

LMRD DISCUSSION: CONFERENCE CALL MEETING NOTES

Compiled by Greg Corace, Seney NWR

Meeting Date: 8/1/17, 2 PM ET

Background: using the LMRD brochure, managers and biologists of all 14 refuges/complexes listed were contacted. In many cases, refuge websites did not provide names and contact information for these staff, so phone calls were made to identify staff. An email list was then devised and a brief exchange among parties occurred re: interest in a discussion. A very small minority responded by saying future exchanges were not warranted, but most who were emailed were interested. A “doodle poll” followed and the meeting herein discussed was held.

LMRD brochure found here:

https://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Rachel_Carson/LMRD.pdf

Objective: to touch base as a group and exchange a history of each LMRD in an SHC-like approach to evaluation (i.e., “Lessons Learned”).

Many refuges or refuge complexes, not only those in the LMRD brochure, are actively engaged in research and demonstration and this conversation can be easily broadened in the future to all those engaged in such endeavors. As such, this discussion related to *Conserving the Future* in a number of ways:

"We are committed to a culture of scientific excellence, adhering to the highest standards of integrity and transparency, and are viewed as valued contributors to the broader scientific community" (pg. 45). Recommendation #10 (pg. 50): “Become a major contributor to the scientific community by sharing information and data; publishing scientific findings; participating in professional societies; and engaging with local, regional, and national organizations and communities to solve conservation problems.”

I. Introductions

- Jim Mueller-Balcones Canyonlands NWR
- Jack Culpepper-Carolina Sandhills NWR
- Joe Reinman and Dan Frisk-St. Marks NWR
- Tom Lapointe and Paul Casey-Umbagog NWR
- Heather Tonneson-Kauai NWR
- Greg Corace-Seney NWR

Not in attendance, but provided some information beforehand:

- Mike Gregg-multiple refuges in R1

II. LMRD informal round table

Joe Reinman and Dan Frisk-St. Marks NWR

St. Marks and Carolina Sandhills NWRs became active Longleaf Pine LMRDs in 2009 to participate in the LMRD structured decision making workshop on carbon sequestration. Joe Reinman, Wildlife Biologist at St. Marks, and Jack Culpepper, Forester at Carolina Sandhills, took on the work as collateral duties. After some initial look into research needs, the lack of any committed LMRD funding hindered expansion into longleaf pine restoration research.

In 2009, a “Range-wide Conservation Plan for Longleaf Pine” was developed and adopted by a multi-agency/NGO working group to address the 97% loss of longleaf pine across the South. Longleaf pine restoration and the 15-year goal of increasing longleaf pine from 3.4 million acres to 8 million acres became a Service priority. The LMRD focus at St. Marks became the expansion of partnerships and implementation of the longleaf plan.

A longleaf committee was established in the Apalachicola Regional Stewardship Alliance (ARSA), a partnership initially established to share prescribed burning resources and later invasive species control. Soon ARSA was converted into a Local Implementation Team for the longleaf plan. Grants from NFWF’s Longleaf Stewardship Fund (\$1.26M over 4 years so far) fueled a half-time longleaf coordinator with TNC, a prescribed burning team, thousands of acres of longleaf pine restoration on state, DOD, TNC, and St. Marks NWR lands, a red-cockaded woodpecker population expansion on St. Marks, four private landowner workshops, an 80-page landowners guide for managing longleaf pine, and a Longleaf Challenge camporee for the Boy Scouts. ARSA is also developing the first local longleaf pine conservation plan that will be used as a template for other local plans across the South.

St. Marks NWR also focused on increasing public lands for longleaf pine restoration through the LWCF Collaborative Funding Proposals. Under St. Marks’ leadership, more than 11,000 acres of land have been secured for St. Marks & Okefenokee NWRs and Apalachicola & Osceola NFs.

Current efforts also include expanding the identification and restoration of longleaf pine stands on public lands and evaluating longleaf pine restoration techniques in mesic slash and loblolly pine plantations.

Jack Culpepper-Carolina Sandhills NWR

We are presently working on management techniques for a Bobwhite Quail Focal Area (BQFA). I have two research efforts relative to work in the BQFA: 1) forest-herbicide application study and 2) forest structural variation for wildlife corridor.

Thinking back ... as a LMRD example relative to demonstration, in 2010 we hosted a field event at CSNWR for the Longleaf Alliance that brought longleaf enthusiasts from throughout the south. Visitors toured through an open, uneven-aged forest which included multi-century longleaf underlain by healthy herbaceous layer. Naturalists guided the tours and fielded the visitor’s many questions. At the conclusion of their trail ride, visitors were greeted by the Woodmizer Company’s portable sawmill operations where premium longleaf pine timber was converted to lumber. This was an “ah ha” moment for many visitors as they enjoyed the sights and smells of the longleaf that has endeared so many to this wonderful southern pine. The lumber was donated to America’s College of Building Arts in Charleston, SC which is focused on historic building techniques: all products were utilized to benefit construction projects for a school and orphanage. Following the mill operation, guests were treated with product samples from the Goodwin Heartpine Company of Micanopy, FL which demonstrated an assortment of beautiful longleaf pine products and designs. Guests continued on through a

