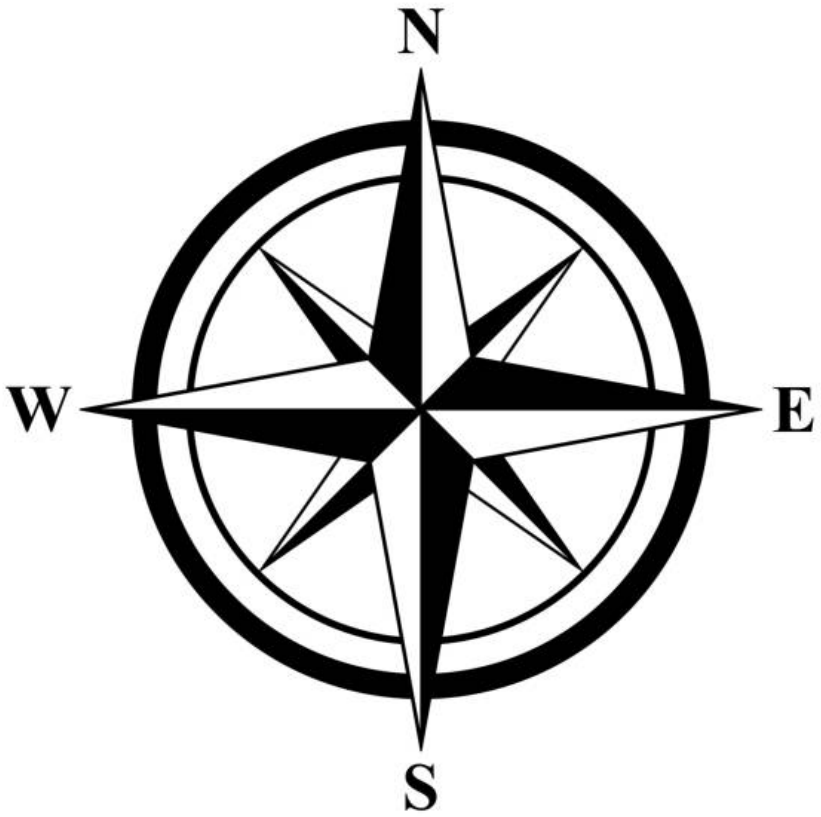
Lower Mississippi Valley
JOINT VENTURE

Management Board Meeting Notebook

November 2-3, 2022 **Heber Springs, AR**

The Lower Mississippi Valley Joint Venture is a self-directed, non-regulatory private, state, federal conservation partnership that exists for the purpose of sustaining bird populations and their habitats within the Lower Mississippi Valley region through implementing and communicating the goals and objectives of relevant national and international bird conservation plans.



The mission of the LMV Joint Venture is to function as the forum in which the private, state, federal conservation community develops a shared vision of bird conservation for the Lower Mississippi Valley region; cooperates in its implementation; and collaborates in its refinement.

Table of Contents

***Request Management Board Approval**

LMVJV Fall 2022 Board Meeting Agenda

Red Apple Inn, Heber Springs, Arkansas

Tuesday, 1 November

6:30pm	Gather for dinner	

Wednesday, 2 November

Organization, Administration, Staff

		Notebook
8:30am	Welcome, Introductions, Overview of Agenda	
	Dr. Janine Antalffy Introduction	
	Spring Action Item Progress	p. 5
	Spring 2023 Meeting Venue	p. 9
	Op Plan Year 4 Progress Update - SHC, JV Matrix, Operational Compass	p. 15
	JV Office Staff FY2023 Priorities Summary	p. 33
10:15am	**BREAK**	
10:45am	Staff Vision Statement	p. 37
	2023 Operational Plan Development - Call for *ad hoc* Committee	
	FY2023 Budget Outlook	p. 38
	Capacity Needs Update	
11:30am	Tour Overview & Background	
Noon	**LUNCH**	

Field Tour - Henry Gray Hurricane Lake WMA

1:30pm	Depart for WMA
6:00pm	Social & Dinner on Site Provided by AGFC & DU
9:00pm	Approximate Arrival Back at Red Apple Inn

LMVJV Fall 2022 Board Meeting Agenda

Red Apple Inn, Heber Springs, Arkansas

Thursday, 3 November

Science

		Notebook
8:30am	DFCW Revision Drafts Available - Encourage Partner Staff Review	
	FY2022 Science Investment Project Updates	
	Science Priorities Document - ***Approval by Board*** [1]	p. 41
	FY2023 Science Investment Discussion	p. 69
	Waterfowl Symposium Report Out	
9:50am	**BREAK**	
10:15am	Emergent Wetland Assessment Update	
	MAV Forest Assessment - Validation & Update	
	Waterfowl Plan Revision -Timeline & Potential New Approaches	
	Water Mgmt Unit Update - Heads-up & History of Need	
	Science Round-up - Quick Bullets of Ongoing Tasks	
	State of the Birds Report & LMVJV Priorities	
11:30am	**LUNCH**	

Delivery Coordination

1:00pm	MAV Delivery Coordination	
	MAV CDN Updates	
	Tri-State Conservation Partnership (TCP) Updates	
	Wetland Policy Coalition - New Farm Bill Effort Update & Discussion	
2:00pm	WGCPO Delivery Coordination	p. 73
	RCPP Annual Report Summary	
	Longleaf Teams: 5-yr Plans, Progress, etc.	
	NETX CDN Updates	
	Joint Chief's Project Planning	
3:00pm	Applying JV Information, Tools, & Capacity to Large $$ Challenges	
3:30pm	Review Decisions & Actions	
3:45pm	**ADJOURN**	

[1] **Requesting decision by the Management Board**

Administration

LMVJV Management Board Contact List - October 2022					
Name	**Title**	**Organization**	**Email**	**Phone**	**Address**
Jeff Raasch[1] (Chair)	Statewide Wetlands/Joint Venture Program Coordinator	Texas Parks and Wildlife Department	jeff.raasch@tpwd.texas.gov	512.389.4578	Texas Parks and Wildlife 4200 Smith School Road, Austin, TX 78744
Ron Seiss[1] (Vice Chair)	Director, Lower Mississippi River Program	The Nature Conservancy	rseiss@tnc.org	601.713.3307	The Nature Conservancy 217 Rocky Branch Road, Covington, TN 38019
Merrie Morrison	Vice President for Operations	American Bird Conservancy	mmorr@abcbirds.org	540.253.5780	American Bird Conservancy 4249 Loudoun Ave., P.O.Box 249 The Plains, VA 20198
Garrick Dugger	Assistant Wildlife Division Chief	Arkansas Game and Fish Commission	Garrick.Dugger@agfc.ar.gov	501.223.6362	Arkansas Game & Fish Commission #2 Natural Resources Dr., Little Rock, AR 72205
Tim Willis	Director, Conservation Programs (MS, TN, AR, LA, AL)	Ducks Unlimited	twillis@ducks.org	601.956.1936	Ducks Unlimited 193 Business Park Dr., Suite E Ridgeland, MS 39157
Dan Figert	Assistant Director	Kentucky Department of Fish & Wildlife Resources	dan.figert@ky.gov	502.548.6774	1 Sportsman's Lane Frankfort, KY 40601
Vacant	[David Breithaupt & Tommy Tuma, contacts]	Louisiana Department of Wildlife and Fisheries			LA Dept Wildlife and Fisheries 2000 Quail Drive P.O. Box 98000, Baton Rouge, LA 70898
Russ Walsh	Executive Wildlife Director	Mississippi Department of Wildlife, Fisheries, & Parks	russw@mdwfp.state.ms.us	601.432.2202	Mississippi Dept of Wildlife, Fisheries, & Parks 1505 Eastover Drive, Jackson, MS 39211-6374
Joel Porath	Wildlife Section Chief	Missouri Department of Conservation	joel.porath@mdc.mo.gov	573.522.4115 ext 3188	Missouri Dept. of Conservation P.O. Box 180 Jefferson City, MO 65102
Kacie Bauman	District Biologist (AR, LA, MS)	National Wild Turkey Federation	kbauman@nwtf.net	228.222.7463	911 Timberton Drive Pearl, MS 39208
Richard Beagles	Senior Biologist	Oklahoma Department of Wildlife Conservation	richard.beagles@odwc.ok.gov	580.320.3177	PO Box 397 Clayton OK 74563
Patrick Lemons	Wildlife Program Manager, Region 1	Tennessee Wildlife Resources Agency	patrick.lemons@tn.gov	731.697.5200	200 Lowell Thomas Drive Jackson, TN 38301
Wade Harrell	Deputy Chief, Migratory Birds	US Fish and Wildlife Service, Region 2	wade_harrell@fws.gov	361.676.9953	210 Terra Vista Trail Victoria, TX 77904
Mike Oetker	Deputy Regional Director	US Fish and Wildlife Service, Region 4	michael_oetker@fws.gov	404.679.4000	U.S. Fish & Wildlife Service 1875 Century Blvd., Atlanta, GA 30345
Mike Langston	Deputy Director, SC Climate Science Adaptation Center	US Geological Survey	mlangston@usgs.gov	405.290.8348	201 Stephenson Parkway, Suite 2100 Norman, OK 73019
Kimpton Cooper	Forest Supervisor, National Forests & Grasslands in Texas	USDA Forest Service, Region 8	kimpton.cooper@usda.gov	936.404.9505	2221 N. Raguet Street Lufkin, TX 75904
Mike Sullivan	State Conservationist, Arkansas	USDA Natural Resource Conservation Service	michael.sullivan@ar.usda.gov	501.301.3100	U.S.D.A. NRCS Room 3416, Federal Building 700 W. Capitol Ave, Little Rock, AR 72201-3215

[1]Executive Committee

LMVJV Management Board 11-12 May 2022

Ducks Unlimited National Headquarters, Memphis, TN

Decision, Action Items, Responsible Parties - Status

Administration

- **Future Board Meeting Locations**
  - 2022 Fall: Heber Springs, AR;
  - 2023 Spring: TBD - **ONGOING**

  Responsible: K. McKnight; All Applicable Board Members

- **Identify LMVJV Office partner contributions potentially eligible as non-federal match**

  Responsible: K. McKnight - COMPLETE

Habitat Delivery Coordination

- **Include Management Board members, as appropriate, in CDN correspondence**

  Responsible: S. Brock and B. Bartush - ONGOING

- **Determine possibility of sharing LSU drone imagery of WRP/E sites (K. Ringelman NFWF-funded project) with NRCS**

  Responsible: A. Mini, T. Landreneau - ONGOING

Science

- **DECISION: Four proposed science investments (Meeting Notebook pp. 173-174) approved; relative distribution of $250K not yet determined in anticipation of maximizing cooperators' contributions (match).**

  - An *ad hoc* Advisory Group of subject experts for each project will (a) guide specifics of work plans on the front end and (b) provide oversight and guidance during the project. Board members encouraged to provide recommendation (by 20 May) regarding Advisory Group members.

  Responsible: A. Mini, Board Members – Three of Four Projects Have Funding in Place

- **Ensure that NRCS staff are looped into DFCW Revision process**

  Responsible: S. Brock and J. Denman - ONGOING

- **Incorporate Missouri Dept. Conservation's future cover crop values in the Wetland Management Tool**

  Responsible: B. Elliott and F. Nelson - ONGOING

Communication

- **Review other joint ventures' "new member packets" for good ideas in updating ours**
  Responsible: K. McKnight, G. Elliott - ONGOING

May 11-12, 2022 Management Board Meeting Participants

Board Member	Organization
Jeff Raasch (Chair)	Texas Parks and Wildlife Department
Ron Seiss (Vice Chair)	The Nature Conservancy
Richard Beagles	Oklahoma Department of Wildlife Conservation
Garrick Dugger	Arkansas Game and Fish Commission
Dan Figert	Kentucky Department of Fish & Wildlife Resources
Mike Langston	US Geological Survey
Patrick Lemons	Tennessee Wildlife Resources Agency
Scott Manley	Ducks Unlimited
Joel Porath	Missouri Department of Conservation
Kenny Ribbeck	Louisiana Department of Wildlife and Fisheries
Mike Sullivan	USDA Natural Resource Conservation Service
Russ Walsh	Mississippi Department of Wildlife, Fisheries, & Parks
LMVJV Office Staff	
Bartush	WGCPO Partnership Coordinator
Brock	MAV Partnership Coordinator
Elliott	GIS Applications Biologist
McKnight	Coordinator
Mini	Senior Scientist
Partner/Guest	**Organization**
Mike Brasher	Ducks Unlimited
Jeff Denman	Denman Co. Consulting
Gregg Elliott	KGregg Consulting
Kristine Evans	Mississippi State University
Chad Kacir	NRCS-Louisiana
Tim Landreneau	NRCS-Louisiana
Stacey Shankle	Trust for Public Lands
Brad Thornton	Mississippi State University

LMVJV Spring 2022 Board Meeting Agenda

Tuesday, 10 May

7:00pm	Gather in Embassy Suites lobby for those wanting to go for dinner together

Wednesday, 11 May

Organization, Administration, Staff

8:30am	Welcome, Introductions, Overview of Agenda
	Avian Ecologist Hiring Progress
	Status of Climate Science Assistance from USGS
	Social Science & Hydrology Capacity
	Review Other Fall 2021 Action Items
	Budget Status & Outlook

Conservation Delivery Coordination

9:45am	ARMAV CDN Annual Report
	LA/MS CDN Annual Report
10:30am	**BREAK**
11:00am	Tri-state Conservation Partnership Report
	AR/LA WGCP CDN
	Annual Report (Ricky Chastain)
	RCPP Social Science (Mini)
	NETX CDN Annual Report
	Texas Longleaf Team & West-Central Louisiana Ecosystem Partnership Report
12:15pm	**LUNCH**
1:30pm	Desired Forest Conditions for Wildlife Revision Update (Jeff Denman)

Communication

1:45pm	Communication Plan Status Report (Gregg Elliott)

Science

2:10pm	October Waterfowl Symposium Preview
	Waterfowl Objectives Revision - Timeline, Expectations, etc.
	Emergent Wetland Remote Assessment Update
	Louisiana Waterthrush Habitat Suitability Tool Update
	Updates on Ongoing Research (Marshbird Survey, Drones & Ducks, etc.)
3:00pm	**BREAK**
3:30pm	Open Pine Spatial Priorities Revision - Species Models (Brad Thornton)
	Southeastern Three Billion Bird Loss Report
	Science Team Investment Recommendation - **Board Decision Needed**
5:00pm	**Adjourn for the Day**
	Evening Social in NHQ Foyer Immediately Following

Thursday, 12 May

Larger Partnership & Looking Ahead

8:30am	NAWMP Plan Committee - LMVJV Report Feedback
	Blueprint/JV Priorities Alignment Analysis (Brad Thornton)
	AJVMB Recent Documents & Annual Meeting Hi Lights
	New Funding Potentials
	RAWA - What can/should the LMVJV partnership be doing?
	America the Beautiful - NFWF
10:30am	**BREAK**
	Ivory-billed Woodpecker in the News
	Review Action Items
11:30am	**Adjourn**

LMVJV Management Board Contact List - May 2022					
Name	**Title**	**Organization**	**Email**	**Phone**	**Address**
Jeff Raasch[1] (Chair)	Statewide Wetlands/Joint Venture Program Coordinator	Texas Parks and Wildlife Department	jeff.raasch@tpwd.texas.gov	512.389.4578	Texas Parks and Wildlife 4200 Smith School Road, Austin, TX 78744
Ron Seiss[1] (Vice Chair)	Director, Lower Mississippi River Program	The Nature Conservancy	rseiss@tnc.org	601.713.3307	The Nature Conservancy 217 Rocky Branch Road, Covington, TN 38019
Merrie Morrison	Vice President for Operations	American Bird Conservancy	mmorr@abcbirds.org	540.253.5780	American Bird Conservancy 4249 Loudoun Ave., P.O.Box 249 The Plains, VA 20198
Garrick Dugger	Assistant Wildlife Division Chief	Arkansas Game and Fish Commission	Garrick.Dugger@agfc.ar.gov	501.223.6362	Arkansas Game & Fish Commission #2 Natural Resources Dr., Little Rock, AR 72205
Scott Manley	Director, Conservation Programs (MS, TN, AR, LA, AL)	Ducks Unlimited	smanley@ducks.org	601.956.1936	Ducks Unlimited 193 Business Park Dr., Suite E Ridgeland, MS 39157
Dan Figert *(Interim)*	Assistant Director	Kentucky Department of Fish & Wildlife Resources			
Kenny Ribbeck[1]	Chief, Wildlife Division	Louisiana Department of Wildlife and Fisheries	kribbeck@wlf.louisiana.gov	225.765.2800	LA Dept Wildlife and Fisheries 2000 Quail Drive P.O. Box 98000, Baton Rouge, LA 70898
Russ Walsh	Executive Wildlife Director	Mississippi Department of Wildlife, Fisheries, & Parks	russw@mdwfp.state.ms.us	601.432.2202	Mississippi Dept of Wildlife, Fisheries, & Parks 1505 Eastover Drive, Jackson, MS 39211-6374
Joel Porath	Wildlife Section Chief	Missouri Department of Conservation	joel.porath@mdc.mo.gov	573.522.4115 ext 3188	Missouri Dept. of Conservation P.O. Box 180, Jefferson City, MO 65102
Vacant		National Wild Turkey Federation			
Richard Beagles	Senior Biologist	Oklahoma Department of Wildlife Conservation	richard.beagles@odwc.ok.gov		
Patrick Lemons	Wildlife Program Manager, Region 1	Tennessee Wildlife Resources Agency	patrick.lemons@tn.gov	731.697.5200	200 Lowell Thomas Drive Jackson, TN 38301
Wade Harrell	Deputy Chief, Migratory Birds	US Fish and Wildlife Service, Region 2	wade_harrell@fws.gov	361.676.9953	210 Terra Vista Trail Victoria, TX 77904
Mike Oetker	Deputy Regional Director	US Fish and Wildlife Service, Region 4	michael_oetker@fws.gov	404.679.4000	U.S. Fish & Wildlife Service 1875 Century Blvd., Atlanta, GA 30345
Mike Langston	Deputy Director, SC Climate Science Adaptation Center	US Geological Survey	mlangston@usgs.gov	405.290.8348	201 Stephenson Parkway, Suite 2100 Norman, OK 73019
Vacant		USDA Forest Service, Region 8			
Mike Sullivan	State Conservationist, Arkansas	USDA Natural Resource Conservation Service	michael.sullivan@ar.usda.gov	501.301.3100	U.S.D.A. NRCS Room 3416, Federal Building 700 W. Capitol Ave, Little Rock, AR 72201-3215
[1]Executive Committee					

