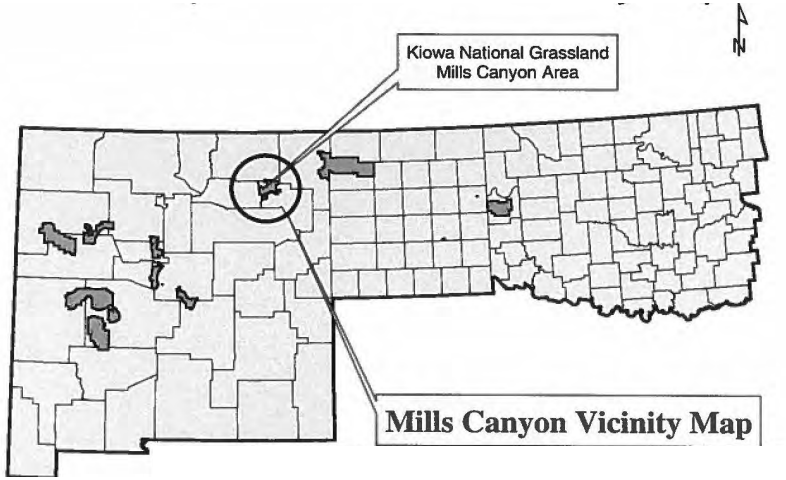
Canadian River Riparian Corridor Restoration Year 1 Project

- The Canadian River project takes place in Mill's Canyon on the Kiowa Grasslands, managed by the USFS, encompassing a critically important watershed within the western extent of the North American short grass prairie. Much of the Canadian River corridor in this area is experiencing degradation from the encroachment of conifer species within the riparian ecosystem adjacent to the river, and the invasion by non-native species. The history of land use and introduction of invasive species contributed to erosion related degradation across this watershed.

- Previous efforts have been essential steps towards restoring the resiliency and function of this area, but further action is required to reach management goals. The goals of this work include:
  - Reducing concentrations of conifers in riparian areas to enhance Cottonwood health and recruitment
  - Halting the spread of invasive species such as Tamarisk and Siberian Elm
  - Improving wildlife habitat in the riparian corridor
  - Reduce fire risk to vegetation in the riparian corridor

Project Contacts

USFS – Kristen Warren Kristen.Warren@usda.gov
NMDGF – Brock Lorenzen Brock.Lorenzen@dgf.nm.gov



Proposed Management Action Google Earth Link

- The NMDOW, in collaboration with the USFS, will contract restoration work on the Canadian River in Mill's Canyon on up to 348 acres in Year 1 of planned work for treatments including :
  - Hand and mechanical thinning and removal of conifer trees
  - Chemical spraying of invasive plant species
  - Chemical cut stump treatments of invasive plant species
  - Removal of protective cages from previous plantings

- HSP Funds will be utilized for the payment of contracts to implement herbicide treatments, to conduct thinning and tree removal operations, and to conduct removal of old protective cages.

- Following the implementation, the NMDGF and USFS will monitor and evaluate the efficacy and effects of this landscape restoration effort as part of planning and implementing future years of this work.

