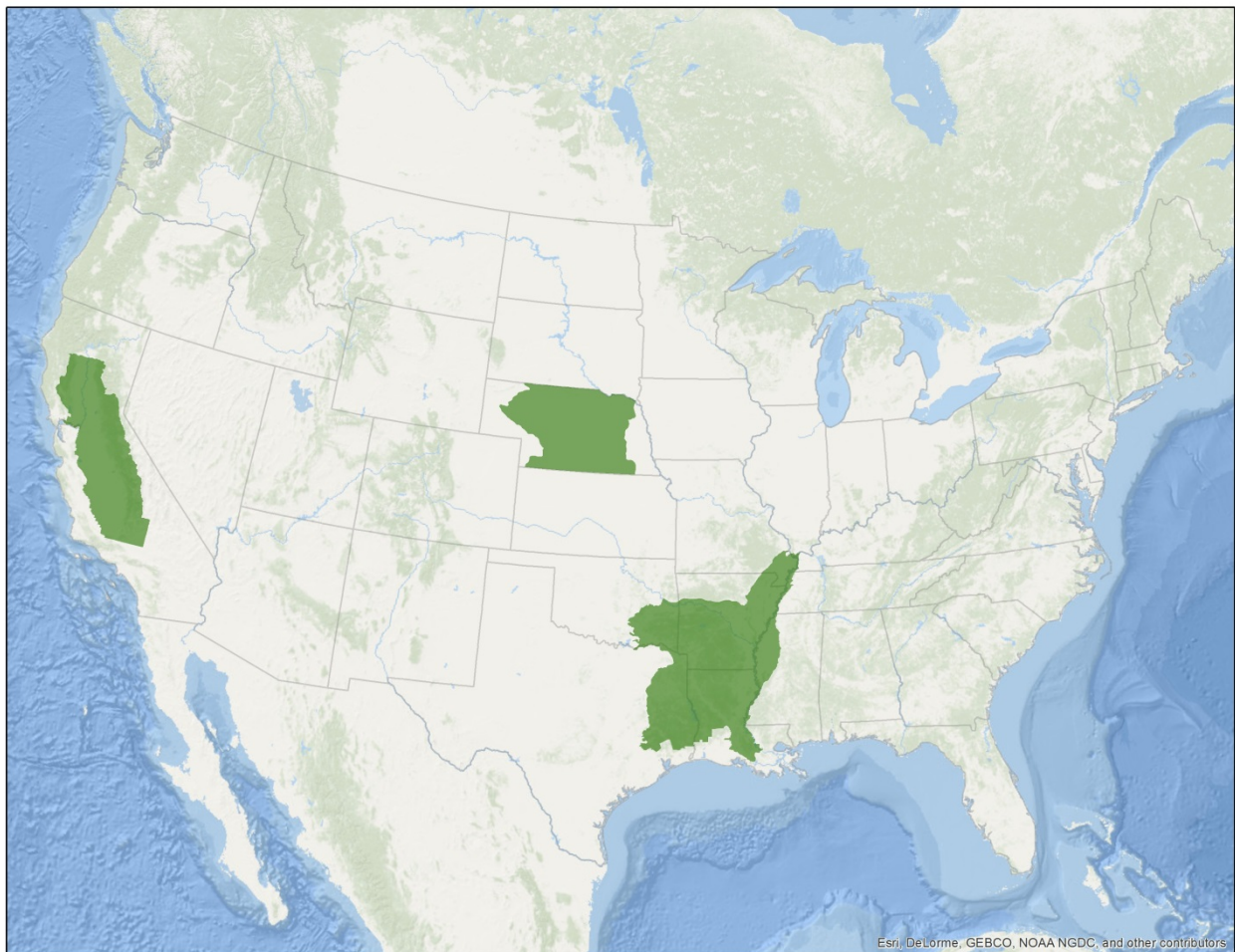


Wetlands Reserve Easements Contributions to Joint Venture Bird Objectives in Key Regions of the U.S.