Lower Mississippi Valley Joint Venture
Management Board Meeting Locations 2002-2023

Fa/Wi 2023	Volunteers ??
Sp/Su 2023	Volunteers ??
Fa/Wi 2022	**Arkansas (Heber Springs)**
Sp/Su 2022	**Tennessee (Memphis, DU Headquarters**
Fa/Wi 2021	Video conference (in-person meeting not possible due to COVID-19 issues)
Sp/Su 2021	Video conference (in-person meeting not possible due to COVID-19 issues)
Sp/Su 2020	Video conference (in-person meeting not possible due to COVID-19 issues)
Fa/Wi 2020	Video conference (in-person meeting not possible due to COVID-19 issues)
Sp/Su 2019	**Texas (Jefferson)**
Fa/Wi 2019	**Louisiana (Cypress Bend)**
Sp/Su 2018	**Louisiana (West Monroe)**
Fa/Wi 2018	**Mississippi (Natchez)**
Sp/Su 2017	**Missouri (Cape Girardeau)**
Fa/Wi 2017	**Tennessee (Dyersburg)**
Sp/Su 2016	**Arkansas (Wildlife Farms)**
Fa/Wi 2016	**Louisiana (Baton Rouge, after SEAFWA; October 19-20 *OR* 20-21)**
Sp/Su 2015	**Mississippi (Tara Wildlife)**
Fa/Wi 2015	**Tennessee (Millington)**
Sp/Su 2014	**Texas (Caddo Lake State Park)**
Fa/Wi 2014	Florida (SEAFWA)
Sp/Su 2013	**Louisiana (Lafayette)**
Fa/Wi 2013	Oklahoma (SEAFWA)
Sp/Su 2012	**Arkansas (Heber Springs)**
Fa/Wi 2011	Tennessee (SEAFWA)
Sp/Su 2011	**Arkansas (Eureka Springs)**
Fa/ Wi 2010	Mississippi (SEAFWA)
Sp/Su 2010	**Arkansas (5 Oaks Lodge)**
Fa/Wi 2009	Georgia (SEAFWA)
Sp/Su 2009	**Oklahoma (Broken Bow)**
Sp/Su 2008	**Mississippi (Vicksburg)**
Sp/Su 2007	**Texas (Tyler)**
Sp/Su 2006	**Mississippi (Vicksburg)**
Sp/Su 2005	**Arkansas (Winrock)**
Sp/Su 2004	**Louisiana (Buras)**
Fa/Wi 2003	Alabama (SEAFWA)
Sp/Su 2003	**Texas (Big Woods on the Trinity)**
Sp/Su 2002	**Mississippi (Tara Wildlife)**

2-Day Location "Box Score"

Arkansas	6
Louisiana	5
Mississippi	5
Texas	4
Tennessee	3
Missouri	1
Oklahoma	1

Bold = Multi-day meeting
Gray = Planned

6.1 What is the purpose of this chapter? This chapter establishes policy and provides guidance for the establishment and organization of joint ventures receiving administrative funding through the Service.

6.2 What are the authorities for this program?

A. The Migratory Bird Treaty Act (16 U.S.C. 703-712) authorizes appropriations to carry out the provisions and to accomplish the purposes of the migratory bird conventions with Canada, Mexico, Japan, and the Soviet Union.

B. The North American Wetlands Conservation Act (16 U.S.C. 4401-4412) finds that the protection of migratory birds and their habitats require the coordinated action of governments, private organizations, landowners, and other citizens. It also encourages partnership among public agencies and other interests.

C. The Fish and Wildlife Conservation Act (16 U.S.C. 2901-2911) authorizes financial and technical assistance to the States for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife.

6.3 What is a migratory bird joint venture? A joint venture is a self-directed partnership of agencies, organizations, corporations, tribes, or individuals that has formally accepted the responsibility of implementing national or international bird conservation plans within a specific geographic area or for a specific taxonomic group, and has received general acceptance in the bird conservation community for such responsibility.

6.4 What does a migratory bird joint venture do? Working both together and independently, joint venture partners conduct activities in support of bird conservation goals that the joint venture partnership developed. These activities include:

A. Biological planning and prioritization.

B. Project development and implementation.

C. Monitoring, evaluation, and applied research activities.

D. Communications and outreach.

E. Fund raising for projects and other activities.

6.5 What are the responsibilities of joint ventures?

A. A joint venture should accept the responsibility for delivery of national or international bird conservation plans. Joint ventures should work to develop the capacity to become the delivery agents for all migratory bird habitat conservation priorities in their geographic areas.

B. A joint venture management board should direct joint venture activities. The board should be comprised of a broad spectrum of representatives from public and private organizations, tribes, institutions, and interests vested in conservation of fish and wildlife habitat within the geographic area of the joint venture.

C. An implementation plan, which the management board develops or adopts, guides joint venture conservation actions. The management board identifies the biological planning, conservation implementation, and evaluation process that will guide the work of the joint venture.

D. Joint ventures should be able to implement conservation actions identified in the implementation plan, including the design, funding, and tracking of conservation projects.

E. Joint ventures should develop an evaluation strategy to guide monitoring and assessment activities. By evaluating activities, joint ventures can analyze the effectiveness of conservation actions, test the biological assumptions that underlay their strategies, and guide future conservation planning.

6.6 What is the role of joint venture management boards? Joint venture management boards are comprised of representatives of the participating agencies and organizations. The management boards are responsible for maintaining commitment and support to achieve the goals and objectives of the joint venture. The management boards determine priorities for all aspects of joint venture activities.

6.7 What role does the Service play on joint venture management boards? Regional Directors, or their designees, are members of joint venture management boards and are responsible for our commitment to meet joint venture objectives.

6.8 What is the role of Joint Venture Coordinators? Joint Venture Coordinators (JVC's):

A. Are responsible for disseminating information and guidance and coordinating and facilitating actions and projects within a joint venture.

B. Should coordinate implementation of Plan activities with the Division of Bird Habitat Conservation and other Service personnel in their Regions and across Regions where appropriate.

C. Assist joint venture management boards by:

(1) Coordinating meetings;

(2) Serving as intermediaries for communication among board members and agencies; and

(3) Coordinating activities required for conservation planning, development, and implementation of joint venture projects, tracking accomplishments, and evaluating the process and results.

D. Solicit information on accomplishments from joint venture partners, and organize and submit the information to the appropriate managers of national databases.

E. Generate external support for and participation in joint ventures. JVC’s operate with considerable latitude across traditional boundaries due to the unique nature of joint venture activities. JVC's are not necessarily Service employees. They may be members of any partner organization.

6.9 How are joint ventures established, and how does the Service determine whether or not to become involved? At any time, Federal, State, tribal, or private parties may suggest establishing new joint ventures.

A. The initiating agency or organization coordinates with potential partners to produce a scoping document or concept plan. They circulate this document for review and comment to interested agencies, organizations, and individuals.

B. Based on the review of the scoping document, the initiating agency or organization makes a decision whether or not to proceed with the formation of a joint venture and management board and develop an implementation plan.

C. If they decide to proceed, the initiating agency or organization submits the draft implementation plan to our Division of Bird Habitat Conservation. The Division of Bird Habitat Conservation coordinates review of the plan within

the Service, with appropriate Flyway Council(s), with the national or international councils that oversee the various bird conservation initiatives, and other interested parties.

D. Based on this review of the implementation plan, the Division of Bird Habitat Conservation will determine whether or not to make a recommendation to the Director for the Service to support the proposed joint venture.

6.10 How does the Service support joint ventures? For those joint ventures that the Service recognizes, we will seek support for a full-time JVC and associated costs for basic program infrastructure. We do not fund all facets of joint venture work, but we encourage other Federal and State agencies, conservation organizations, and private interests to contribute. We will direct new funding to the joint venture activities that need it most. Following are the priorities:

A. Providing a JVC in each recognized joint venture.

B. Establishing base capability for biological planning, implementation, and evaluation.

C. Supporting joint ventures that address the full spectrum of bird conservation as defined by the international and national bird plans.

D. Assisting new joint ventures with initial planning and organization.

For information on the specific content of this chapter, contact the Division of Bird Habitat Conservation. For more information about this Web page, contact Krista Holloway, in the Division of Policy and Directives Management.

Lower Mississippi Valley Joint Venture

Progress Assessment of

2018 Operational Plan Goals & Priorities

Year 4

Lower Mississippi Valley
JOINT VENTURE
www.lmvjv.org

October 2022

LMVJV Operational Plan – Year 4 Progress

The Lower Mississippi Valley Joint Venture (LMVJV) was formed in 1987 as a regional partnership working towards achieving the goals and objectives of the North American Waterfowl Management Plan (NAWMP), and now assumes responsibility for planning, designing, coordinating, and implementing conservation in support of the U.S. Shorebird Conservation Plan, North American Waterbird Conservation Plan, and Partners in Flight Landbird Conservation Plans as well. The conservation landscape has changed (for better and worse) since the inception of the LMVJV and many challenges remain to be addressed. To facilitate a focused and efficient pursuit of shared partnership objectives, the LMVJV is guided by a 5-year Operational Plan.

The 2018 Operational Plan articulates the collective expectations of the Management Board with respect to how the LMVJV operates, interacts, and cooperates among all its parts (office staff, partners, other partnerships), and the essential expected outcomes. The primary purpose of the Plan is to ensure that the LMVJV Management Board, coordinator, office staff, and partner staff have proper context for making key (and perhaps tough) resource allocation decisions.

This document summarizes an assessment of progress after four years of work under the 2018 five-year plan.

Organizational Performance

Priority A

Consistent, high-level engagement and involvement from Management Board members

Change from 2021: None

Positives

Solid interest and participation in JV activities by all Management Board members continues. Management Board members actively facilitate increased involvement by their organization's staff in LMVJV technical teams, etc. LDWF Board seats remains unfilled with the retirement of Kenny Ribbeck.

Challenges

Turnover in Board members challenges us to share institutional knowledge, maintain a common context, and ensure continuity through time. Less than 50% of current Board members have served in that roll for more than three years.

Priority B

Consistent, high-level engagement and involvement from partner staff in technical and delivery teams

Change from 2021: None

Positives

The impact of Covid-19 on hosting in-person meetings has waned and the CDNs are enjoying successful in-person meetings. Partner staff participation in all CDNs (40-60 active members each) continues to be high.

Participation and input provided by science-related working groups is generally high (e.g., WGCPO BHW HSI development, MAV Forest Protection Model, MAV Forest Breeding Bird Plan revision, NETX Bird Monitoring, RCPP Science elements, Emergent Wetland Assessment Tool development).

Challenges

COVID-19 restrictions dictated a combination of various venues and media. Meeting venues have returned to pre-COVID restriction conditions.

Priority C

Effective communication of LMVJV activities

Change from 2021: None

Regular email updates on timely issues sent to Board members and partner networks, with four *News & Updates* e-newsletters distributed in the past year.

Website launched in 2019 receives frequent updates, including videos of virtual meetings allowing for more innovative application of video meeting platforms.

Glossy summaries of five LMVJV Plans completed and posted on the website.

Partner accomplishments (e.g., acquisition, restoration) communicated to the partnership via *News & Updates*, owing to the provision of this information by partner organizations to JV staff.

Numerous informational emails (CDN Blasts) forwarded CDN participants related to an array of topics including relevant news articles, bulletins, position announcements, webinars and workshops.

Leaders on the Land private landowner newsletter launched Summer 2021, repeated quarterly since then.

Priority D

Cultivating relationships with key DOI & USFWS decision-makers and relaying accomplishments

Change from 2021: None

Positives

LMVJV Board Chair coordinated "fly-ins" among USFWS Southwest (2018) & Southeast (2020) Region JVs and USFWS Regional leadership. The efforts were successful and well received.

LMVJV Coordinator and Chair participated in DC fly-in meetings with USFWS Leadership (Director, Deputy Director, Program Leadership) in February 2020.

LMVJV report to NAWMP Plan Committee, including USFWS Assist. Director for Migratory Birds, September 2021.

Challenges

Maintaining regular contact with key staff for building relationships is an ongoing challenge.

Inclusion of Conservation without conflict and NAFO coordination with Southwest/Southeast Regions for seamless conservation planning of At Risk Species in our shared landscapes.

Priority E

Cultivating new sources of funding for partner activities

Change from 2021: None

Positives

Regional Conservation Partnership Program (RCPP) awarded in 2021 for Open Pine conservation in the WGCP of Arkansas and Louisiana ($5.9MM RCPP, $8.1MM partners). Includes Innovative contribution opportunity from energy ROW managers.

Wetlands Reserve Enhancement Program (WREP) awards in 2022 for wetland conservation in the MAV ($10MM).

USFWS Migratory Bird funds secured for MAV emergent wetland remote assessment ($26K) supporting planning for secretive marshbirds and other taxa; a 2021 Shorebird/Waterbird Workshop ($10K); and an assessment of SE JV and SECAS Blueprint outputs ($80K) and recommendations for better harmonization.

NFWF 2020 LMAV Fund approved $2.6MM to partners in 8 projects. JV Staff directly involved in successful proposals for DFCW Revision, MAV Bird Monitoring, and Tri-State WREP (AR, LA, MS).

Texas Longleaf Team's Texan by Nature "Wrangler" award is promoting collaboration with industry partners in East Texas.

Expanded TPWD funding for Delivery programs with landscape priority focus (increased two-fold from $100 to $166-$200k annually for 2-4 years).

Challenges

Accessing funds from sources outside of our traditional streams is an ongoing and worthwhile process that requires time, energy, and coordination.

Identifying and cultivating additional new donors to LMVJV partner efforts, while avoiding conflict with ongoing development efforts by partner organizations is a delicate process.

LMVJV Operational Plan – Year 4 Progress

Priority F

Sufficient JV Office budget to support staff, travel, and activities

Change from 2021: None

Positives

Migratory Bird Joint Venture (1234) funding levels remain relatively flat to increasing ($1.5MM increase in FY20), despite reductions in other programs.

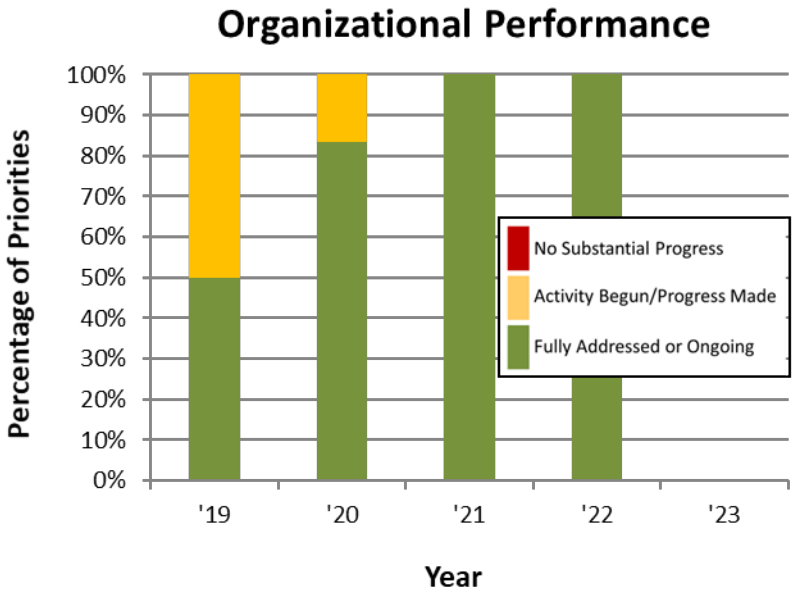
LDWF, AGFC, MDC, TWRA, NRCS, ODWC, and TPWD are contributing funds to the LMVJV Support Office to augment 1234 funds.