Estimated Budget: $315,000

Canadian River Riparian Corridor Restoration Year 1

Kiowa National Grassland, Cibola National Forest & Grasslands

NEW MEXICO DEPARTMENT OF WILDLIFE

Canadian River Riparian Restoration Year 1

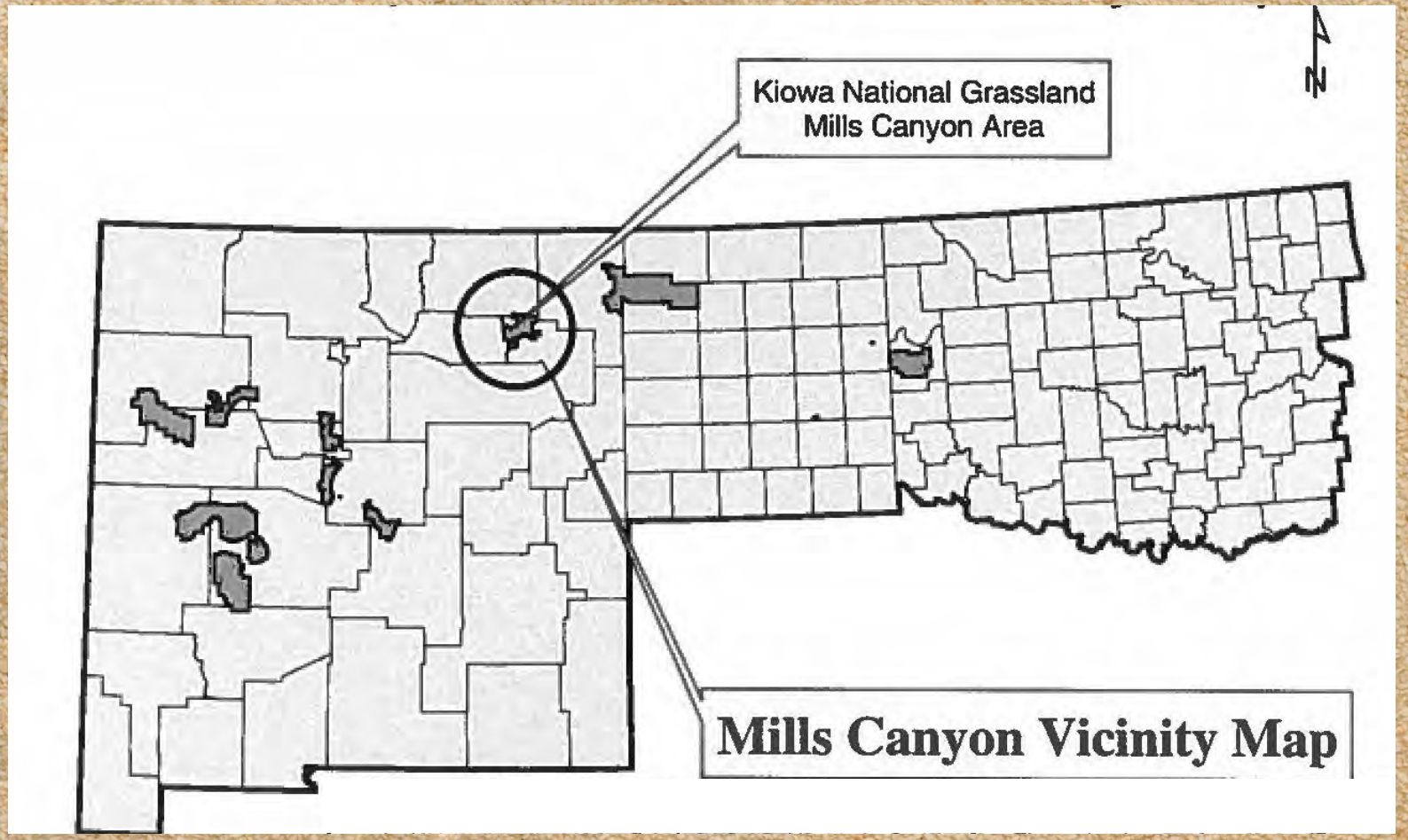
Project Contacts

Brock Lorenzen
Brock.Lorenzen@dgf.nm.gov

Kristen Warren
Kristen.warren@usda.gov

NEW MEXICO DEPARTMENT OF WILDLIFE

Project Overview: Location



Harding and Mora Counties, NM

Kiowa National Grassland Units: K-87, K-91E, K-91W, K-135, K-136

NEW MEXICO DEPARTMENT OF WILDLIFE

Background

1992 — NMDGF Turkey translocation in Canadian River Drainage (HSP funds)

2004 — Canadian River Riparian Restoration Project begins

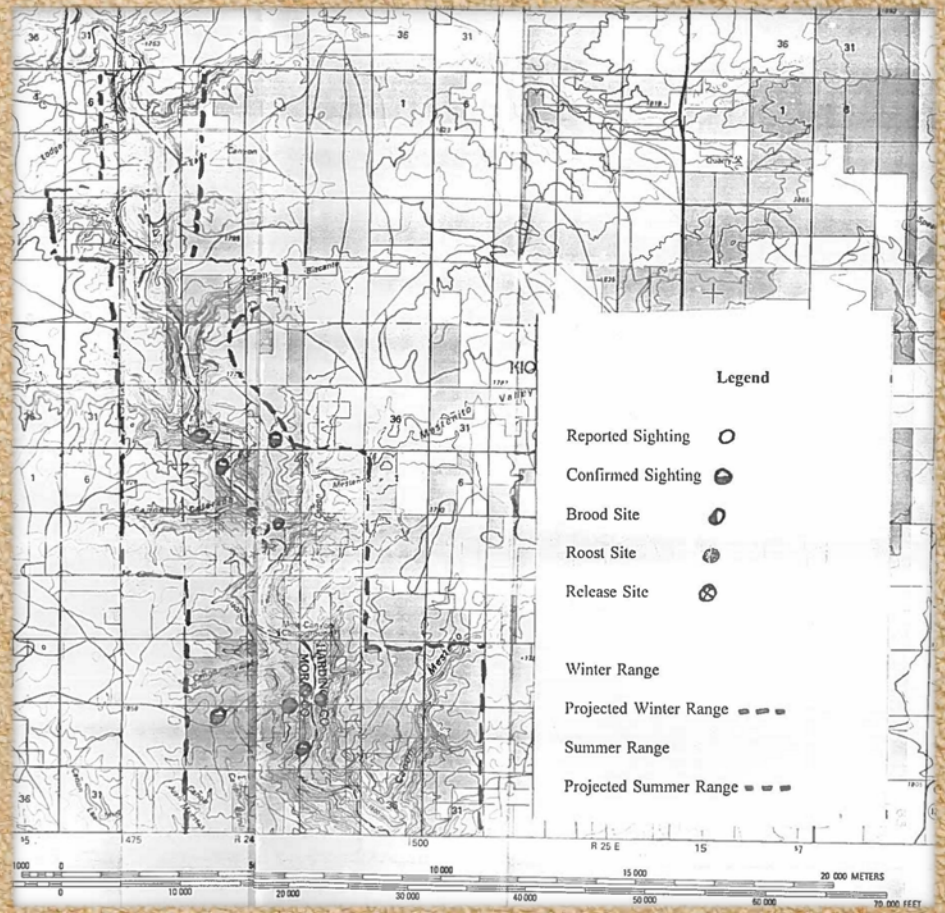
2007 — Canadian River Tamarisk Control Project EIS signed