Migratory Bird Joint Ventures (JVs) are partnerships working together to build a healthy world for birds, other wildlife, and people. First established by the North American Waterfowl Management Plan in 1986, twenty-four Joint Ventures in the US, Canada, and Mexico continue to address the needs of all North American birds. JV partners work across political boundaries to find answers to complex conservation issues, engaging in projects that support jobs in tourism, construction, technology, restoration, forest products, and more, and engaging people in conservation to create spaces that provide recreational opportunities, support healthy lifestyles, and link people with the outdoors.

The majority of many North American populations of birds, particularly waterfowl, wading birds, and shorebirds, are supported by habitats within the JV regions highlighted herein. And whereas Wetland Reserve Easements provide abundant and important habitat to birds across the U.S., they are particularly important within the Central Valley, Lower Mississippi Valley, and Rainwater Basin JVs.



Lower Mississippi Valley Joint Venture

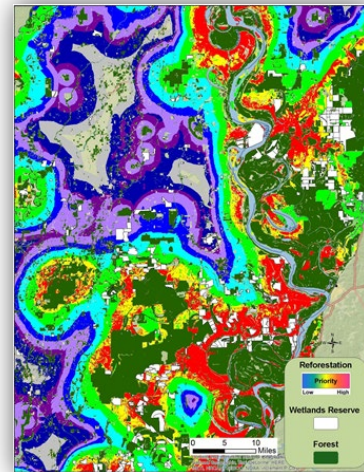
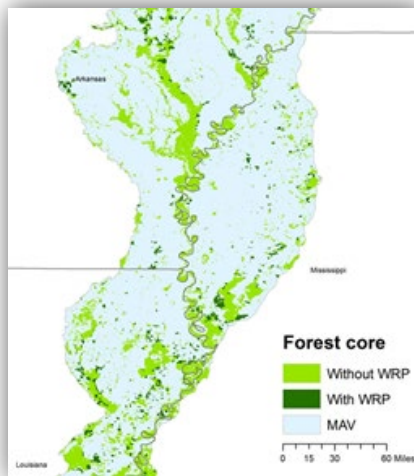
Nearly 40% of North America's waterfowl and 60% of all U.S. bird species migrate or winter in the Mississippi Alluvial Valley (MAV). Millions of ducks and geese descend upon the MAV annually during Fall migration, Winter, and their return to northern breeding areas in the Spring. Abundant food is critical during each of these seasons. In particular, food energy is needed to fuel flight, maintain body temperature in the face of winter's cold, build reserves, and prepare for the following breeding season. The MAV also is extremely important to forest breeding birds. This once forest-dominated region now consists of numerous forest fragments of various shapes and sizes. As conservation partners work to restore portions of this historic forested landscape, the size and location of resultant forest blocks are tremendously important to high priority forest breeding birds and other wildlife. In general, expanding existing forested tracts contributes more significantly to the critical need) of priority forest breeding birds than does random placement of similar amounts of reforestation.

Waterfowl - WRP habitats are estimated to provide **5.3 billion kcal of duck food energy** (see Reinecke & Kaminski 2006, LMVJV Waterfowl Working Group 2016). This constitutes **34%** of the food energy provided in the MAV on managed private lands, and 6% of duck food energy provided in all habitats (private managed, public managed, naturally flooded, etc.). That's **enough energy to feed 53.6 million ducks** for one day (i.e., 53.6 million "duck energy days").

Forest Breeding Birds – Forest core is the basic building block of priority bird habitat in the LMRV. It is composed of forest tracts with a buffer against surrounding unsuitable habitats sufficient to preclude nest predation and parasitism. To date, the **majority (51%) of all Wetlands Reserve** acres in the MAV have been placed within the best 20% priority reforestation zones (red and yellow areas in Figure 1). In fact, of the 1.2 million acres of "Top 20%" reforestation land throughout the