TPWD provides office space and support to JV staff in TX.

NFWF funds, through an amended award to ABC, provide approx. 50% of the WGCPO Partnership Coordinator's costs through 2024.

Challenges

Securing additional, sustained, outside (e.g., NFWF) funding requires ongoing investment.



Year 4 ('22) Priorities Status

- Board member engagement
- Partner staff engagement
- Communication of JV activities
- Communication with DOI & USFWS
- Cultivate and increase funding sources
- Sufficient Office budget to support staff

Biological Planning

Goal 1: Landscape-oriented, biologically driven, partner vetted, up-to-date population objectives for priority species within all bird guilds in both BCRs by 2023

Highest Priority

Waterbirds of the Mississippi Alluvial Valley & West Gulf Coastal Plain/Ouachitas Plan

Change from 2021: None

Positives

Waterbird Working Group assembled, first meeting held 22 September 2021.

Univ. of Arkansas Monticello marshbird research underway, with funding from LMVJV.

DU, in collaboration with JV staff, completed emergent wetland assessment, fundamental to assessing marshbird habitat. Partner review underway.

King Rail habitat suitability model development will begin Fall 2022, via inter-agency agreement for post-doc researcher with USGS/University of Missouri.

Challenges

This effort is challenged by a lack of population data to set defensible population objectives. Habitat and habitat use data collection ongoing.

Highest Priority

MAV Landbird Plan Revision

Change from 2021: None

Positives

Drs. Twedt & Mini published an update to the landbird biological model for the MAV as USGS Open File Report. Board approved new Population & Habitat Objectives September 2020.

Challenges

Peer reviewed document synthesizing all four components of planning & design envisioned, not yet begun.

Highest Priority

WGCPO Open Pine Plan Revision

Change from 2021: None

Scientists at Mississippi State University are developing key base information/data layers and approaches to be used in the revision. Revision to be completed in 2022.

LMVJV Operational Plan – Year 4 Progress

High

Waterfowl – New Population Objectives

Change from 2021: None

Positives

New population objectives have been completed by LMVJV Science Coordinator and shared with Waterfowl Working Group leadership. With the GCJV, we have agreed upon an interpretation of the dual NAWMP objectives (80th percentile vs. Long-term average).

Improved Water Management Tool deployed, with new data from partners to serve foundational role in revised plan.

Revised population and habitat objectives to be developed in 2023.

Waterfowl Symposium (150 participants) held 4-6 Oct, 2022; much of presented material and participating scientists to be part of 2023 Plan Revision

Challenges

Including human dimensions objectives in revised planning is new ground for LMVJV.

Medium

Multi-JV grassland bird conservation planning ("Murmuration")

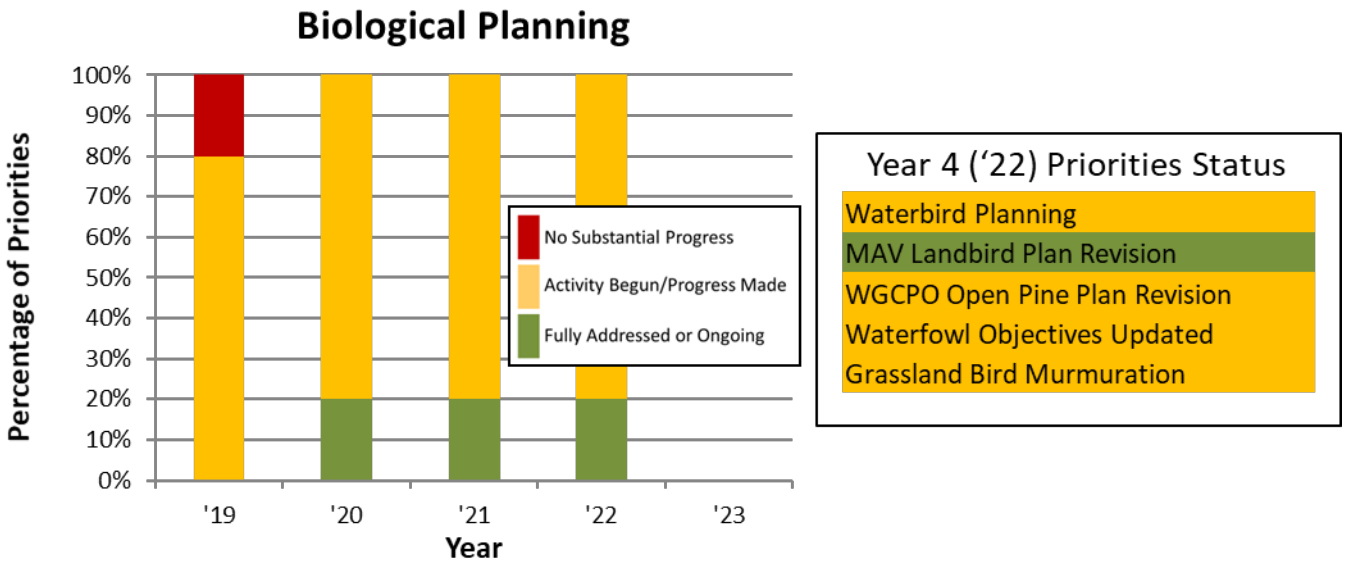
Change from 2021: None

Positives

Senior Scientist and Avian Ecologist participating in periodic planning discussions re: scope, approach, and study sites.

Challenges

Funding to conduct field work necessary to develop Full Annual Cycle models has not been fully obtained.



Conservation Design

Goal 2a: Up-to-date habitat objectives for priority species within each bird guild in both BCRs by 2023

Goal 2b: Effective decision support tools to link and integrate habitat objectives for priority species in each bird guild and other relevant resource concerns, useful for delivery action by 2023

Highest Priority Waterbirds of the Mississippi Alluvial Valley & West Gulf Coastal Plain/Ouachitas Plan **Change from 2021: None**	<u>Positives</u> Palustrine emergent wetland remote assessment tool is complete. Waterbird Working Group has met, with resultant timeline, tasks assigned, and next-steps established. King Rail habitat suitability model development began Fall 2022, via inter-agency agreement for post-doc with USGS/University of Missouri. <u>Challenges</u> Must connect habitat models to habitat assessment, once complete.
Highest Priority WGCPO Open Pine Plan Revision **Change from 2021: None**	Engagement of new membership/leaders within the AR-LA CDN, Delivery & Prioritization Team was extensive in 2022. Continued dialogue with USFWS Science Applications staff regarding Integration of SWAP efforts in AR & LA with CDNs should prove fruitful. Revision to be completed in 2022.Collaboration with Longleaf and Open Pine partnerships (NETX & TLIT) has advanced the dialogue of seamless delivery across western WGCPO – BCR 25. Scientists at Mississippi State University are developing key base information/data layers and approaches to be used in the revision. Revision to be completed in 2022.
Highest Priority CDN Delivery Priorities updated and distributed **Change from 2021: None**	LMVJV staff provided GIS and related expertise in development of the latest Texas Longleaf Implementation Team priority geography map. The AR-LA CDN, galvanized around the RCPP effort, has solidified a shared partner vision of high priority landscapes and practices.
High Waterfowl – New Population Objectives translated to habitat objectives **Change from 2021: None**	<u>Positives</u> The LMVJV Waterfowl Working Group will begin revision of waterfowl population and habitat objectives beginning in late 2022. Partners are poised to incorporate new approaches to temporal variability in population objectives, habitat complexes, and human dimensions.

LMVJV Operational Plan – Year 4 Progress

High

Human Objectives developed for waterfowl

Change from 2021: None

Positives

NAWMP Regional Conservation Planning Tool (includes social inputs) in hand for plan revision and human dimensions inputs. Social scientists engaged for participation in waterfowl plan revision.

Challenges

Partners will need to settle on how human dimensions will be incorporated into planning.

High

Integration of priorities among guilds, ecosystem services, etc.

Change from 2021: None

Positives

On pace to have solid planning/design (spatially-explicit) products for multiple bird guilds (requisite for integration) in both BCRs by the end of the 5-year Op Plan horizon.

Challenges

Developing and updating basic biological plan/design elements is staff-intensive and occupies a higher priority than does integration.

Medium

Multi-JV grassland bird conservation planning ("Murmuration")

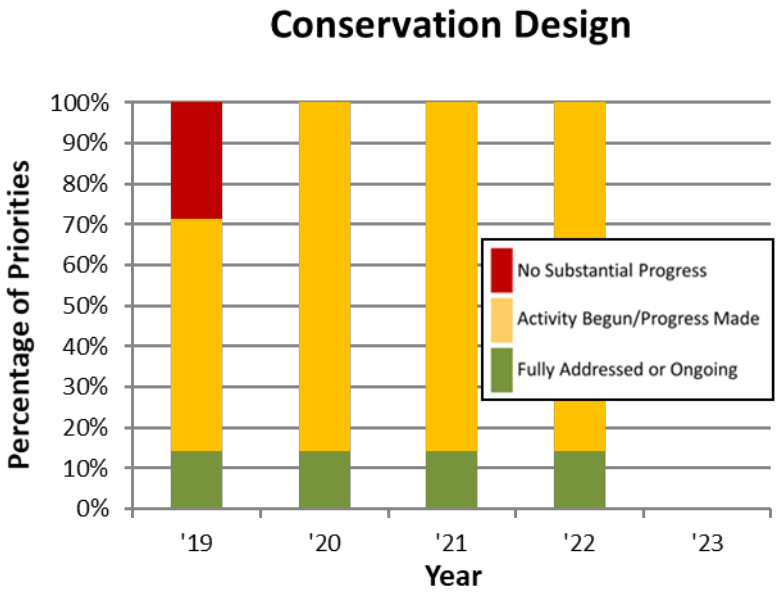
Change from 2021: None

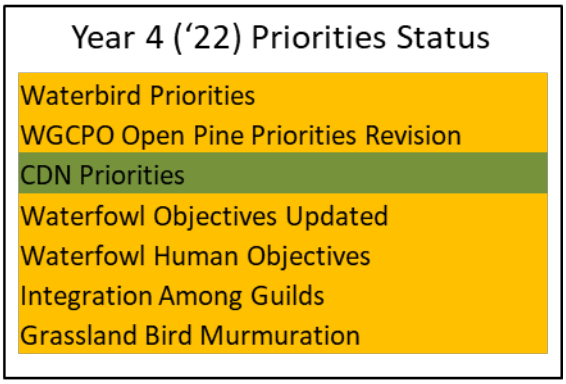
Positives

Some progress made in 2022 regarding implementing portions of the effort.

Challenges

Sufficient funding to conduct field work necessary to develop Full Annual Cycle models has not been obtained.





Habitat Delivery

Goal 3a: The Partnership actively seeks and fosters existing and emerging opportunities for coordinated habitat delivery in support of LMVJV objectives

Goal 3b: Establish fully-functioning Conservation Delivery Networks throughout the JV, guided by LMVJV objectives by 2023

Goal 3c: Fully supported long-term functionality and productivity of existing Conservation Delivery Networks and Tri-state Conservation Partnership

Highest Priority

Continue support of existing CDNs & Cooperatives:

- CDNs
- Tri-state Cons. Partnership
- Longleaf Partnerships

Change from 2021: None

Positives

Much LMVJV Office staff and partner staff time continues to be invested in support of existing cooperatives and networks.

Conservation Delivery Networks. All four CDNs continue to function well and benefit from active support of the LMVJV staff. CDN membership participation remains high, with 30-50 attendees typical at regular CDN meetings, workshops and field days, with similar or higher participation in virtual meetings, which were still necessary in some instances in early 2022 due to later COVID-19 concerns and/or travel restrictions for some partners. CDNs continue to develop and update their priorities to address identified objectives and to meet information needs unique to their geographies.

- The AR and LA/MS MAV CDNs continue to maintain active Working Ag Lands Working Groups and are working to address opportunities for CDN partners to more effectively implement conservation actions in the MAV working agriculture landscape. The LA/MS MAV hosted two field days in Sep (MS) and Oct (LA) to continue its efforts to advance on-farm "Turn-row Credibility" among MAV delivery professionals.
- In 2022, the MAV CDNs have placed focus on Forest Carbon, aimed at advancing awareness and understanding of carbon sequestration, carbon markets. The CDN meetings included multiple presentations from companies that are actively marketing carbon contracts to private landowners.
- The AR MAV CDN also hosted a meeting focused on Farm Carbon and efforts to begin marketing on-farm carbon.
- The NE TX CDN continues to deliver a successful private lands program (NETX Habitat Incentive Program [HIP]), improving over 20,000 acres of private lands in six years.
- The AR-LA WGCP CDN completed year 1 of its $5.9MM RCPP in 2022, with approving 15 of 100 applications, resulting in 1,400 acres enrolled.

Longleaf Partnerships. JV Office staff continue to provide technical guidance, communication and logistical support to the TX Longleaf Implementation Team (TLIT). JV Office staff continue to work with the Western Louisiana Ecosystem Partnership (WLEP). A Tall Timbers Pineywoods Quail Program Biologist is now based out of Livingston, TX. Continued connections to LLA, America's Longleaf, Tall Timbers, and LA - TX partners will ensure optimal communication and shared resources.

Tri-state Conservation Partnership (TCP). The TCP continues to experience strong support and engagement from NRCS and other JV partners actively engaged in the partnership. The TCP also continues to engage with MAV CDNs to foster opportunities to advance a continuing productive working relationship (additional details below).

Challenges

Effective communication and coordination of these multiple partnerships requires special attention as the activities and opportunities increase in number and frequency, and as partner staff composition and participation changes over time.

High

Develop and foster unique partnership opportunities at sub-regional scale

- Tri-state Conservation Partnership

Change from 2021: None

The **Tri-state Conservation Partnership** (TCP) was initiated in 2013 and was fully formalized through the JV in 2015 with a Declaration of Partnership (signatories: NRCS AR, LA, MS & LVMJV). This unique partnership continues to be successful and strong, serving as an effective mechanism for fostering engagement among LMVJV partners in support of shared delivery priorities within the MAV of AR, LA & MS. Many of the Farm Bills ACEP-WRE centered delivery priorities identified by TCP planning are shared and promoted through the CDNs. The TCP has become an important catalyst for supporting and addressing JV delivery interests. JV Staff continue to work directly with Board member Seiss (TNC's Lower MS River Prog. Coordinator) in leading the stewardship of the TCP. Specific recent examples of the productive collaboration resulting from the TCP/CDN relationship include:

- In Dec 2021, the TCP completed and released a seven video series for landowners, focused on wetland and forest management on Wetland Reserve Easements (WRE). The TCP's Outreach Working Group is now actively developing several new videos that specifically address outreach and education for landowners interested in enrolling in WRE ("Understanding WRE"). The project will focus on understanding the breadth of the application process, as well as what restoration will look like if successfully enrolled. The project will also include a video that specifically targets limited resources and socially disadvantaged landowners.
- The TCP was awarded funding in late 2021 for a fourth phase of its multi-year MAV Tri-state WREP project. The NRCS fully funded the proposed $5M project, which will restore 1500 wetland acres of MAV marginal cropland. The project included an additional $123K in partner match from the Walton Family Foundation.
- The TCP is also actively supporting the NRCS in conducting WRE new enrollment outreach by coordinating the developing two new professionally designed outreach fliers then conducting targeted USPS mail outreach to more than 3500 landowners in LA and 4500 in MS.

Challenges

The TCP has proved a very successful and effective partnership. With ever increasing needs and demands across multiple JV priorities, the continued growth and success of the TCP serves to intensify overall demands on JV staff capacity.