2009 — Aerial treatment of Tamarisk

2010 — Ongoing follow-up treatments begin

2019 — NMDGF funds upland and riparian plantings

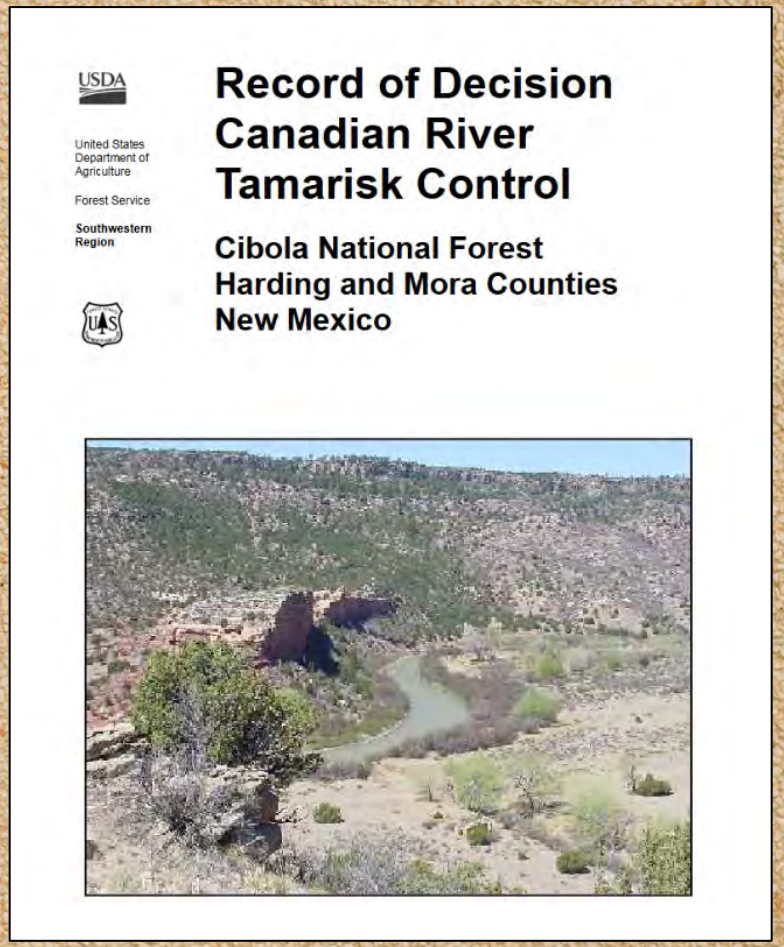
2021 — Northern NM Riparian, Aquatic, and Wetland Restoration Project EA signed