forest stand of maple and gum across a crystal-clear stream lined with fern where they were greeted by the station biologist who provided an overview of wildlife and endangered-species management at CSNWR. Next the station fire manager discussed various “prescribed-fire” techniques. Visitors continued on the cleared trail where they were greeted by timber-buyers demonstrating the “pole market” within a beautiful stand of 50-year old longleaf pine: because “poles” can double or triple standard revenues for land owners, the subject was of much interest to many. Further on was a “static demonstration” of high-quality logging operation where a grapple skidder harvesting system was being applied ... the treated and non-treated forest areas were easily compared. Visitors viewed the harvesting-outcomes and the heavy equipment up close, including feller-bunchers, skidders and log trucks loaded with varying wood products. Woodbuyers and loggers were present to answer questions. At the end of the day, many visitors voiced appreciation for the day’s events.

More broadly, conservation and restoration of the longleaf pine ecosystem is the focus of our work. To the extent we are aware, that focus is upon all that is inclusive within the longleaf ecosystem. As Joe has noted and as noted within the LMRD brochure, we are restoring and managing a range of subtypes. In the past few years, restoration work at CSNWR has included efforts at our “sister-refuge” Pee Dee NWR where we have identified and begun restoration on a G1S1 ranked ecosystem that was not known to exist; i.e., the “Wet Piedmont Longleaf Pine Forest” where more than 30 herbaceous species never mapped in the piedmont have been found. Due to these efforts, recently 640 acres were added there to the North Carolina Natural Heritage Program.

Jim Mueller-Balcones Canyonlands NWR

Jim Mueller was hired in September 2010 as LMRD biologist at Balcones Canyonlands NWR. His prior career was as a vertebrate zoologist/wildlife biologist in academia. The position was 2/3 LMRD for Balcones and 1/3 zone biologist for 5 other refuges. Balcones Canyonlands NWR is the only refuge with the dominant vegetation type found at Balcones (Ashe juniper-oak woodlands). Because Texas is primarily a private lands state, collaborations here are with private landowners; county, regional, and state entities; and NRCS. In 2013, the position was made 100% zone biologist with the concept that every zone biologist and refuge biologist can function as an LMRD if and where appropriate.

Balcones Canyonlands NWR consists of about 26,500 acres. It is 35 miles northwest of downtown Austin, Texas, and is quickly being encroached on by urbanization. The refuge staff has had one permanent refuge biologist since its establishment in 1993; the LMRD biologist position was a new additional position. The focus of efforts at Balcones has been management of juniper-oak woodlands, specifically as habitat for the endangered golden-cheeked warbler; and management of early-to-mid successional shrublands as habitat for the endangered black-capped vireo.

The most significant accomplishment has been developing a density surface model for the refuge based on significant predictors of warbler density. This culminated in a paper in *Ecosphere* in 2016 (<http://onlinelibrary.wiley.com/doi/10.1002/ecs2.1220/pdf>), and we are using this model to develop management objectives for the Habitat Management Plan as a whole and individual projects on a unit-by-unit basis.

Another significant accomplishment has been monitoring and evaluating the black-capped vireo restoration work that began in 2008. More than 500 acres of habitat have been restored. The population of this species was around 60 territories when work began and now has increased by approximately 300-400%.

Lessons learned – The accomplishments were made possible due to the creation of a team of regional biologists in R2 with sophisticated skills in remote sensing and biostatistics. This team works together with LMRD and

now zone biologists to design, implement, analyze, and report studies necessary to address priorities identified by refuges.

Tom Lapointe and Paul Casey-Umbagog NWR

Northern Forest LMRD initiated 2012. Staffing was LMRD Coordinator (Forest Ecologist), Forester, Forest Technician, annual soft funding. One month later the Forest Ecologist position was changed to 50% I&M, the Forester position was reassigned to 100% I&M and the technician position was terminated. Nine months ago the Forest Ecologist Position was changed to a 50% Regional DNRCP position. Initial efforts were on assembling a steering committee, hosting annual workshops, writing a strategic plan, getting each refuge a comprehensive veg dataset, developing a forest management plan and implementing forest management at Umbagog NWR to set up a demonstration refuge. The last few years efforts were focused on science needs including forest bird research, Ecological Site Descriptions, developing communication tools, hosting tours (SAF, Guild, NRCS, State, CARE, FWS international program), developing a regional I&M program for forests that includes protocols, software, centralized database, spatial relationship. Also building partnerships, credibility, awareness, and presence in eco-regional conservation community. LMRD is a long-term endeavor for a refuge, longer for an ecoregion, longer for a region. Requires resources, support, and focus. Seems program titles are political targets and subject to change as personnel/administrations change. Still a very relevant concept. Lead by example. Earn credibility and trust by demonstrating responsible forest stewardship. Next Gen document supports this paradigm.

Heather Tonneson-Kauai NWR

Was surprised Kauai NWR was listed in LMRD brochure as it has never been formally recognized. Most work involves wetlands and species of high conservation priority, with many challenges. Refuge staff were very involved with Adaptive Management Guidebook that seems to be on hold at HQ/WO.