Medium

Be responsive to partners' desire to develop additional CDNs

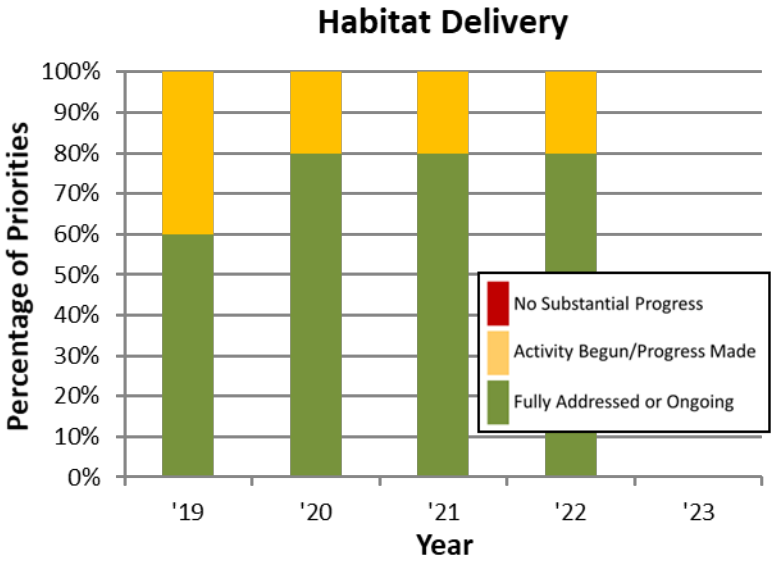
Change from 2021: None

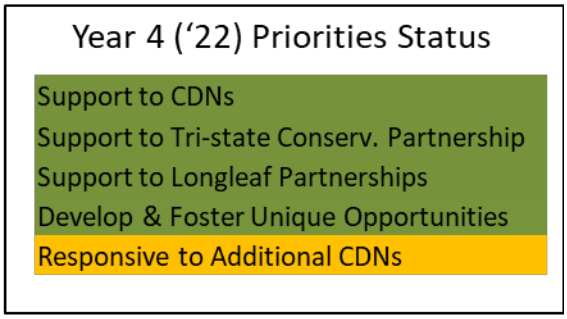
Positives

Some level of interest has been previously expressed for establishing CDNs in both the Atchafalaya Basin and the MAV of MO/KY/TN. To date, no concrete interest has been demonstrated by key JV partners to initiate CDN establishment in these areas.

Challenges

In order for new CDN's to be formulated and successfully established, strong support and commitment from a lead JV partner organization within a given area is required. Oklahoma dialogue has been initiated with NWTF, USFS and State personnel, however with limitations on travel and meetings, this engagement has not progressed beyond the formative stages



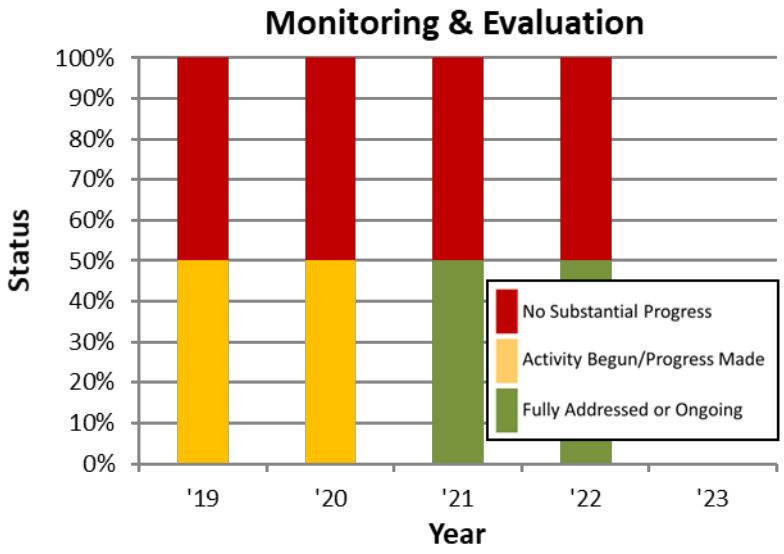


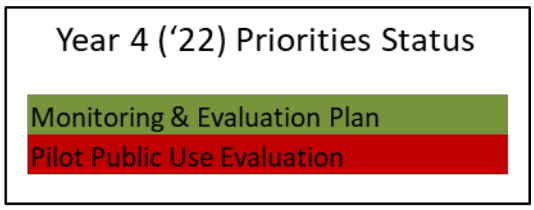
Monitoring & Evaluation

Goal 4a: Develop iterative habitat and population monitoring & evaluation priorities by 2020

Goal 4b: Capitalize on opportunities for effects monitoring that support LMVJV priority habitat conservation actions

Highest Priority Monitoring & Evaluation Plan **Change from 2021: None**	Monitoring and Evaluation Plan was approved by the Management Board Fall 2020.
High Pilot public use evaluation **Change from 2021: None**	No progress.





Research

Goal 5a: Update and prioritize assumption-driven research needs by 2020

Goal 5b: Active engagement by key research professionals in assumption testing and other applicable research for each bird guild and human science in both BCRs

Priority A

Actively seek opportunities to increase research funds available through and to LMVJV partners

Change from 2021: None

JV staff and Science Team have established priorities for research funding in the near term, and continue to develop an approach to setting realistic priorities into the future through the 2022 Science Priorities document.

LMVJV staff have been successful in facilitating increased funds to Univ. Arkansas Monticello (Dr. Doug Osborne) marsh bird research project, NFWF funding to SFASU (Dr. Rebecca Kidd), Mississippi State Univ. (Dr. Kristine Evans) landscape scale planning assessment, King Rail habitat model (Dr. Lisa Webb, Univ. Missouri), and RCPP research funds in the WGCP of Arkansas and Louisiana for open pine, native prairie, bird, and social science.

Priority B

Maintain and continue to build the depth and breadth of research scientist participation in LMVJV-relevant research topics

Change from 2021: None

Outreach to universities and other organizations by LMVJV Staff continues. As JV science priorities are maintained and addressed, and working groups are formed, further outreach will continue.

Currently working with the following:

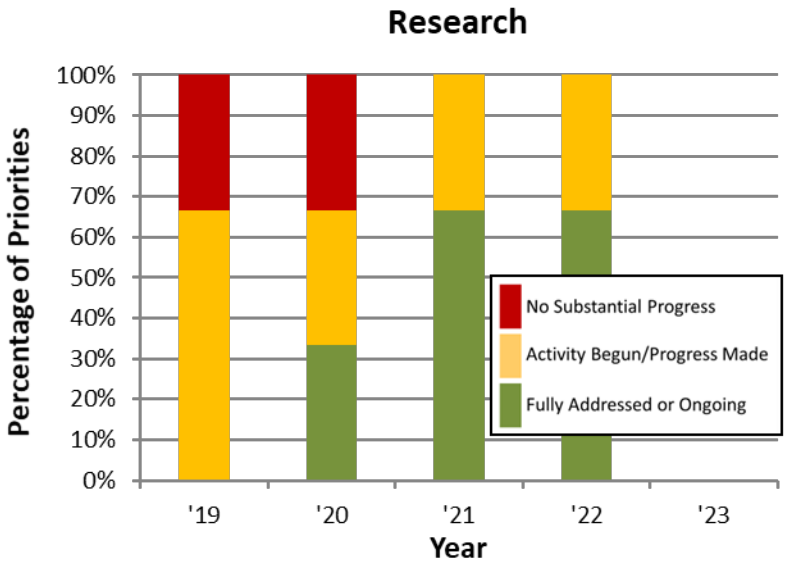
- Dr. Dan Saenz of USFS Southern Research Station (Nacogdoches, TX) on songbird response to NE Texas HIP program prescribed fire and songbird response to MAV forestry practices through a NFWF grant
- Dr. Rebecca Kidd (Stephen F. Austin State Univ.) on forest breeding bird response to WRE(P) reforestation in the MAV
- Dave Holdermann (TPWD) on waterborne bird surveys for bottomland hardwood priority bird species
- Dr. Hans Williams (Stephen F. Austin State Univ.) on evaluation of bottomland hardwood assessments associated with water development activities in the WGCPO
- Dr. Kristine Evans (Mississippi State Univ.) on assessment of SE JV and SECAS Blueprint outputs
- Dr. Don White (University of Arkansas Monticello) regarding habitat suitability indices for Prothonotary Warblers on White and Cache Rivers
- Dr. Ashley Gramza (Playa Lakes Joint Venture) regarding human dimensions of Farm Bill program participation
- Dr. Elena Rubino (University of Arkansas Monticello) regarding human dimensions of Farm Bill program participation
- Dr. Jerod Penn (Louisiana State University) regarding human dimensions of Farm Bill program participation
- Dr. Lisa Webb (USGS/University of Missouri) on King Rail habitat suitability model

Priority C

Improve understanding of private landowner participation in conservation programs

Change from 2021: None

Work through and funded by the AR-LA Open Pine RCPP will address landowner hurdles and enticements to participation in Farm Bill programs and adoption of practices.



Year 4 ('22) Priorities Status

Increase Research Funds

Build Research Scientist Participation

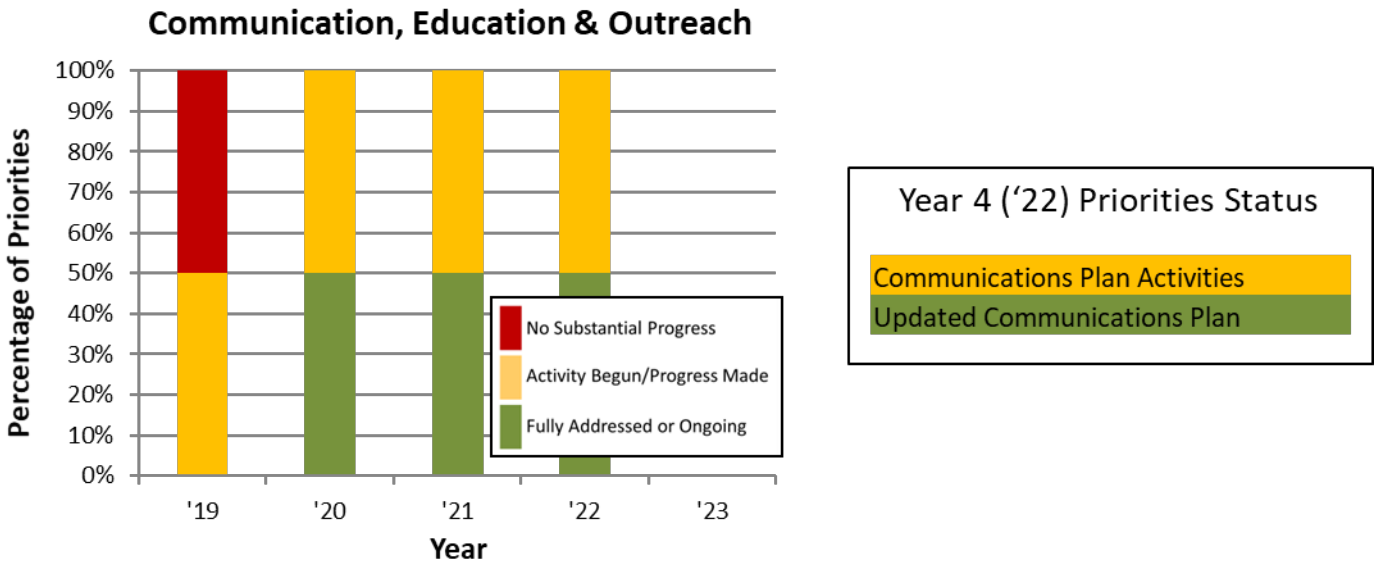
Understand Priv. Landowner Participation†

Communication, Education, and Outreach

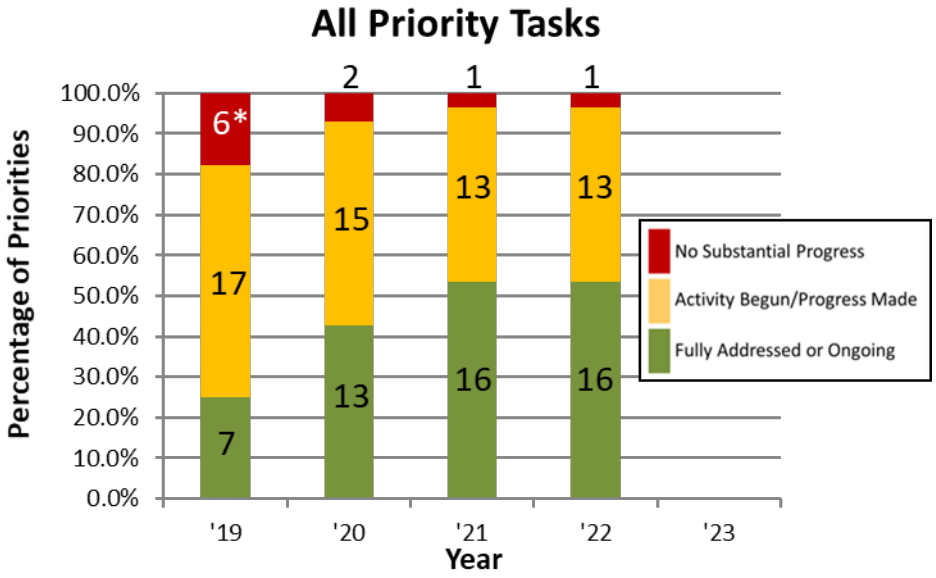
Goal 6a: Address priority actions detailed in the 2014 LMVJV Communications Plan

Goal 6b: Revise/update 2014 Communications Plan as appropriate by 2023

Priority A Effectively address Communications Plan priority actions	See "Organizational Performance" Priority C. Assessment of Communications Plan priorities to be addressed seperately
Priority B Update Communications Plan by 2023	Updated Communications Plan approved by Management board 21 October 2020.



Overall Progress



*Number of tasks within category

LMVJV Operational Plan – Year 4 Progress

LMVJV Operational Plan - Year 4 Status (2022) Summary

Operational Plan Element	Status	Since '21	Op Plan Pp.
Organizational Performance			7-9
A. Board Member Involvement	Fully Addressed/Ongoing	No Change	
B. Partner Staff Involvement	Fully Addressed/Ongoing	No Change	
C. Effective Communication	Fully Addressed/Ongoing	No Change	
D. Relationship with Decisionmakers	Fully Addressed/Ongoing	No Change	
E. Cultivate New Funding	Fully Addressed/Ongoing	No Change	
F. Sufficient Support for JV Office	Fully Addressed/Ongoing	No Change	
Biological Planning			10-12
Highest: Waterbird	Begun/Progress Made	No Change	
Highest: Landbird - MAV Revision	Fully Addressed/Ongoing	No Change	
Highest: Landbird - Open Pine Revision	Begun/Progress Made	No Change	
High: Waterfowl - New Objectives	Begun/Progress Made	No Change	
Medium: Landbird - Grassland Birds	Begun/Progress Made	No Change	
Conservation Design			13-14
Highest: Waterbird	Begun/Progress Made	No Change	
Highest: Landbird - Open Pine Revision	Begun/Progress Made	No Change	
Highest: CDNs - Priorities / DSTs	Fully Addressed/Ongoing	No Change	
High: Waterfowl - New Objectives	Begun/Progress Made	No Change	
High: Waterfowl - Human Objectives	Begun/Progress Made	No Change	
High: Integration of Priorities	Begun/Progress Made	No Change	
Medium: Landbird - Grassland Birds	Begun/Progress Made	No Change	
Habitat Delivery			15-19
Highest: Support CDNs & Cooperatives			
Four Existing CDNS	Fully Addressed/Ongoing	No Change	
Tri-state Partnership	Fully Addressed/Ongoing	No Change	
Longleaf Teams (TX, LA)	Fully Addressed/Ongoing	No Change	
High: Develop Unique Opportunities	Fully Addressed/Ongoing	No Change	
Medium: Responsive to New CDN Develop.	Fully Addressed/Ongoing	No Change	
Monitoring & Evaluation			20-22
Highest: Monitoring Summary/Guide	Fully Addressed/Ongoing	No Change	
High: Pilot Public Use Study	No Substantial Progress	No Change	
Research			23-24
A: Increase Research Funds	Fully Addressed/Ongoing	No Change	
B: Research Scientist Participation	Fully Addressed/Ongoing	No Change	
C: Understand Pvt. Landowner Participation	Begun/Progress Made	No Change	
Communication, Education & Outreach			25-27
A: Address Comm. Plan Priorities	Begun/Progress Made	No Change	
B: Update Comm. Plan by 2023	Fully Addressed/Ongoing	No Change	

LMVJV Staff Priority Tasks for FY2023

Project / Task	Priority
Coordinator	
Management Board Relations: New Member Orientation, Communication, etc.	1
Staff Administration and Mangement	1
Budget Management	
Agreements & Contributions	1
Science Spending	1
Communication	
Leaders on the Land	1
PLCC: 2022 Selection/Recognition; 2023 Nominations	1
LMVJV News & Updates	1
Staff	1
Regular Web Updates	2
New Funding Opportunities	1
Operational Plan: 2018 Plan Progress; 2023 Plan Development	1
Science Support: Project Selection & Funding Process	1
Climate Science Connections	1
Forest Hydrology - What's Next?	1
Emergent Wetland Assessment Completion & Communication	2
MAV Forest Assessment Completion & Communication	2
CDN Connection	2
USFWS Program Involvement	3
GIS Applications Biologist	
MAV Forest Assessment	
Primary Output	1
Quantitative Virtual Validation	1
WMU Tool Update	
Tune Up	1
Data Call	1
Symposium Poster/Abstract	1
Open Pine Priority Model Development	1
Emergent Wetland Assessment Completion	1
Regional GIS Community of Practice	1
Transition Training	1
CDN/TCP Support	2
LOWA Model Validation	2
Conservation Estate GIS Update	2
Jupyter Notebook Training	2
Blueprint Technical Tracking	2
Website Metadata	3
QGIS Training	3