NEW MEXICO DEPARTMENT OF WILDLIFE

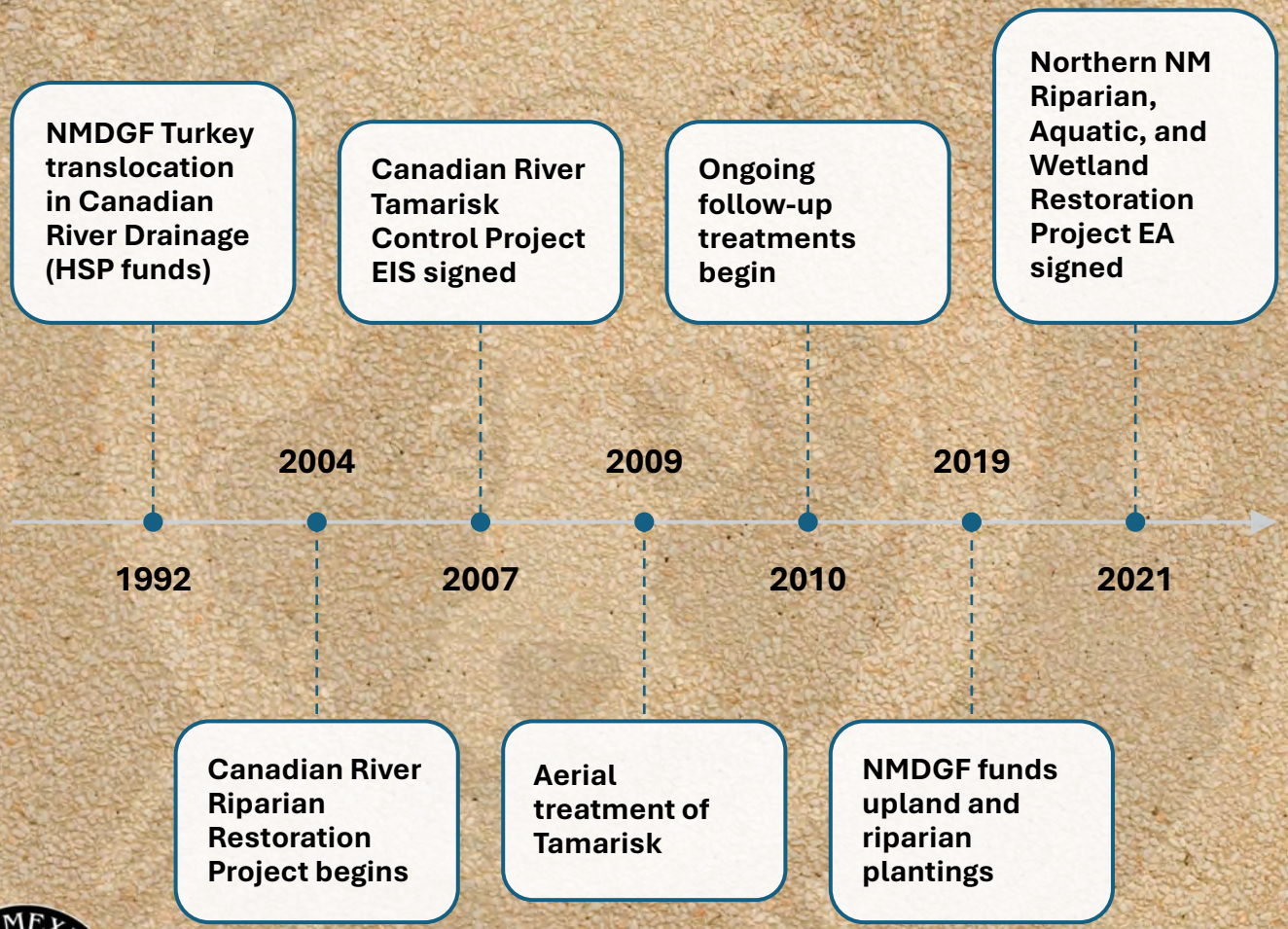
Background

- **1992** — NMDGF Turkey translocation in Canadian River Drainage (HSP funds)
- **2004** — Canadian River Riparian Restoration Project begins
- **2007** — Canadian River Tamarisk Control Project EIS signed
- **2009** — Aerial treatment of Tamarisk
- **2010** — Ongoing follow-up treatments begin
- **2019** — NMDGF funds upland and riparian plantings
- **2021** — Northern NM Riparian, Aquatic, and Wetland Restoration Project EA signed