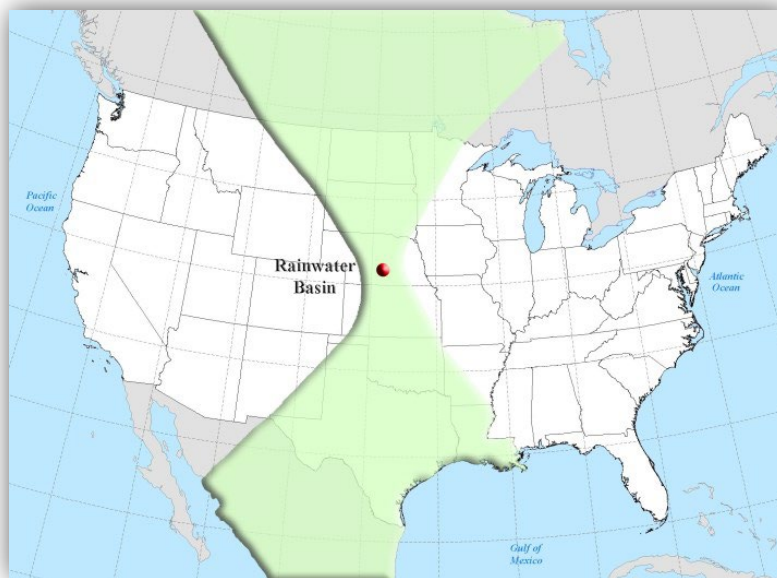
MAV, **nearly 1/3 (338,000 acres)** have been reforested through Wetlands Reserve habitat restoration activities.

Significantly, this has resulted in creation of an additional 501,000 acres of forest core, based on the LMVJV's seminal forest bird conservation plan recommendations.



Rainwater Basin Joint Venture

Rainwater Basin (RWB) wetlands provide many important functions, one of which is providing habitat for migrating wetland-dependent birds. The RWB falls within the narrowest portion of the Central Flyway migration route (Figure 3), making RWB wetlands key stopover habitat for wetland dependent birds to replenish their energy and nutrient reserves, particularly as they migrate north in the spring. Each spring, >7 million waterfowl stopover in the RWB, including 50% of the mid-continent Mallards (*Anas platyrhynchos*), 50% of mid-continent Lesser Snow Geese (*Chen caerulescens*), and 30% of the continental Northern Pintail (*A. acuta*) breeding population (Table A.1; Benning 1987, Gersib et al. 1989, Vrtiska and Sullivan 2009). RWB wetlands also provide stopover habitat for an estimated 500,000 individuals and 40 species of shorebirds (Table A.2; RWBJV 2013b) as well as the endangered Whooping Crane (*Grus americana*; Tacha et al. 2010, RWBJV 2013c).



Waterfowl - WRP habitats are estimated to provide 130 million kcal of waterfowl food energy (NRCS 2015, Nugent et al. 2015), **10% of all the waterfowl food energy** produced in the Rainwater Basin JV area.

Shorebirds - WRP wetlands provide approximately **77 million kcal (9%) of shorebird food** energy within the region (NRCS 2015, Nugent et al. 2015).



Photo by Steve Donovan, Ducks Unlimited

Central Valley Joint Venture

The Central Valley provides some of the most important bird habitat in North America, hosting one of the largest concentrations of migratory birds in the world during the fall and winter. In the 1800s, the Central Valley contained more than 4 million acres of wetland habitats, supporting an estimated 20 to 40 million waterfowl annually. Over 95% of these wetlands have been lost. Today, just over 205,000 acres of managed wetlands remain in the Central Valley, and of those, two thirds are in private ownership. Currently, over 5 million waterfowl are supported by wetland and agricultural habitats each winter, comprising 60% of the Pacific Flyway population and 20% of the continental population.

Waterfowl - WRP projects with completed restoration in 2007 (n=106 sites) were estimated to provide 8% of the total wetland habitat for waterfowl (Buler et. al., 2012) in the Central Valley. These sites, along with unrestored WRP tracts, accounted for **18% of all winter waterfowl use in that 18,000 m² region.**

Bird Diversity- WRP sites in 2008-9 occupied approximately 29,000 ha in the Central Valley, yet hosted **over 200 bird species** (1/3 of all the bird species in the state).