Project / Task	Priority
Partnership Coordinator - MAV	
AR MAV CDN General Coordination, meetings, etc	1
Conduct Turn-row Credibility Workshop	1
LA-MS CDN General Coordination, Meetings, etc	1
Conduct two Turn-row Credibility Field Days	1
New Farm Bill - National FWS Working Group	1
TCP Priorities & Steering Committee Coordination	1
Annual TCP SC Meeting(s) & Planning	1
Outreach: Develop "How WRE Works" Video for New Enrollment	1
Outreach: Support NRCS WRE New Enrollment & Workshops	1
Forest Mgmt: Develop WRE BHW Plantation Non-commercial Treatment Guide	1
Forest Mgmt: Support MS NRCS WRE/CRP Landowner Plantation Mgmt Workshop	1
Funding: Develop 2023 Tri-state WREP Grant Proposal	1
National Coordination: DC NRCS Easments Program Division Tri-state Tour	1
NAWCA Admnistration & Coordination	1
DFCW Revision Support	1
Opportunties to Support Development of Additional CDNs	3
Partnership Coordinator - WGCPO	
RCPP	
Annual Report	1
AR-LA CDN Sterring Committee	1
Implementation Team Coord. & Mtgs.	1
State Office x2 (AR & LA) Communication	1
Science	2
NETX CDN	
Spring/Winter Meetings	1
Habitat Incentive Program (HIP) RFP	1
Habitat Incentive Program (HIP) Administrative Successional Planning	2
CDN Field Day	1
TX Longleaf Team	1
Water, Biodiversity, Carbon Credits for Landowners	2
NRCS Fire Coordination (TX)	1
LA Longleaf Team (West-central Louisiana Ecosystem Partnership)	2
Engagement with Oklahoma Joint Chiefs Project	2

Project / Task	Priority
Senior Scientist	
RCPP	
Environmental Monitoring	1
Social Science Monitoring*	1
Waterfowl Working Group	
Model Initiation and Review	1
Natural Flood component	1
WMU data entry	2
Habitat Complex Modeling	1
Human Dimensions (RPT)	1
LMVJV Waterfowl Symposium	2
NFWF Drone study	2
Waterbird Working Group	
Population/Habitat Obj.	1
King Rail project*	1
Emergent wetland project*	1
Emergent wetland assessment publication	1
Forestry Working Group	
DFCW Wildlife chapter information	1
Bottomland Hardwood Hydrology*	1
Forest Assessment	1
NFWF Forestry Work	1
Science Team - Science Priorities	
Science Priorities	1
FY23 Science Support Project(s)	1
Landbird Working Group	
Open Pine Plan DST revision	1
Open Pine Plan roll out	1
Louisiana Waterthrush model validation	1
WGCPO Landbird Trend assessment	1
ABC Supervisory Duties	
Onboarding/Mentoring Janine	1
Other	
NSST Executive Committee	2

Project / Task	Priority
Avian Ecologist	
RCPP Science	
Habitat	1
Social	2
Bird	1
Open Pine Decision Support Model	1
Landbird Plan Population Objective Assessments	1
Louisiana Waterthrush Model Validation	2
SE Grassland Bird Cooperative	2
JV Science Team	2
Automatic Recording Unit Project Status	2
DFCW Revision	2
PIF Science Group	3

LMVJV Office Staff - Guiding Principles & Vision

NABCI Vision

Populations and habitats of North America's birds that are protected, restored, and enhanced through coordinated efforts at international, national, regional, state, and local levels, guided by sound science and effective management.

LMVJV Partnership Mission

Serve as the forum in which the private, state, federal conservation community develops a shared vision of bird conservation for the LMVJV region; cooperates in its implementation; and collaborates in its refinement

LMVJV Staff Vision

We will take pride in our work, and strive to create an atmosphere in which highly capable, motivated, and passionate individuals desire to be part of the LMVJV team. Our passion for the LMVJV mission will be evident through our work, and we will strive to advance collaboration and conservation actions that earn the respect and admiration of our peers. We will endeavor to provide solutions and foster strategies that address the priorities of our conservation partners, as well as those of the broader LMVJV partnership, resulting in the recognition that we have contributed in significant ways to conservation.

LMVJV Office Core Values

- ***Passion*** for resource conservation
- ***Excellence*** through *knowledge*, attention to *detail*, and use of the *best science*
- ***Industrious & Resourceful***
- ***Helpful*** in our interactions with partners
- ***Leader*** in the field through innovation
- ***Partnership*** spirit

LMVJV Office Core Purpose

Ever striving to make conservation of priority bird habitats in the LMVJV region more effective and efficient, while scanning the horizon for emerging conservation issues, keeping them in the forefront and addressing them through collaborative partnership

Strategies for Achieving the Core Purpose

- *Provide coordination and enhanced communication among partners*
- *Provide technical expertise, tools and/or products that help organize and focus conservation efforts, and share information for better efficiency/effectiveness*
- *Provide leadership regarding biological planning, design, research, monitoring, and integration at the landscape scale to achieve conservation delivery priorities*
- *Fostering the acquisition of additional sources of funding to partners*

Lower Mississippi Valley
JOINT VENTURE
www.lmvjv.org

LMVJV FY2023 Budget

Income/Expense Summary	
Income	
FY23 Mig Bird Joint Venture (1234) *estimate*	$842,461
xxx	
Partner Contribution & Agreement Funds	
To Agreements	
Science Coordination	$0
Science Project Support	$0
Income Total	**$842,461**
Expenses	
Salary & Benefits (USFWS) *est. 3% over '22*	$519,120
Travel	$15,000
Operational	$15,000
Regional Office Support (@11.551%)	$97,316
Office Space	$25,000
ABC Agreement - WGCPO PC	$15,000
ABC Agreement - Science Coordinator	$40,000
ABC Agreement - Comm. Contract	$10,000
Science Project Support	$100,000
Expense Total	**$836,436**
Balance	**$6,025**

Partner Contributed ("PC") Funds Summary			
Carryover from FY2022			$29,716
FY23 Contributions			
LDWF			$12,083
AGFC			
NRCS	*($16,347 in 5-year balance carryover)*		
ODWC			$5,000
MDC*	$8,000		
TPWD*	$25,000		
TPWD	*$12,000*	*in kind (office space)*	
TWRA*	$11,250		
subtotal	*$56,250*		
FY23 Subtotal			$17,083
Total Avaliable			**$46,799**
Withdrawal: Agreement/Project			$0
Balance			**$46,799**

*MDC ($8,000), TPWD ($25,000), TWRA ($11,250) directly to ABC; accounted as reduction in total Science Coordinator & WGCPO PC expense

Agreement / Activity	From PC	From 1234	TOTAL
ABC - Partnership Coordination	$0	$15,000	$15,000
ABC - Science Coordination	$0	$40,000	$40,000
ABC - Communications Contract	$0	$10,000	$10,000
Science Project Support	$0	$100,000	$100,000
	$0	$165,000	$165,000

Science

LOWER MISSISIPPI VALLEY JOINT VENTURE

SCIENCE PRIORITIES: 2022-2027

LOWER MISSISSIPPI VALLEY JOINT VENTURE
SCIENCE INTEGRATION AND EVALUATION TEAM
OCTOBER 2022

ACKNOWLEDGMENTS

Many partners and individuals have contributed time and energy to the planning of science priorities for bird conservation in the Lower Mississippi Valley Joint Venture. We thank those partners for their dedication in creating a collaborative vision to strengthen the biological foundation in the Lower Mississippi Valley Joint Venture through the application of science to biological planning and design. We specifically thank the following LMVJV Science Integration and Evaluation Team members who contributed to this document.

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Table of Contents

Introduction

Document Purpose. This document identifies and evaluates the most pressing threats and highest priority science needs, both current and future, in the LMVJV that will affect our ability to strategically plan for and implement bird habitat conservation over the next 5 years. The intent of this document is to provide a scientific foundation and guidance for partners on information needs related to biological planning and conservation design in order to improve management actions and delivery of population and habitat objectives across our region. Ultimately, this plan furthers the mission of the LMVJV to: "function as the forum in which the private, state, federal conservation community develops a shared vision of bird conservation for the Lower Mississippi Valley region; cooperates in its implementation; and collaborates in its refinement" (LMVJV 2018).

LVMJV Vision. The LMVJV partnership, formed in 1987, provides support for the implementation of the North American Waterfowl Management Plan, United States Shorebird Plan, North American Landbird Conservation Plan, and North American Waterbird Conservation Plan at a regional level. The goal of each of these plans is ultimately to sustain bird populations through strategic habitat conservation and the partnering of numerous individuals and organizations. The vision of the LMVJV partnership is a landscape supporting healthy native bird populations and other wildlife across the LMVJV (LMVJV 2018). Priority bird species are supported through a mosaic of natural and managed habitats on publicly and privately owned lands. The primary habitat types we consider in biological planning and conservation design include bottomland hardwood, upland hardwood, mixed pine, open pine, moist-soil impoundments, emergent marsh, greentree reservoirs, and flooded agricultural crops, each on publically owned and privately owned land. Each habitat and/or ownership type is distinctively important to supporting the wintering, migration and breeding needs of our priority avian taxa. To make conservation more effective, Bird Conservation Regions (hereafter BCR) were developed to represent ecologically distinct regions with similar bird communities, habitats, and resource management issues.

LMVJV Geography. The LMVJV consists of two BCRs with distinct habitats, priority bird species, and resource issues: the Mississippi Alluvial Valley and West Gulf Coastal Plains/Ouachitas.

MISSISSIPPI ALLUVIAL VALLEY. The Mississippi Alluvial Valley BCR (MAV) supports a diverse and ecologically rich forested wetland ecosystem – one of the most productive in North America. The 24 million acre, topographically complex floodplain extends from the confluence of the Mississippi and Ohio Rivers, to the northern Gulf of Mexico, featuring a mosaic of ridges, swales, meander belts and backswamps. Small changes in elevation (<1 foot) in the MAV are associated with large shifts in hydrology, which in turn, strongly affect plant and animal community composition and structure. As with many natural river systems, much of the MAV landscape has been degraded through the development of agricultural practices and hydrologic alterations that have modified the river-floodplain connection. Today, only 20% (~ 7 million acres) of the original bottomland hardwood acreage remains, which includes significant reforestation efforts over the last 20 years.

It is estimated that 60% of all U.S. bird species migrate through or winter in the MAV, and it is an important breeding location for several species. The MAV is the most important wintering location for Mallard (*Anas platyrhyncos*) and Wood Duck (*Aix sponsa*) populations. Accordingly, the MAV was identified as a priority non-breeding region for waterfowl in the 1986 North American Waterfowl Management Plan (NAWMP). The MAV is estimated to support 32% of the global breeding population of Prothonotary Warblers (*Protonotaria citrea;* Panjabi et al. 2021). Approximately 500,000 shorebirds utilize the MAV as a fall migratory stopover site (LMVJV Shorebird Working Group 2019). Waterbirds

abound with an estimated 30% of the regional Little Blue Heron (*Egretta caerulea*) population, 73% of the regional Least Tern (*Sternula antillarum*) population, and 57% of the regional and 23% of the global Yellow-crowned Night-heron (*Nyctanassa violacea*) population (Hunter et al. 2006).

WEST GULF COASTAL PLAIN/OUACHITAS. The West Gulf Coastal Plain/Ouachitas BCR (WGCPO) is largely dominated by shortleaf, longleaf, and loblolly pine forests on the uplands, transitioning to mixed pine-hardwood, and then to relatively linear river systems with bottomland hardwood and riparian forest. The 52-million-acre physiographic area encompasses southwestern Arkansas, southeastern Oklahoma, western Louisiana, and eastern Texas. Impacts to bird populations and habitat include urban development, conversion to pasture, conversion to pine plantation, lack of forest stand thinning, a lack of prescribed burning and/or suppression of fire, and construction of reservoirs. A significant number of bird species migrate, winter, or breed in the WGCPO. The WGCPO is estimated to support 29% of the global breeding population of Swainson's Warblers (*Limnothlypis swainsonii*), 25% of Hooded Warblers (*Setophaga citrine*), 24% of Pine Warblers (*S. pinus*), 26% of Kentucky Warblers (*Oporornis formosus*), 34% of Red-cockaded Woodpeckers, (*Picoides borealis*), 19% of White-eyed Vireos (*Vireo griseus*) and 16% of Chuck-will's-widows (*Caprimulgus carolinensis*; Panjabi et al. 2021).

LANDSCAPE-LEVEL SCIENCE NEEDS

BACKGROUND

Landscape-level science needs have far-reaching, habitat-oriented impacts. Accordingly, these science needs are not necessarily bird taxa-specific, but affect habitat carrying capacity for multiple priority bird groups and impact how habitat is conserved on the landscape. Thus, increasing our understanding of the potential magnitude of overarching threats, stressors, and influences on habitat condition will improve the effectiveness of biological planning and conservation design to support a landscape that is capable of sustaining healthy bird populations. We identified several categories of landscape-level science needs that could impact habitat carrying capacity and condition for multiple bird taxa and affect how conservation programs are designed and/or delivered. These include: forest health and structure, hydrology, ecosystem goods and services, climate change, and social science/human dimensions.

Forest Health and Structure. Habitat carrying capacity for landbirds, waterfowl, wading birds, and shorebirds [i.e., American Woodcock (*Scolopax minor*)] is reduced through loss of functional forest habitat. Size, structure, and composition affect the suitability of forest habitat for avian species. Management of bottomland hardwood forest stands, both public and private, is important to maintain or improve the structure and integrity of the ecosystem. Our ability to manage for healthy bottomland hardwood forest conditions is directly related to a clear understanding of the relationships between vegetative species composition, tree regeneration, canopy gap size, tree survival and other ecological factors . In the WGCPO, the open pine ecosystem is a fire-driven system in which the lack of fire has altered forest structure and condition.

Hydrology. Modifications to hydrologic regimes have cascading effects that limit habitat carrying capacity for all priority bird groups throughout the LMVJV. In the MAV, timing, depth, and duration of flooding have been altered with the construction of levees and ditches for flood control and to improve conditions for agriculture. Natural flooding was the formative force in creating variation in topography and unique microhabitats (e.g., meanders, backswamps, and depressions) that defined historic vegetative species composition. Additionally, the connection between river and floodplain provided sediment deposition, which increased productivity and sustained the forested wetland ecosystem. Now, the extent of flooding is greatly reduced and water generally is held on the landscape for a shorter period of time thus reducing fall, winter, and spring habitat for waterfowl, shorebirds, and wading birds, and reducing aquifer recharge. In the WGCPO, the creation of reservoirs and demand for water impact stream flows. Additionally, the creation of reservoirs permanently inundates existing bottomland forest habitat. Human population growth and increasing agricultural demands amplify the effects of altered hydrology. The Mississippi embayment system, which encompasses 202,000 km^2 and six aquifers across eight states— Alabama, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee— has one of the highest cumulative groundwater depletions (182.0 km3; 2008 data) of any region in the United States (Konikow 2013).

Ecosystem Goods and Services. Ecosystem goods and services represent the benefits humans derive, directly or indirectly, from ecosystem functions. Individual ecosystem services include pollination and carbon sequestration as a means of climate regulation (Costanza et al. 1997). In the LMVJV, one natural nexus with ecosystem goods and services is carbon flux and carbon sequestration as related to forests and agricultural habitat. How these habitats are managed with regards to carbon markets has implications for condition and quality of habitat to multiple bird guilds.

Climate Change. The impacts of climate change on bird conservation efforts in the region is an existing and burgeoning issue. According to the U.S. Global Change Research Program, the Southeast region is

most vulnerable to, and will be most affected by: increasing temperatures associated with an increase in frequency, intensity and duration of extreme heat events, as well as decreased water availability (Carter et al. 2014). Climate change impacts such as these have the potential to affect the quality and condition of habitat provided for waterfowl, waterbirds, shorebirds or landbirds.

Social Science/Human Dimensions. Human Dimensions research uses a variety of tools and methodologies (e.g., surveys, focus groups) to better understand human perceptions and behaviors, what influences behaviors, and help determine contributors and barriers to conservation success (Dayer et al. 2019). Both the newest North American Waterfowl Management Plan and Partners in Flight Landbird Plan highlight the need for social science in conservation planning. Improving our understanding of human motivations to participate in conservation efforts will ultimately improve our capacity to deliver habitat conservation for priority bird species.

PRIORITIES

FOREST HEALTH AND STRUCTURE

Assessment of forest condition at the landscape scale, including public lands and WRE lands

Rationale:

Given the importance of bottomland hardwood forest health and structure to birds and to the partnership, long-term monitoring and baseline information of forest health needs to be developed on both public and private land. Where possible, this should be linked to hydrologic condition and management/treatment history. Better remote sensing data that could assist with a more accurate broad-scale assessment would be desirable.