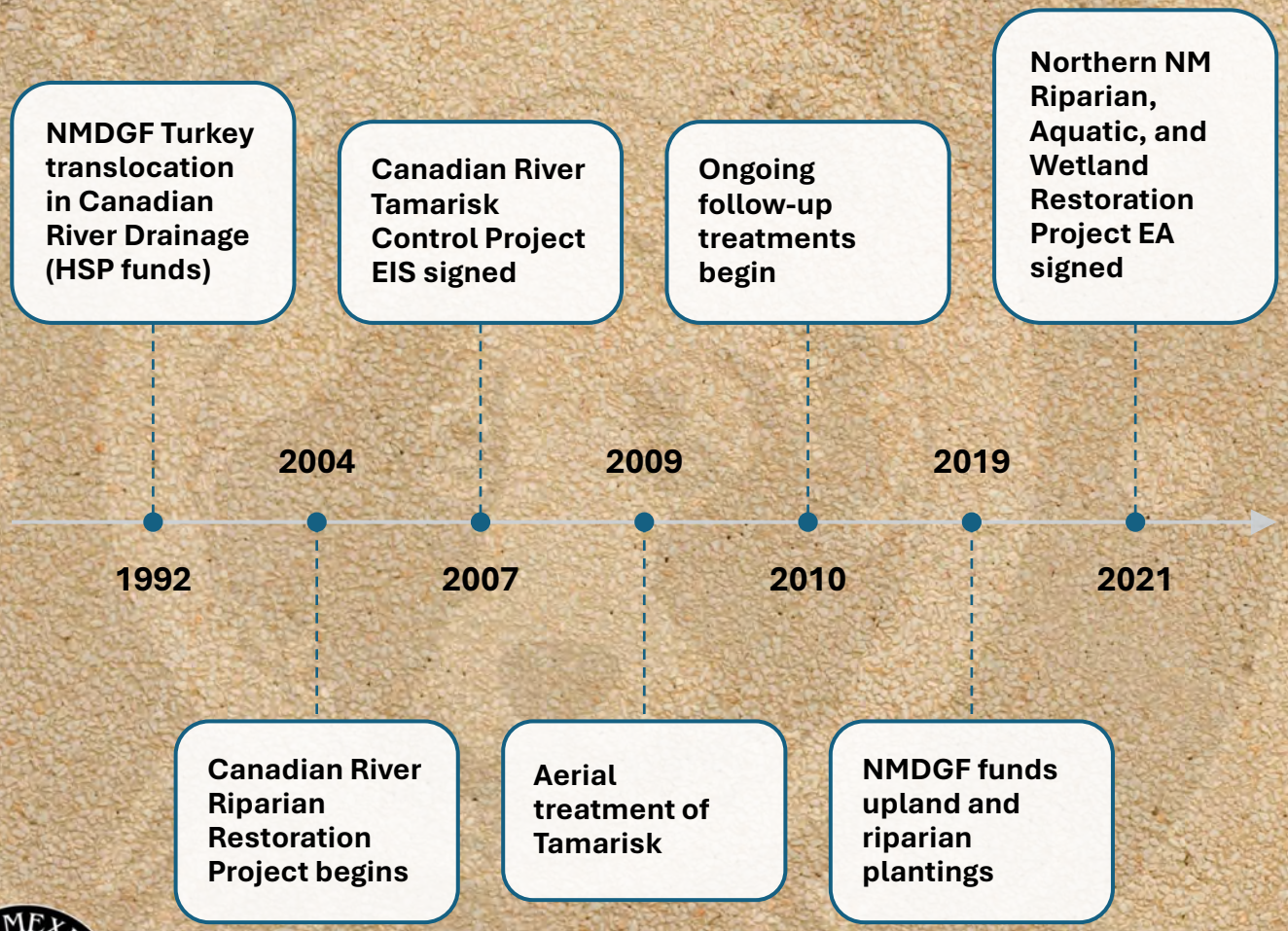
NEW MEXICO DEPARTMENT OF WILDLIFE

Background



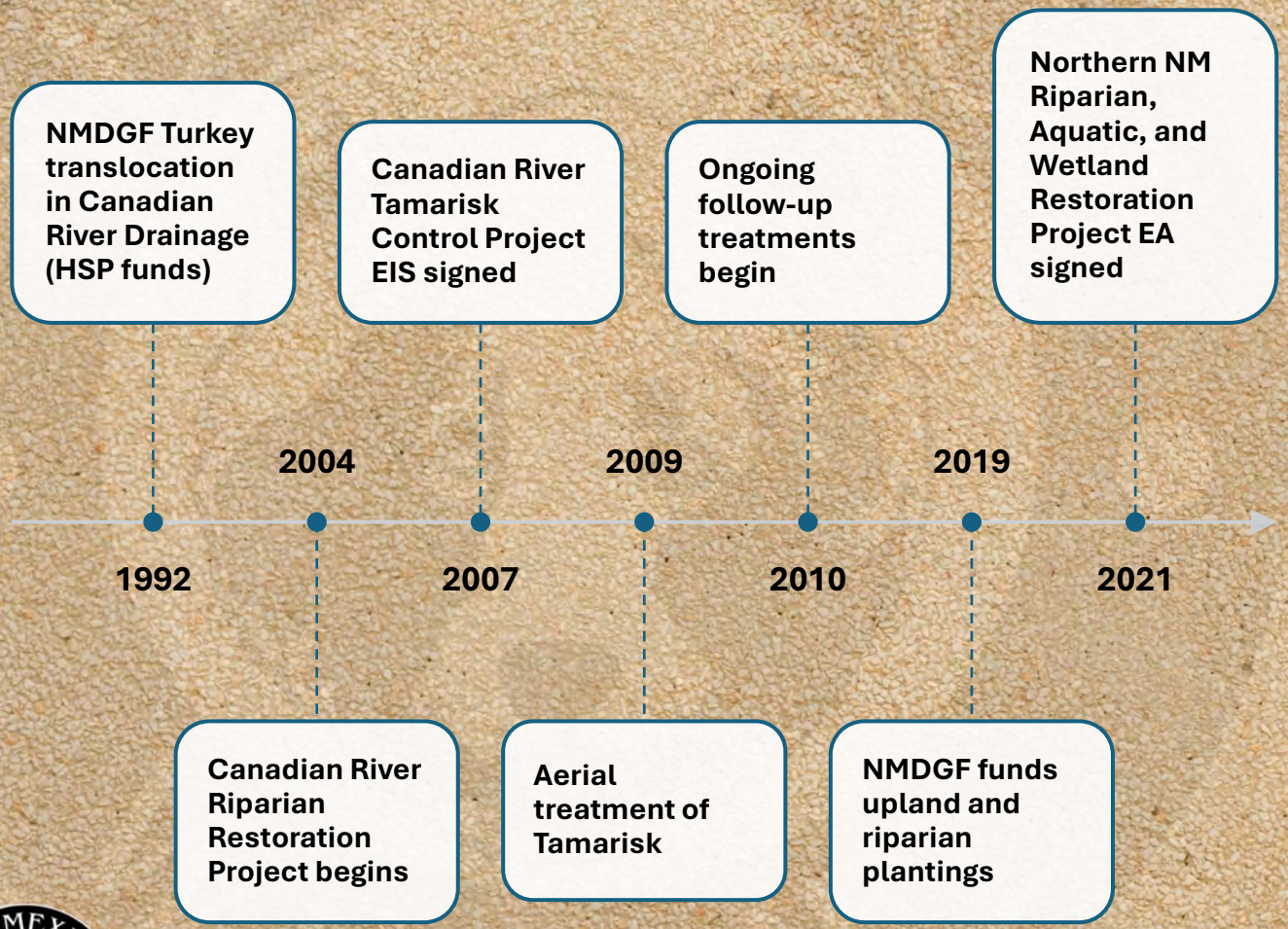
NEW MEXICO DEPARTMENT OF WILDLIFE

Background



NEW MEXICO DEPARTMENT OF WILDLIFE

Background



Canadian River before saltcedar treatment (top)