Greg Corace-Seney NWR

Seney NWR is the largest refuge in R3 and is complexed with island refuges in the Upper Great Lakes and Kirtland's Warbler Wildlife Management Area. Of the nearly 103,000 ac. managed by Seney NWR, nearly a quarter is designated Wilderness. Seney staff have been conducting studies and publishing findings that apply to its mission since 1947, with the number of peer-reviewed publications increasing exponentially over time. As such, and as stated explicitly in the Seney NWR *Comprehensive Conservation Plan* (2009), Seney NWR has functioned as a *de facto* LMRD since 2000, with >100 refereed publications (peer-reviewed journal articles, theses/dissertations) having been produced using the refuge as a study area in the past 17 years. Refuge staff have been a principal investigator or co-principal investigator on nearly a quarter of these documents, most of which have been incorporated in the *Habitat Management Plan* (2013) or *Inventory and Monitoring Plan* (2016) (https://www.fws.gov/refuge/Seney/what_we_do/research.html). Many of the projects at Seney have also been extended to partner lands, both public and private.

Research is primarily focused on identifying the natural range of variation in ecological patterns and processes in fire-dependent, pine-dominated ecosystems and in wetlands. Other work involves testing efficacy of different treatments related to ecosystem restoration and invasive plant management and evaluating monitoring protocols. These findings help guide current and future land management. Partnerships with colleagues in the Seney Natural History Association (Friends Group), academia, and other federal agencies are critical aspects for this work as most funds arise from competitive grants from funding sources other than USFWS. Graduate student training is integrated with research and management. Seney NWR staff also function as co-principal

investigator of the Lake States Fire Science Consortium (funded by the Joint Fire Science Program), with the stated mission of integrating fire science into fire management activities across ownership types in the northern Lake States. Seney NWR is one of the demonstration areas for the Consortium.

The main challenge at Seney has been communicating expectations and the culture (and business) of science (parochially defined) across a diverse set of groups with different backgrounds and assumptions.

Michael A. Gregg, Ph.D.- Region 1 LMRD

Background/History:

The shrub-steppe LMRD was established in 2004. There never has been any base funding other than salary for LMRD, so the program has been entirely dependent on soft money. Currently besides myself, I have 2 full time term employees. Current work is primarily with development of a Cheatgrass Biopesticide and supporting DoD with biological expertise on lands in Washington, Oregon, and Idaho.

Focus Habitat: Shrub-Steppe:

- Shrub-steppe is among the largest shrub/grassland ecosystems in North America, covering >150 million acres of the Western United States.
- Shrub-steppe is one of the most altered ecosystems, <5 % is unaltered.
- Shrub-steppe has been lost through conversion and fragmentation from agricultural, urban development, resource extraction, and construction of utilities and transportation corridors
- Existing shrub-steppe has been degraded by historical overuse by livestock, introduction and invasion of invasive, non-native plant species, and altered fire frequency and intensity.
- There is over 100 million acres in need of restoration.
- Refuge system manages over 3 million acres of shrub-steppe

Program Emphasis:

- Develop and demonstrate techniques for habitat restoration in arid environments
- Collaborate and Consult on shrub-steppe issues and research within and outside the Service
- Education and outreach on shrub-steppe management and restoration issues

Focus Area:

- Columbia Basin - *Mid-Columbia River NWR Complex*
- Northern Great Basin -*Sheldon-Hart Mountain NWR Complex and Malheur NWR*
- Snake River Plains - *SE Idaho NWR Complex*

Research Projects:

- Development of a Biopesticide for Cheatgrass
- Sage-Grouse, Burrowing Owls, Washington Ground Squirrels
- Sagebrush Ecology and Restoration
- Native Grass Production
- Rare/Endangered Plant Monitoring and Restoration (DoD)

III. Questions for each LMRD...back and forth exchange.

- Some discussion occurred about the need to move beyond the LMRD concept and see research directed to applied questions as part of any refuge that is so inclined.
- Most indicated that accomplished peer-reviewed publications (the “R” in LMRD) is difficult and the emphasis has been on the “LM” and “D.”
- Some discussion occurred how other things can take refuge staff away from conducting research and instead focus more on demonstration of land management activities (e.g., year-round work in the southeast US, forest mgmt.. winter seasonal work in conifer stands in the northeast US).

IV. Thoughts about if/where we go from here.

- Unless someone else wants to step up, Greg has been asked to maintain this list of staff.
- Unless someone else wants to step up, Greg has been asked to send notes to Jan Taylor (R5) to see if she would like to advise further.
- Perhaps we could focus on the purpose and audience for communicating and demonstrating science in management of natural resources in the future.
- As far as attendees were aware, there is no USFWS-wide annual collection of peer-reviewed publications (or standardized by region). R3 NWRS has done this successfully for a couple of years, but a standardized, annual documentation of quantifiable peer-reviewed achievements across regions and programs seems to mesh well with *Conserving the Future* objectives (see above) and could be accomplished at little cost.