Objectives:

- To improve understanding of forest condition as related to management and management history
- To provide a landscape-scale assessment of bottomland hardwood forest health and structure

Expected Outcomes:

- Research project focused on the assessment of forest condition that can be linked to Desired Forest Conditions for Wildlife, management objectives, and/or bird response and demographics

HYDROLOGY

Impact of ground water depletion to natural systems and on agricultural habitats

Rationale:

The current depletion of aquifers (Mississippi River Valley alluvial and Sparta) likely conflicts with management activities now and into the future. Alteration of hydrologic cycles has impacted the duration and frequency of flooding and thus the recharge of wetlands and the aquifer in the associated watershed. We need to understand the impact to these natural systems. However, water provision is also essential to agriculture, such as rice, and rice production is provides important habitat for waterfowl in the LMVJV. The impact of water depletion on rice agriculture has implications for waterfowl carrying capacity, land use changes and conservation programs. We thus need to understand the impact to both natural systems and agricultural habitats.

Objectives:

- To provide information that will assist with modeling of future habitat conditions

- To improve understanding of the impacts of hydrologic changes in the LMVJV geography

Expected Outcomes:

- Scenario modeling of changes in water availability into the future, coupled with potential impact on natural systems and agricultural production, to help determine how carrying capacity for waterfowl, shorebirds, and waterbirds may change through time

Impact of hydrologic processes (e.g., subsurface water availability, overbank flooding, duration of flooding) on forest health and subsequent impacts to avian guilds

Rationale:

A better understanding of hydrologic processes would provide baseline information for biological planning and conservation design activities. The current depletion of aquifers (Mississippi River Valley Alluvial and Sparta) likely will conflict with management activities now and into the future. Alteration of hydrologic cycles has impacted the duration and frequency of flooding and thus the recharge of wetlands and the aquifer in the associated watershed. Without this fundamental understanding of recharge dynamics and flow in the system, strategic conservation efforts may be limited in effectiveness. We need to begin long-term monitoring efforts.

Furthermore, management of bottomland hardwood forest towards desirable stand characteristics is an important conservation issue; however, altered hydrology may have a greater influence on species composition, tree regeneration, and nutrient dynamics than management regime. Improved understanding regarding the influence of hydrology on ecosystem function may enhance effectiveness of strategic reforestation efforts. Specifically, metrics that should be quantified are the effects of hydrology on establishment, growth, and long term sustainability of bottomland hardwood species following reforestation. Furthering our understanding of how regenerating areas and seedlings respond to water stress (prolonged flooding and/or drought conditions) is of particular importance.

Our Science Team previously recommended investing (FY2022 science support funding) in the infrastructure necessary to monitor surface and subsurface water, paired with assessment of forest metrics. This information will help to improve how managers plan reforestation efforts, how existing bottomland hardwood forest is managed, and provide a foundation for modeling predicted forest system function relative to current and future hydrologic conditions. Given the significant investment to improve hydrology and restore forest health in greentree reservoir (GTR) systems in Arkansas, JV partners should aid in monitoring the long-term health and vigor of these systems to inform future modifications as needed. Data collected from these efforts will aid in long-term management and health of forested wetlands in the LMVJV.

Objectives:

- To improve understanding of the relationship between hydrology, forest health, and ecological processes
- To inform best management practices for GTR management

Expected Outcomes:

- Research that addresses the impacts of hydrology on species composition, tree regeneration, and nutrient dynamics
- Baseline hydrological data associated with, and potentially informing, bottomland hardwood demographic and health metrics
- Established long-term hydrological dataset(s) and monitoring locations across the LMVJV region

Hydrologic changes and the impacts on public lands habitat provision

Rationale:

Although understanding the implication of hydrologic changes at a larger scale (above) and to forested land is important, smaller site-scale impacts and impacts to other habitats are important as well. Specifically examining the effects of the hydrologic changes on public land in terms of habitat quality (the condition of habitat) and quantity (the amount of habitat) is important. This would apply to both forested wetlands and other wetlands such as permanent and semi-permanent marsh.

Objectives:

- To improve understanding of the relationship between hydrology and habitat condition
- To provide recommendations for better managing public lands, given hydrologic challenges and changes

Expected Outcomes:

- Research that specifically address the impacts of hydrology on habitat management efforts on public lands

ECOSYSTEM GOODS AND SERVICES

Synthesis of carbon flux, carbon sequestration and carbon markets with application to Joint Venture planning

Rationale:

To better position our Joint Venture in addressing ecosystem goods and services in planning, we need a comprehensive understanding of the current state of knowledge. This entails compiling existing research and assessing gaps in understanding of carbon flux within important habitat types in the region. We also need to better understand the common/anticipated practices that may not be complementary to conservation efforts and planning.

Objectives:

- To improve understanding of how ecosystem goods and services can be used in conservation planning in the region
- To improve understanding of knowledge gaps of ecosystem goods and services in the LMVJV geography

Expected Outcomes:

- A synthesis paper on the state of carbon knowledge in the LMVJV geography, including applications from other geographies
- Recommendations for how carbon flux, carbon sequestration and carbon markets could be used advantageously in Joint Venture planning

Carbon flux and the effect of management on carbon sequestration

Rationale:

The amount of carbon taken up by a forest varies based on soil and tree quality, topography, disturbance frequency, and geographic location, and as such is not uniform across all bottomland hardwood forests. Due to a lack of contemporary data to aid in quantification of carbon sequestration in bottomland hardwood forest systems, research to study carbon and water cycles within various bottomland hardwood forest systems within the LMVJV would be beneficial. In particular, research

targeted on WRE sites varying in location, age, composition, and management would be ideal. This will allow us to understand and quantivy the effects of management regimes on carbon sequestration rates, and could be paired with research within GTRs in Arkansas that are undergoing restoration.

Objectives:

- To improve understanding of effects of forest condition and management on carbon sequestration
- To aid with future large-scale quantification utilizing more rapid remote sensing techniques

Expected Outcomes:

- Research project that examines carbon and water cycles on a suite of bottomland hardwood forest sites with recommendations for how the Joint Venture partnership can utilize this information in planning and management

Development of a rapid assessment for forest and agricultural habitat (e.g., rice), and changes in carbon flux with regards to land use

Rationale:

Based on carbon flux research (above), existing literature, and available or developed spatial data layers, the development of a remote sensing technique that provides a rapid assessment of carbon flux and/or carbon flux potential would be valuable for land use planning. Land-use change occurring in the Mississippi Alluvial Valley includes forest conversion, forest restoration, many types of commodity crops, grazing, development, and land abandonment. For planning, it is essential to understand how land types (forest and agricultural land) and land use impact carbon flux at a regional scale.

Objectives:

- To develop a remote sensing data layer to aid in the assessment of ecological goods and services metrics at a regional scale

Expected Outcomes:

- A remote sensing data layer that can be used by partners within the LMVJV geography to aid decision making based on ecological goods and services at a regional scale

CLIMATE CHANGE

Climate impacts (e.g., increased rainfall amounts, periods of drought) on habitat conditions to aid scenario planning

Rationale:

The impacts of climate change on bird conservation efforts in the region is an ongoing issue. The LMVJV needs a more sophisticated understanding of climate impacts on important habitats and systems to improve our planning and augment delivery capacity. Specific examples include the predicted future impacts to forest health and the agricultural community, clearly understanding what partners are already doing with respect to climate change research/planning, and ongoing efforts with non-traditional partners.

Objectives:

- To improve understanding of climate change effects in the LMVJV geography

Expected Outcomes:

- Synthesis paper of climate change impacts
- Vulnerability assessment of habitats and species

Impact of renewable energy (e.g., solar, onshore wind) on birds and bird habitat conservation

Rationale:

The impacts of renewable energy on bird conservation efforts in the region is an emerging issue. To be in a better position to speak to the impacts and potentially aid in planning, the LMVJV should be more informed regarding the nexus of renewable energy and priority habitats. Thus, a literature review and/or vulnerability assessment examining the potential for negative impacts may be beneficial.

Objectives:

- To improve understanding of potential impact of renewable energy activities to LMVJV habitats and birds
- To improve the Joint Venture's ability to engage with other organizations, such as EPA, to better understand the impacts of renewable energy in our geography

Expected Outcomes:

- Synthesis of potential impact of renewable energy to LMVJV habitats and birds

SOCIAL SCIENCE AND HUMAN DIMENSIONS

Test critical assumption about linking local conservation work to supporters

Rationale:

The North American Waterfowl Management Plan (NAWMP) has challenged partners to better connect people to nature and thereby increase support for conservation. Specifically, Goal 3 of the 2018 NAWMP is: "Growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation" with a recommendation to "build support for waterfowl conservation by connecting people with nature through waterfowl and their habitat." A core, untested assumption is that making our conservation work more relevant to people will increase support. In other words, at a local scale, do local investments in connecting people with nature increase 'support' for conservation? Some assert that the conservation community needs to invest in supporters, even in waterfowl poorer areas, to access greater support for our mission, with the assumption that people connect through conservation investments in their back yard. If that is true, then we need to understand what level of local investment is required to trigger support for action in key areas.

Objectives:

- To test assumptions made in NAWMP planning
- To better understand the relationships between people, waterfowl and habitat conservation

Expected Outcomes:

- A research project in key focal areas of investment that quantifies local citizen perceptions of conservation actions in the area, and how those perceptions relate to their active support of the work

Impacts of involving volunteers in science projects to long-term conservation and hunting

Rationale:

Another avenue of connecting people with nature, per NAWMP Goal 3, is to directly immerse people in waterfowl conservation through a hands-on experience. A regional example is the Five Oaks waterfowl banding program in which volunteers have direct contact with waterfowl and see science in action. A longitudinal (long-term) survey of volunteers may help provide insight as to whether this direct interaction has long-lasting benefits, along with a cost-benefit analysis. Information learned could help develop objectives for similar or other citizen-science projects.

Objectives:

- To address the NAWMP goal of connecting people to nature
- To better understand the relationships between people, waterfowl and habitat conservation

Expected Outcomes:

- Research project that surveys volunteer efforts over time, possibly including a cost-benefit analysis
- Recommendations for how to improve or develop other citizen-science project related to waterfowl

Assessment of landowner motivations and hurdles to enrolling in conservation programs and adopting conservation practices

Rationale:

Our work with the Arkansas-Louisiana Open Pine RCPP has three primary goals: 1) maximize applicant pool diversity, 2) increase wildlife-friendly conservation practices used during program, and 3) increase conservation practice persistence after program. To address all three goals requires both qualitative and quantitative social science approaches. The qualitative approach involves interviews with enrolled landowners to better understand their perspectives on conservation of open pine habitat and why they enrolled in the program, and will be carried out through RCPP-related funding. However, an additional quantitative approach using a formal survey design is desirable to reach a greater number and diversity of landowners for greater statistical rigor and broader extrapolation. The Science Team concluded that along with the ongoing social outcomes monitoring we should invest (FY2022 science support funding) in the quantitative research as well.

Objectives:

- To understand landowner barriers to enrolling in conservation programs, motivations for enrolling, and landowner satisfaction with the program

Expected Outcomes:

- Quantitative survey and analysis that addresses landowner perceptions of the ecological and economic benefits of the program, conservation ethic, and willingness to conduct management behaviors after the program ends
- Quantitative survey and analysis that addresses barriers to enrollment in the AR-LA Open Pine Conservation RCPP program

Assess best way to reach target landowners for additional conservation programs

Rationale:

In general, the LMVJV partnership should strive to better understand how to engage with target landowners for conservation programs to improve program delivery and program enrollment (including numbers and diversity of landowners). The AR-LA Open Pine RCPP is a great launching point to learn about connecting with landowners. However, there are a multitude of other programs that could benefit from similar evaluation. Additionally, we recommend that new conservation programs consider an assessment of how to best engage landowners, given the program's priorities and objectives.

Objectives:

- To understand landowner barriers to and motivations for enrolling in conservation programs

Expected Outcomes:

- Quantitative surveys and analyses that addresses landowner perceptions of the ecological and economic benefits of various program, conservation ethic, and willingness to conduct management behaviors after the program ends

AVIAN-FOCUSED SCIENCE NEEDS

BACKGROUND

The LMVJV is responsible for conservation planning under the North American Waterfowl Management Plan, Partners in Flight Landbird Plan, North American Waterbird Plan and U.S. Shorebird Conservation Plan. Each plan is stepped down to regional population and/or habitat objectives at the appropriate scale - either Bird Conservation Region or Joint Venture region. For waterfowl, a MAV step down objective plan was completed in 2015 (LMVJV 2015) and will be updated in 2023. A LMVJV shorebird plan was completed in 2019 (LMVJV Shorebird Working Group 2019). For landbirds, a MAV plan was completed in 2021 (Twedt and Mini 2021); the WGCPO Forest Wetland plan was completed in 2017 (WGCPO Landbird Working Group 2017); and an Open Pine Plan (LMVJV WGCPO Landbird Working Group 2011) was finished in 2011, with a revision in the works. The LMVJV has not specifically developed a waterbird plan but uses the Southeast Waterbird Plan completed in 2006 (Hunter et al. 2006). Priorities below will help refine biological planning, conservation design, and monitoring and evaluation needs as well as address uncertainties identified in existing plans.

PRIORITIES

GENERAL PLANNING AND EVALUATION

Reassessment of bird plan priorities at set intervals

All relevant LMVJV plans should be reassessed at 5-10 year intervals, with progress towards population/habitat goals assessed every five years.

Monitoring the effects of conservation practices, including bird response and habitat metrics

All projects that entail habitat work should include a monitoring component for the appropriate bird guild and habitat metrics, where practical.

WATERFOWL

Investigate cross-seasonal effects of winter conditions and mallard age ratios

Rationale:

Heitmeyer and Fredickson (1981) described the association between winter precipitation patterns in the MAV and mallard age ratios in the harvest the next year (data from 1961 to 1979). It would be informative to repeat a similar analysis with ~40 years of new data, given that climate patterns have changed (e.g., some exceptionally dry winters and exceptionally wet winters). This study would explore the relationships between winter precipitation patterns and age ratios to see if they hold as suggested by Heitmeyer and Fredrickson (1981). In addition, during this time period, the MS Flyway has had stable hunting regulations - 6 ducks, 60 days, 4 mallards (and for the most part only 2 female mallards).

Objectives:

- To elucidate cross-seasonal effects on mallards in the LMVJV geography with contemporary data

Expected Outcomes:

- A research project that repeats similar methodology to Heitmeyer and Fredickson (1981)

Rice agriculture in the MAV – roles of agricultural habitat in meeting waterfowl foraging needs

Rationale:

Rice agriculture is promoted as a very important habitat for waterfowl in the LMVJV geography, with funding and programs established for facilitating availability of this habitat during winter. The LMVJV may benefit from a better understanding of the current role that rice agriculture plays within the region for providing waterfowl habitat. For example, with tillage practices shifting over time, our quantification of available energy likely needs to be updated.

Objectives:

- To assess the available food energy of current rice agriculture to wintering waterfowl

Expected Outcomes:

- A research project similar to Central Valley Joint Venture report from Matthews et al. (2018)
- Recommendations for if/how changing tillage practices would enhance waterfowl habitat

Review waterfowl energy values and determine if there are habitat values that are missing

Rationale:

One of the most important components of the LMVJV waterfowl bioenergetic model is Duck Energy Day values used to calculate available energy. Although some values likely still are relevant, much of the DED information is outdated. Further, there are additional habitats (not currently treated in the model) that should be considered (such as fall-tilled rice, persistent emergent wetland, subaquatic vegetation).

Objectives:

- To improve current waterfowl model and planning efforts to more accurately reflect DED provision on the landscape

Expected Outcomes:

- Recommendations for new energy values (DED) to be used in planning

Abundance of white geese and white-fronted geese and impact on rice for ducks

Rationale:
Abundance and distribution of white geese (Snow and Ross') and greater white-fronted geese have changed over time in the MAV, particularly since the waterfowl bioenergetics model was first assembled. Understanding the provision of rice to waterfowl habitat is important for the bioenergetic model. However, evidence suggests that geese have a strong preference for rice and may significantly deplete resources (more so than previously estimated) before ducks have access.

Objectives:

- To improve current waterfowl model and planning efforts to more accurately reflect DED provision

Expected Outcomes:

- Recommendations for adjustments to waterfowl modeling and planning based on contemporary goose competition for rice and other crops

Quantify the importance of bottomland hardwood habitat for waterfowl beyond energetic value

Rationale:
Bottomland hardwood forest is an important habitat for many taxa. However, for waterfowl planning, we have focused solely on the energetic value (DED) of bottomland hardwood forest, which is relatively low. Quantifying the additional benefits of bottomland hardwood forest to waterfowl is important. As an example, we need improved time-energy budget information for waterfowl (e.g., Mallards, Wood Ducks) in bottomland hardwood forest, possibly trough accelerometers, for a more complete understanding of their use of this system. Additionally, studies on invertebrate availability in bottomland hardwood forest have reported relatively high variability. Better quantifying the value of invertebrates in these habitats in spring, along with associated waterfowl gains in protein, would provide partners with the necessary data to establish explicit habitat objectives.