After treatment (center), 2009

Early vegetation recovery on banks (bottom), 2014

NEW MEXICO DEPARTMENT OF WILDLIFE

Canadian River before saltcedar treatment

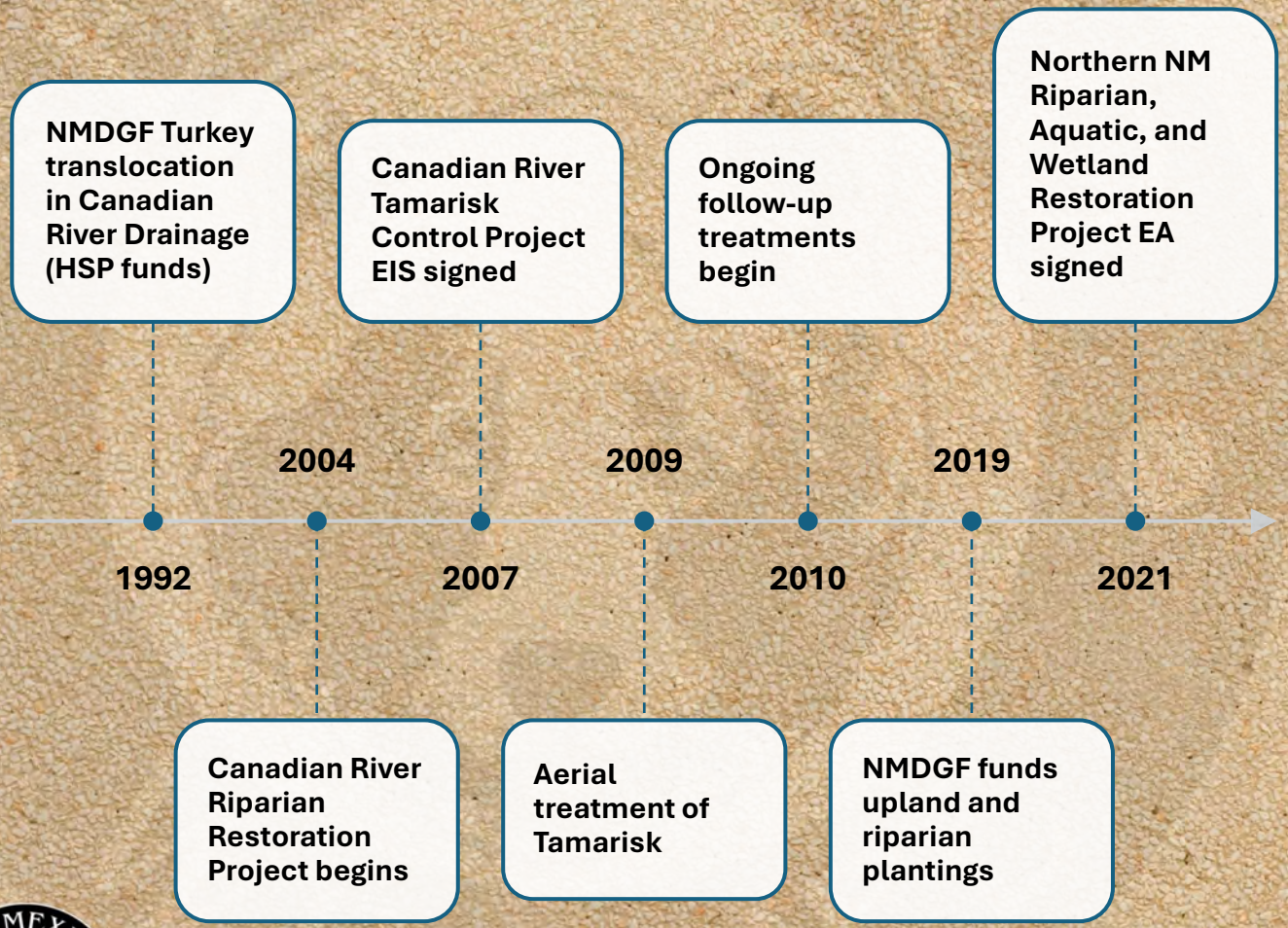
Early vegetation recovery on banks, 2014

