding and wintering range (e.g. St. John's Landfill, Sauvie, Gov't island)	*	City of Porland, Port of Portland, Metro, OSU, USFWS, NRCS
	3.5.d	d. (Coast) Remove beach grass (use Leadbetter plover restoration HRA as demo project) -ongoing		FWS, WDFW, WSP
	3.6	**6. Develop strategy for compatible airport and lark use, develop management guidelines specific for each airport.**		CNLM, Ports, FAA, WDFW, ODFW, OSU
	3.6.a	a. Manage habitat to attract birds outside areas the airport identifies as high risk for airport safety		OSU, WDFW, JBLM, CNLM
4. Education And Outreach	**4.1**	**1. Facilitate habitat restoration on private lands through incentive programs or other means**	8	
	4.1.a.	a. Disseminate lark information NRCS and SWCDs and brainstorm on how to implement programs (first)		
	4.2	**2. Maintain range-wide working group and coordination**	13	CNLM, FWS, Port of Portland, WDFW
	4.3	**3. Hold larks and airports working group**	*	CNLM, Port of Portland, FWS, WDFW, regional airports
	4.4	**4. Work with NRCS and others to ensure larks are a priority for funding programs**		
	4.5	**5. Package existing habitat prescriptions specifically for producers**		
	4.6	**6. Communicate results with agricultural community**		
	4.6.a	a. Provide information to the regulated community (e.g., consultation, BA guidance, Safe Harbor, Permit types, Survey guidelines)		
	4.7	**7. Develop outreach and educational materials**		
	4.7.a	a. Develop and update SHLA informational webpage		
	4.7.b	b. Develop materials on habitat management and restoration for land managers - summarize existing data to develop habitat targets		
	4.7.c	c. Develop outreach programs for additional partners, promoting regional recovery and habitat management (e.g, state partner on already conserved lands). (e.g. DNR aquatic lands, WA/OR State Parks, land trusts, mitigatin banks, OR Dept of State Lands)		
	4.8	**8. Encourage federal & state agencies to promote incentive programs**		WDFW, FWS
	4.9	**9. Address the need for consolidated database for lark data (e.g. Avian Knowledge NW, Data Basin, new one?)**		