Objectives:

- To improve current waterfowl planning efforts to elucidate the role that bottomland hardwood habitat plays in the mid-winter/spring needs of waterfowl

Expected Outcomes:

- A research project(s) that intensively studies waterfowl use and resource availability of bottomland hardwood habitat during the non-breeding season in the LMVJV, with particular attention on invertebrate resources

Waterfowl sanctuary: optimal design and position within the landscape

Rationale:
Within JV conservation planning efforts, designated sanctuary has largely been viewed and explored relative to its role in providing waterfowl with more efficient access to high quality foraging habitats, thereby enabling attainment of greater body condition and reduced vulnerability to mortality agents. With establishment of human-related objectives in the 2012 NAWMP, JVs have an additional

opportunity to consider the direct and indirect impacts of designated sanctuary on resource users and conservation supporters. Studies are needed to: 1) demonstrate effects of sanctuary on hunter harvest, 2) demonstrate effects of sanctuary on survival, 3) demonstrate effects of sanctuary on movements and migration chronology, 4) quantify sanctuary on the landscape.

Objectives:

- To improve understanding of the role of sanctuary to important waterfowl life requisites and to user metrics in the LMVJV

Expected Outcomes:

- Recommendations for how to formally incorporate sanctuary into waterfowl planning efforts in the LMVJV

Spatial and temporal distribution of energy

Rationale:

A central tenant of Joint Venture planning is that waterfowl are energy limited during the mid-winter season. Quantification of the spatial and temporal distribution of energy (DEDs) on the landscape would elucidate energy 'hotspots' and provide a first critical step to understanding waterfowl distribution, both spatially and temporally. This information will, in turn, help address issues such as staggered flooding and other management practices at the larger regional scale.

Objectives:

- To inform waterfowl planning and management
- To identify possible spatial/temporal priorities for specific management actions

Expected Outcomes:

- Maps depicting the spatial and temporal distribution of food energy in the LMVJV, aiding in identifying those areas that have either high or low food energy
- Address questions of staggered/coordinated flooding and other management actions a landscape scale

Drivers of waterfowl distribution on the landscape

Rationale:

MAV habitat objectives currently are established based on energy needs, without consideration of how and where ducks are distributed spatially and temporally. However, distribution is an important component of the original NAWMP. The distribution of ducks relative to energy on the landscape should identify priority areas for providing waterfowl habitat. Additionally, understanding the distribution of waterfowl, habitat, and energy will facilitate and inform discussions regarding our ability to accomplish human dimension objectives as outlined in the most recent iteration of the NAWMP.

Objectives:

- To inform waterfowl planning and management
- To identify fine-scaled spatial/temporal priorities for specific management actions for waterfowl

Expected Outcomes:

- Maps depicting the spatial and temporal distribution of waterfowl relative to food energy, allowing comparison of expected distribution of waterfowl as derived from NAWMP objectives.

The value and availability of wetland complexes for waterfowl

Rationale:

A significant proportion of the MAV Wetland complexes for waterfowl include a variety of natural wetland types (bottomland hardwood forest, emergent marsh, etc.) located in close proximity and adjacent to other important flooded foraging habitat, such as flooded agriculture. Most waterfowl tend to remain within a limited radius of a central roost site (some studies indicate ~20km for mallards). It is logical to assume that providing a complex of appropriate habitats within that radius is ideal for management. However, we have a limited understanding of the optimal proportion and juxtaposition of habitats within wetland complexes to waterfowl in the LMVJV.

Objectives:

- To improve current knowledge of how waterfowl use habitat complexes
- To identify spatial priorities for waterfowl habitat complexes

Expected Outcomes:

- Quantification of acceptable ranges of waterfowl habitat complex parameters (composition, proportion, size, juxtaposition, etc.)
- Maps depicting the location of suitable habitat complexes for waterfowl in the LMVJV geography
- Maps depicting spatial priorities for provision of deficient habitat components within near-suitable complexes

Benefits of emergent marsh to waterfowl and other wetland bird species

Rationale:

The LMVJV Science Team and LMVJV Waterbird Working Group have emphasized that semi-permanent emergent marsh, composed of persistent emergent species such as cattails, giant cutgrass, arrowhead, etc. interspersed with shallow open water and aquatic bed vegetation, is an important habitat component for a variety of birds and other wildlife. The Joint Venture has invested funds in the development of an emergent wetland geospatial data layer to be used in planning for waterbirds and waterfowl. However, we lack important information on the full energetic value of this wetland type in our geography, especially with respect to the value of submersed aquatic vegetation (SAV) and invertebrates to a host of waterfowl species. In addition, a high Operational Priority for our Joint Venture is the integration of priorities among bird guilds. Investigating in more detail the components of semi-permanent emergent marsh benefits would help inform how priorities can be integrated between waterfowl and marsh birds. By examining well-managed emergent wetland sites with demonstrated King Rail and other priority marsh bird breeding and non-breeding use, we can better understand the benefits to multiple species and promote optimal management of this habitat type.

Objectives:

- Document plant species and cover composition within semi-permanent emergent marsh to be used in conjunction with spatial data to estimate energetic carrying capacity for waterfowl.
- Document marsh bird, wading bird, and waterfowl use of emergent marshes for comparison with other wetland types (which may include summarizing existing survey data)
- Validate accuracy of the LMVJV emergent marsh spatial data layer
- Estimate energy density of emergent marshes for waterfowl (intensive sampling)

Expected Outcomes:

- Provide a region-wide index of the availability and distribution of emergent wetland habitats and compositional measures of their suitability to wetland associated birds that can be used in conservation planning and design by the LMVJV

Refine habitat objectives to reflect the contribution of all habitats and better estimate the provision of Duck Energy Days (DEDS) on private lands

Rationale:
Availability and annual reliability of viable foraging habitats on private land (i.e., unharvested crops, moist-soil, and ratoon rice) are a substantial source of uncertainty in DED estimates. A better estimate of private land contribution was identified as a priority information need by the LMVJV Waterfowl Working Group. Gaining a better understanding of this parameter and incorporating revised data into biological modeling could significantly improve our estimate of the DED balance (i.e., deficit vs. surplus) throughout the LMVJV. Inclusion of better private land estimates in the analysis will improve the reliability of intensively managed private land habitats and the foraging energy they provide.

Objectives:

- To improve current waterfowl model and planning efforts to more accurately reflect DED provision on private lands

Expected outcomes:

- Adjustments to the Waterfowl Bioenergetic Model based on delineation and collection of improved spatial information regarding habitats provided on private land
- Further refining of habitat assessment for the LMVJV

Establish habitat objectives over biologically-relevant winter periods in the MAV, accounting for migration chronology and flooding schedules

Rationale:
Current planning efforts use duck energy needs over a 110-day period; however, food availability due to flooding may vary over those 110 days. Additionally, energy demand differs temporally due to the migration chronology of waterfowl species and the availability of water on the landscape. Refining these habitat objectives will provide a more accurate depiction of the temporal distribution of energy demands.

Objectives:

- To improve current waterfowl model and planning efforts to more accurately reflect DED provision

Expected outcomes:

- Early, mid, and late winter habitat objectives (or something similar) will be used in future iterations of the waterfowl bioenergetic model to further inform and refine, spatially and temporally, habitat objectives for the LMVJV.

Evaluate the hydrological performance (e.g., quantity and quality) of water management units on public and private lands

Rationale:
Hydrologic performance (i.e., the ability to provide flooded habitat for waterfowl consistently) on public lands was last assessed in 2001-2002. The LMVJV Waterfowl Working Group agreed on an average performance of achieving habitat objectives in 4 of 5 years (80%). However, hydrological performance needs to be reassessed for more current years. Additionally, similar performance on private lands needs to be better assessed.

Objectives:

- To improve current waterfowl model and planning efforts to more accurately reflect DED provision

Expected Outcomes:

- Adjustments made to the waterfowl bioenergetic model based on better information regarding public and private land performance

LANDBIRDS

Develop and deploy protocols for monitoring breeding landbird populations

Rationale:
Tracking population trends of priority species is an inherent part of our landbird plans. To do this effectively, it is recommended that LMVJV partners consider, in detail, what is needed for more effective long-term monitoring of landbirds (e.g., additional BBS routes, point counts at certain intervals) to detect meaningful trends in population abundance and/or other appropriate metrics.

Objectives:

- To develop and deploy long-standing temporal and spatial data sets for landbirds

Expected Outcomes:

- A landbird-specific monitoring strategy document with established protocols and best practices for population monitoring
- Active deployment of strategy

Bird community response to forest habitat treatments

Rationale:
Given the amount of forest habitat conservation that continues to occur in the LMVJV region, it is important to document the bird community response to forest habitat treatments. Much of this intrinsically involves testing important assumptions of habitat work based on Desired Forest Conditions for Wildlife recommendations and open pine thinning/burning. Whereas methods should be tailored to the specific project, habitat type, treatments, etc., the partnership would benefit from standardized approaches that can be adapted as needed.

Objectives:

- To establish a framework for assumption testing and model validation

Expected Outcomes:

- A standardized, documented and approved approach to monitoring bird response to habitat treatments

Louisiana Waterthrush decision support model validation

Rationale:
With the completed Louisiana Waterthrush Habitat Model, the next step is validation of the habitat-based and species distribution models.

Objectives:

- To set up framework for model validation and appropriate methodology to test
- To validate current LOWA model and improve as needed

Expected Outcomes:

- Remote sensing validation of habitat variables included in decision support model
- Validation through on-site data collection – habitat data and point counts for LOWA detection

Continued engagement in the Southern Grassland Bird Cooperative

Rationale:
It is advantageous for the LMVJV partners to continue engaging in Southern Grassland Bird Cooperative with Central Hardwoods Joint Venture, Oaks and Prairies Joint Venture and East Gulf Coastal Plain Joint Venture. This effort is developing predictive models using data collected in the four-JV geography to determine the habitat factors driving patterns of distribution and abundance of grassland birds and affecting demographic rates associated with population growth or decline.
https://southerngrasslandbirds.org/

Objectives:

- To improve understanding of priority LMVJV grassland/open pine priority species such as Henslow's Sparrow and Northern Bobwhite
- To develop predictive models to elucidate limiting factors and improve habitat delivery

Expected Outcomes:

- Multi-state research effort that will focus on demographic parameters and help identify limiting factors across the range of these priority species

Investigate climate change nexus with landbirds

Rationale:
The impact of climate change on bird conservation efforts in the region is a burgeoning issue, and understanding the impacts to landbirds is particularly important. The most plausible first step is to ensure the LMVJV's decision support tools are informed by climate science, using outputs from predictive climate models to inform the relevant features of our habitat models.

Objectives:

- To identify and apply relevant climate change impacts that may affect landbirds

Expected Outcomes:

- Landbird decision support model(s) enhanced using relevant climate science predictive model output

Revision of Open Pine model for West Gulf Coastal Plains/Ouachitas

Rationale:

Revision of the Open Pine Decision Support Model is identified as Highest Operational Priority in our Operational Plan. The last model was completed in 2011, with habitat information used dating back well over 10 years. Researchers at Mississippi State University (MSU) currently are working on a revision of the model and data layers. After completion of the MSU project, LMVJV staff will convene partners to review and refine data layers and model outputs.

Objectives:

- To update 2011 Open Pine Plan decision support model with more current information and contemporary models

Expected Outcomes:

- A revised Open Pine Decision Support Model that is vetted with partners and updated based on work currently being undertaken at MSU

WATERBIRDS

Wader colonies – assess need for coordinated inventory of wading bird colonies

Rationale:

Past information may be insufficient to assess the current location of wading bird colonies and the number of birds utilizing those colonies. In the past, waterbird surveys have not been well coordinated among states and the resultant data have not been maintained in a centralized database. The Mississippi Flyway Nongame Technical Team is working on entering state-level data into a central database. The LMVJV partners and staff should remain engaged in this process. Unmanned Aerial Vehicles (UAVs) may offer a useful tool for assessing colony composition and size.

Objectives:

- To obtain estimates of wading bird population sizes and distribution across the geography

Expected outcomes:

- The feasibility of surveying and monitoring wading birds in the MAV and WGCPO will be discussed with regional waterbird experts. If a coordinated inventory appears reasonable and feasible and other datasets are inaccurate, the LMVJV will form a working group dedicated to this task.

Documentation of limiting factors for long-legged waders and secretive marshbirds

Rationale:

There have been few studies of wading birds and secretive marshbirds in the LMVJV geography, thus not much is known about habitat associations and limiting factors. Gathering experts to document assumptions and limiting factors needing further investigation is critical.

Objectives:

- To identify limiting factors and threats facing long-legged waders and secretive marshbirds

Expected Outcomes:

- A synthesis of limiting factors and threats with recommended actions to address

Marshbird foraging in emergent wetlands

Rationale:

Managers and researchers have noted that many wetland areas assumed to provide quality marshbird habitat support no detectable King Rails, and often few other marshbirds. Habitat conditions appear suitable, but marshbirds apparently are not responding to the conditions or management. It is postulated that habitat quality is dictated by factors beyond assumed positive habitat metrics (e.g., good interspersion of habitat, <10% woody wetland). Investigation of available forage and associated habitat features in marshbird-occupied wetlands may offer important insights into this challenge.

Objectives:

- To assess feasibility of a diet/foraging study focused on marshbirds

Expected Outcomes:

- Recommendation and outline for a research project that would address the forage limitation hypothesis

Gather and assess waterbird population information to compare with existing breeding population estimates and adjust as appropriate

Rationale:

Baseline population information used in LMVJV planning probably does not accurately reflect regional population sizes. Historical and current information likely exists through partners with respect to the number of long-legged wader rookeries and regional population estimates of secretive marshbirds. Likely sources of information are natural heritage data and literature review. We should also explore the use of BBS and/or eBird STEM models to assist in bolstering population information (trends, size, abundance, etc.)

Objectives:

- To improve underlying data used in developing objectives and models for long-legged waders and secretive marshbirds

Expected Outcomes:

- Recommendations for best data in formulating population estimates and/or metrics

Consider non-breeding (migration) population objectives or alternative metrics for high priority secretive marshbirds

Rationale:

Population goals for secretive marshbirds are expressed as number of breeding pairs, emphasizing the breeding season. However, the MAV and WGCPO may be equally or more important during the non-breeding season. Thus, the Waterbird Working Group is encouraged to consider the best means to

setting non-breeding population (and/or habitat) objectives. With sparse data available, we may also need to consider alternative metrics to traditional population objectives.

Objectives:

- To ensure that waterbird planning efforts reflect the importance of the non-breeding season to secretive Marshbirds, as appropriate

Expected Outcomes:

- A set of metrics or population objectives that will be used in waterbird planning and used to assess progress towards meeting goals

Develop GIS data layers that depict potential waterbird habitat for breeding and migration

Rationale:

GIS data layers are needed to generate species-habitat models for waterbirds in the MAV and WGCPO. The Joint Venture has developed an emergent wetland data layer. However, more work is needed to translate the raw habitat information into Marshbird habitat suitability based on size, juxtaposition with other landcover types (e.g. open water, forest), etc.

Objectives:

- To develop data layers and outputs useful in waterbird planning

Expected Outcomes:

- Synthesized GIS output that accurately depicts waterbird habitat

Develop species-habitat model for king rail (*Rallus elegans*)

Rationale:

Addressing planning needs for King Rail has been identified as a high priority species by our Waterbird Working Group, and addressing conservation planning and design for waterbirds remains our highest Operational Priority. Having a dedicated individual to synthesize habitat requirements, management needs, and knowledge gaps better positions our Joint Venture to identify variables to be included in a modeling framework. Based on the synthesis of information, we could begin the development of a framework (variables, data layers, etc.) for a species-habitat model (e.g., Bayesian Belief Network framework) in both the breeding and non-breeding season to identify key areas for management action/attention. However, much uncertainty remains with regards to population trends and estimates, so any additional time would be devoted to the development of a larger-scale monitoring protocol to inform conservation planning efforts.

Objectives:

- To develop a suitable species-habitat model for King Rail to inform management and planning efforts in the LMVJV geography
- To develop a model that can be improved as more information is captured for King Rail and other secretive marshbirds

Expected Outcomes:

- Literature review and synthesis of King Rail habitat requirements, management needs, and uncertainties related to species-habitat model development

- Development of a conceptual model and framework for a King Rail species-habitat model (both breeding and non-breeding), using principles of decision theory, such as probability of uncertainty of management actions and tradeoffs, and solicitation of expert opinion where data is lacking

Develop species-habitat model for little blue heron (*Egretta caerulea*)

Rationale:

The Little Blue Heron is the highest priority colonial wading bird identified for the LMVJV in the 2006 Southeast Waterbird Plan. Additional coordination with Gulf Coast and East Gulf Coastal Plain Joint Ventures will improve the LMVJV's understanding of habitat needs and population status of the Little Blue Heron across its annual cycle. Similar to King Rail, the LMVJV partnership should develop a species-habitat model that will improve our ability to manage for this species, and other wading birds, across the geography.

Objectives:

- To develop a suitable species-habitat model for Little Blue Heron to inform management and planning efforts in the LMVJV geography

Expected Outcomes:

- Literature review and synthesis of little blue heron habitat requirements, management needs, and uncertainties related to species-habitat model development
- Development of a conceptual model and framework for a little blue heron species-habitat model

SHOREBIRDS

Continue evaluation of shorebird habitat provided on public and private lands

Rationale:

Per our 2019 LMVJV Shorebird Plan, late summer and early fall water availability is assumed most limiting to shorebird species during migration. The condition and availability of shorebird habitat on public lands is relatively unknown. An assessment of management capabilities for shorebirds would highlight limitations in management or identify areas in which further support is needed to provide high quality shorebird habitat. The LMVJV currently has a Shorebird Module in its Wetland Management Unit database and should undertake a formal assessment of where and how much shorebird habitat is provided on public lands. Additionally, information on drivers of variability in shorebird habitat (infrastructure, financial expenditures, weather, etc.) would be useful. Much is unknown about shallow water habitat on private land, and past remote sensing capabilities have not been available to assess this. However, there have been satellite imagery and remote sensing advances recently that should be explored for their ability to determine shallow water habitat with acceptable accuracy.

Objectives:

- To improve current shorebird model and planning efforts to more accurately reflect habitat provision

Expected Outcomes:

- A database of available shorebird habitat on public land by state and partner with indication of condition and availability. This will be used to evaluate management and calculate habitat carrying capacity.

- Explore options for private land assessment given new imagery and technology advances

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LMVJV Science Team – Science Investment Recommendations FY2023

The LMVJV Science Team was tasked to consider the thematic areas from the newest ***Science Priorities*** document most appropriate for funding in fiscal year 2023. The thematic areas included landscape-level science needs of Forest Health and Structure, Hydrology, Ecosystem Goods and Services, Climate Change, Social Science and Human Dimensions, as well as avian-related priorities for Waterfowl, Landbirds, Waterbirds, and Shorebirds. The Science Team currently consists of eight members of which two are JV staff. The six non-JV Office staff members voted on these priorities.

Based on this input, there is clear consensus that **Hydrology** is the top area for funding (Figure 1). Close behind this are **Forest Health and Structure** as well as **Waterbird** science needs.

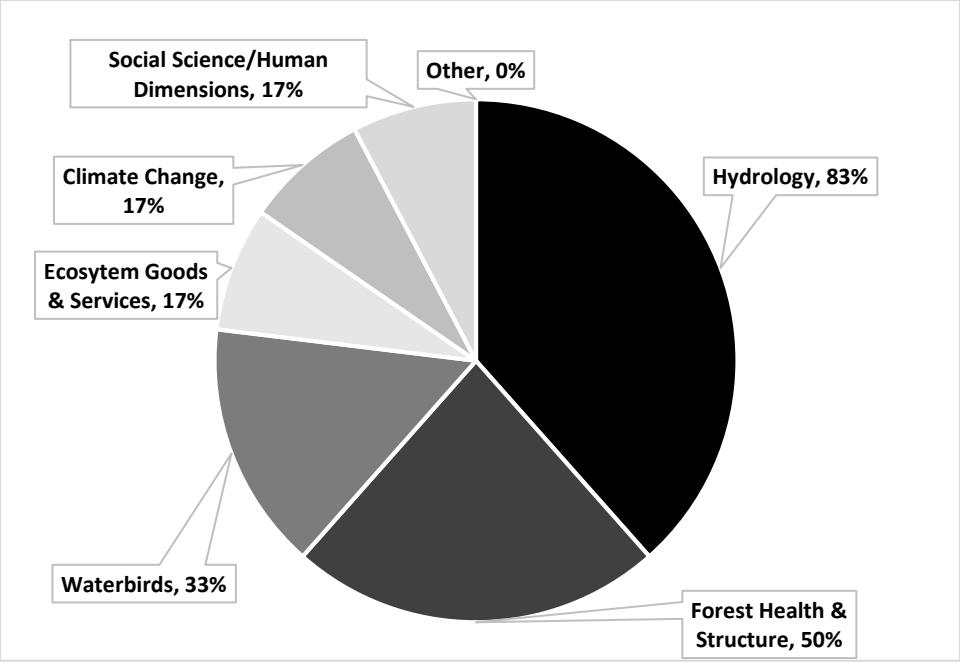


Figure 1. Percentage of votes directed towards thematic areas of landscape-level science needs & avian-focused science needs

Next Steps: Pending concurrence by the Management Board on general thematic prioritiy, the LMVJV Science Team will discuss specific projects that would benefit from available funding (amount to be determined) in these top three categories (Hydrology, Forest Health and Structure, and Waterbirds). If the Science Team determines that additional funds are best used for an existing project, the Project Advisory Committee will be included in discussions. If the Science Team determines that additional funds are best used to support a new project, a new Project Advisory Committee will be formed.

LMVJV Science Team:
Todd Jones-Farrand; US Fish & Wildlife Service
Sammy King; USGS Louisiana Coop Fish and Wildlife Research Unit
Keith McKnight; LMVJV Office/US Fish & Wildlife Service
Anne Mini; LMVJV Office/American Bird Conservancy
Mike Mitchell; Ducks Unlimited, SRO
Douglas Osborne; University of Arkansas Monticello/Five Oaks Ag Research & Ed. Center
Elena Rubino; University of Arkansas Monticello
Randy Wilson; US Fish & Wildlife Service

October 2022

Habitat Delivery

Highlights of WGCPO - LMVJV CDNs May to October 2022

In the West Gulf Coastal Plain & Ouachitas (WGCPO; BCR 25) of the Lower Mississippi Valley Joint Venture (LMVJV), partners are enhancing open pine and bottomland hardwood habitat, with a focus on restoring shortleaf and longleaf pine ecosystems through four Conservation Delivery Networks (CDNs). The Northeast Texas and Arkansas-Louisiana CDNs, and the Texas and Louisiana Longleaf Teams, support forest habitat conservation efforts that benefit LMVJV priority open pine species, including the Northern Bobwhite and the Eastern Wild Turkey.

The **Northeast Texas Conservation Delivery Network** (NETX CDN) convened our first **successful "in-person" CDN meeting post-COVID on September 7, 2022, with approximately 90 participants**, at the newly renovated Tyler Nature Center at Texas Parks and Wildlife Department's Regional Office in Tyler, Texas. Guest speakers Dr. Ron Masters, Mike Black, and Tyson Hart discussed Shortleaf Pine and the value of prescribed fire. Presentations by other partners were well-received. All 11 presentations and details can be found at the following link: **https://drive.google.com/drive/u/3/folders/1SQyhbBFzeK_FB1Bs-TR_H16SRMvL1C1Q**

Highlights of WGCPO - LMVJV CDNs May to October 2022

Entering into its 7th year of the Habitat Incentive Program (HIP), the NETX CDN is continuing to provide coordination and leadership for partner agencies and organizations to promote conservation of open pine habitat. Total HIP funds and conservation completed to date are **$929,549.86 and 20,369 acres**, respectively. The 2022 RFP resulted in a record 41 proposals, requesting almost $500k in conservation funding. With funding primarily through Texas Parks and Wildlife Department upland game bird stamps and federal aid, **19 projects** proposed almost **4,300 acres of habitat improvement at a cost of $252,235,** and were approved for immediate development of project agreements. An additional 10 projects were tentatively approved to move forward, should more funds become available.

The NETX CDN, AR-LA CDN, and Oklahoma partners – 47 in all – gathered on 11 October for a Field Day in Clayton, OK, at the Pushmataha WMA. This first-time effort, to gather like-minded partners across the WGCP to learn about the WMA's 40 years of fire and habitat treatments, was a big success. As previewed during the September 7th CDN meeting by Dr. Ron Masters, the continued research was explained by Dr. Rodney Wills (OSU), and management was described by ODWC supervisor and LMVJV Management Board member, Richard Beagles. Prescribed fire and wildlife habitat, as a WGCPO foundation to success, was covered well.

Richard Beagles overviews 40 years of fire research Pushmataha WMA, 10/11/2022

Since May, 2022, the **Texas Longleaf Team (TLT)** was very active in SE Texas, with significant development in outreach and education. With COVID less of a concern, a number of events have been well-attended. In July, special emphasis was placed on Longleaf savannah

ecosystems for forest landowners and managers through TFA's "Branchin' Out" Symposium. These Longleaf Pine Ecosystems (and other open pine areas) lead to increased soil health, carbon storage and sequestration, water quality and quantity, and wildlife habitat.

The rain simulator is demonstrated by Alan Shadow of NRCS.

TLT's continuing partnership with Texan by Nature, and the refinement of the website by Texas A&M Natural Resource Institute partners, has also provided great communication and connection with landowners (see ***https://txlongleaf.org/***). Though virtual opportunities continue, recently more local field demonstrations are being used post-COVID to communicate the open pine and Longleaf restoration message. In September 2022, a Forests & Water Forum **hosted 100 participants** from the forestry, conservation, and water utility sectors across the country. Co-sponsored by the Longleaf Alliance, this Forum came together to discuss the critical role that well-managed forests play in protecting our soil, and providing clean and abundant water, with an emphasis on impacts to Texas communities.

The TLT website continues to expand and improve. Not only with regular Facebook posts, but on other social media connections as well, TLT is communicating with an ever-widening audience. The TLT page, "Reptiles and Amphibians of the Longleaf Pine Ecosystem," was launched to convey more about these species and conservation of their habitat: ***https://bit.ly/3B0LKQz***. This new resource highlights the herpetofauna of East Texas Longleaf Pine and Open Pine forests, and adds to the plants, birds, and conservation educational material found on the TLT website.

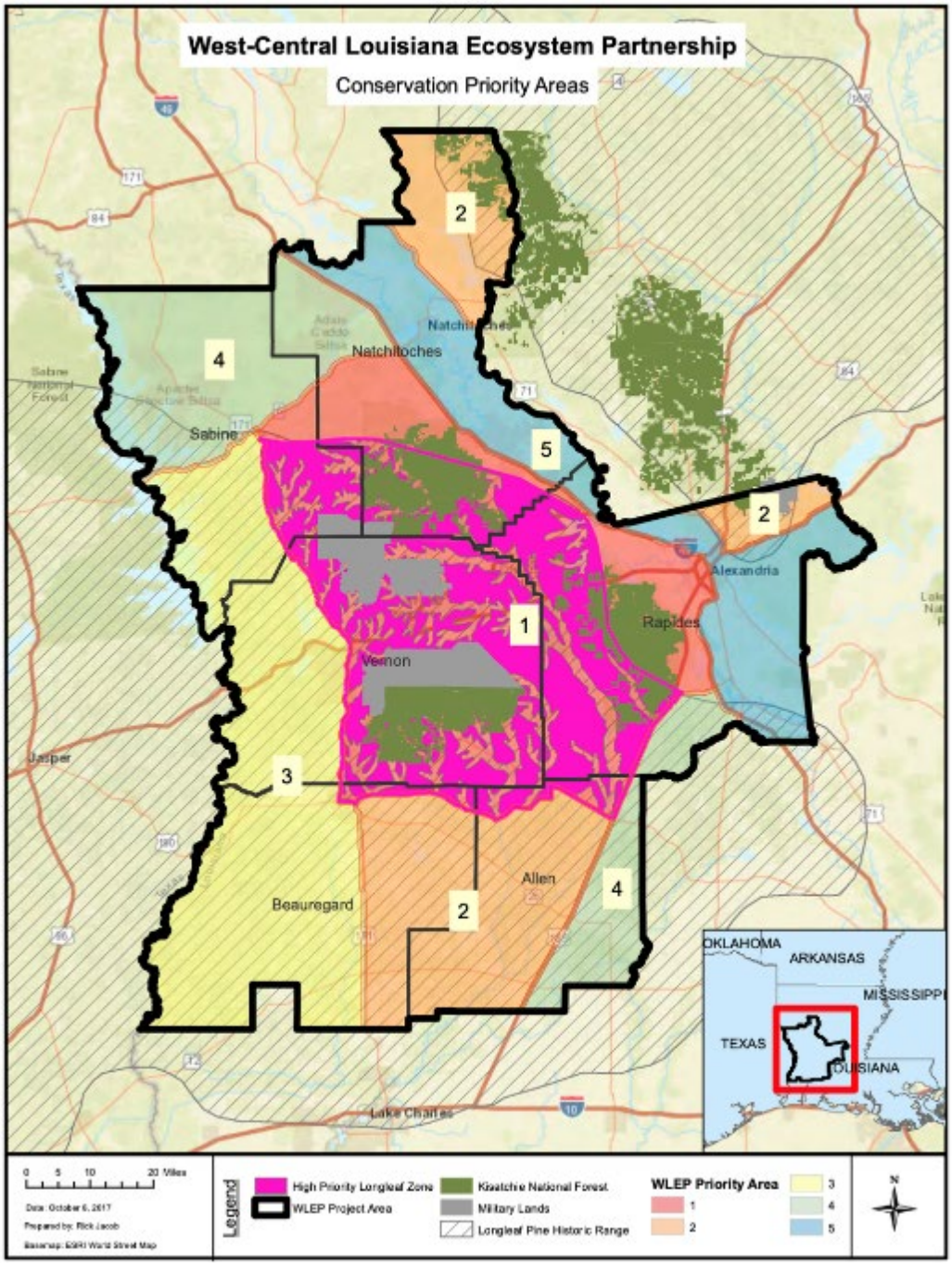
Highlights of WGCPO - LMVJV CDNs May to October 2022

In addition to aggressive outreach and communication, TLT's Spring and Fall RFPs, providing incentives to landowners for restoring longleaf pine, continues to see significant interest and success. The Fall application deadline was Sept. 30, with projects awarded later in October (the TLT process is described here: **https://bit.ly/3clJ9Xx**). Though incomplete at the time of this report, 16 proposal applications were received. TLT anticipates that these will increase conservation awards for an additional 3,444 acres on those 16 projects, making total projects approaching 90 in Texas Longleaf areas. TLT's accomplishments, as of September 2022, are as follows**: 4,536 acres restored; 3,377 acres enhanced; and 24,873 acres prescribed burned.** Current Accomplishments can be viewed at the ***Longleaf Accomplishment Dashboard***. Future conservation work will continue, as TLT was awarded an additional $490,000 by NFWF in August 2022 to cost-share with landowners on Longleaf restoration projects.

West-central Louisiana Ecosystem Partnership (WLEP) and the LMVJV have joined forces to support the WLEP presence on our website. In an effort to combine resources for information sharing about WLEP, you can now find the material by partners more readily. The WLEP link on the JV website is: ***https://www.lmvjv.org/louisiana-longleafflatwoods-cdn***.

In addition, one of WLEP's landowner partners was recognized as a 2021 LMVJV Private Landowner Conservation Champion (see **https://www.lmvjv.org/plcc-main**). **Mr. Harvey Keiffer** has worked with partners in LA to achieve his vision. Through these partnerships, he has planted trees and native grasses, conducted forest stand improvement, and continued his consistent prescribed fire program. With these practices, he has ushered in a healthy herbaceous understory, creating habitat for grassland nesting birds, including wild turkey.

Highlights of WGCPO - LMVJV CDNs May to October 2022



The WLEP priorities continue to guide partners in a strategic development of Longleaf Pine. Focusing primarily on Priorities 1 and 2 will secure a landscape connectivity of longleaf for the benefit of many species that are endemic to the Longleaf - Little Bluestem ecological region.

The **Arkansas-Louisiana (AR-LA) CDN** partnership continues to learn through experience, with close coordination among the 19 Regional Conservation Partnership Program (RCPP) contributing partners, the CDN Steering Committee, and adjacent CDN partners. These coordinated efforts communicate and work well together. Contributions in 2022 will greatly

exceed those of 2021. Last year, 19 projects accounted for land management: 13,584 acres; outreach to over 700 landowner contacts; with a total value of approximately $1,723,841 of partner contributions. Coupled with two AR-LA Steering Committee meetings, monthly implementation technical assistance or delivery team discussions, and field days (both virtual and face-to-face), much has been learned. The engagement of all partners, sharing lessons learned among partnerships, have provided valuable experiences throughout this summer/fall.

Annual Partnerscapes meeting October 4-6 Fayetteville AR. Arkansas Partnerships excel!

Our Open Pine RCPP project has a solid foundation (awarded 5.9 million dollars over 5 years for the 16 counties and parishes to restore 30,000 acres of open pine habitats (see the NRCS news release). Based on **those 100 applications, 7 contracts in LA and 8 contracts in AR ($596k and 1,456ac)** were awarded by NRCS in 2022. Clearly there is great demand and potential for this landowner-focused conservation RCPP program.

Bubba Groves describes thinned and burned area (left) quail habitat in the making.