After treatment, 2009

Late vegetation recovery on banks, 2026

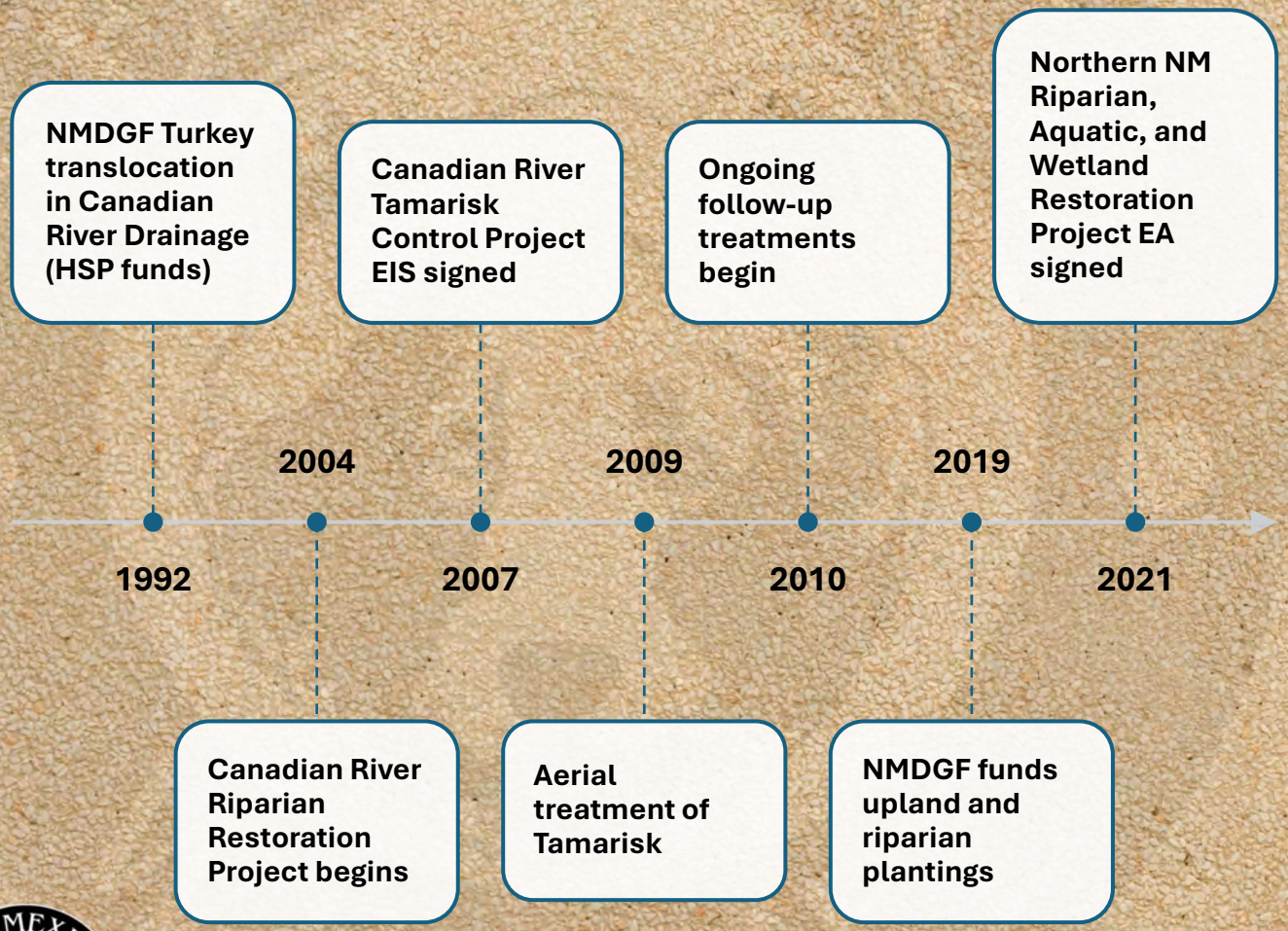
NEW MEXICO DEPARTMENT OF WILDLIFE

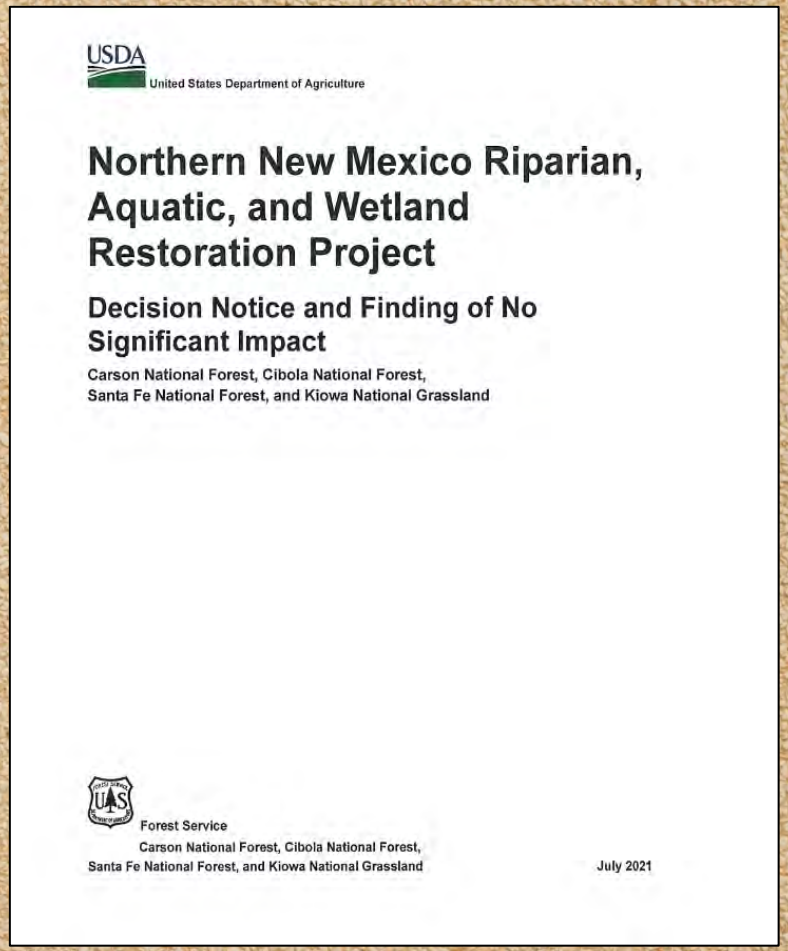
Background



NEW MEXICO DEPARTMENT OF WILDLIFE

Background





USDA
United States Department of Agriculture

Northern New Mexico Riparian, Aquatic, and Wetland Restoration Project

Decision Notice and Finding of No Significant Impact

Carson National Forest, Cibola National Forest,
Santa Fe National Forest, and Kiowa National Grassland

Forest Service
Carson National Forest, Cibola National Forest,
Santa Fe National Forest, and Kiowa National Grassland

July 2021

NEW MEXICO DEPARTMENT OF WILDLIFE

Current Conditions

- **Increased piñon and juniper tree density in riparian zone**
- **Poor Cottonwood recruitment**
- **Significant Siberian Elm invasion**
- **Popular turkey hunting area in NE NM**
- **Active beaver population**

NEW MEXICO DEPARTMENT OF WILDLIFE

Current Conditions

- **Increased piñón and juniper tree density in riparian zone**
- **Poor Cottonwood recruitment**
- **Significant Siberian Elm invasion**
- **Popular turkey hunting area in NE NM**
- **Active beaver population**

NEW MEXICO DEPARTMENT OF WILDLIFE

Current Conditions

- **Increased piñón and juniper tree density in riparian zone**
- **Poor Cottonwood recruitment**
- **Significant Siberian Elm invasion**
- **Popular turkey hunting area in NE NM**
- **Active beaver population**

NEW MEXICO DEPARTMENT OF WILDLIFE

Longterm Goals

Apply cross boundary treatments in collaboration with other stakeholders on this landscape to:

- **Reduce the density of piñon and juniper trees on up to 1,139 acres of Forest Service land within the Canadian River Riparian Corridor**

- **Treat invasive Siberian Elm and Tamarisk wherever present within the Canadian River Riparian corridor**

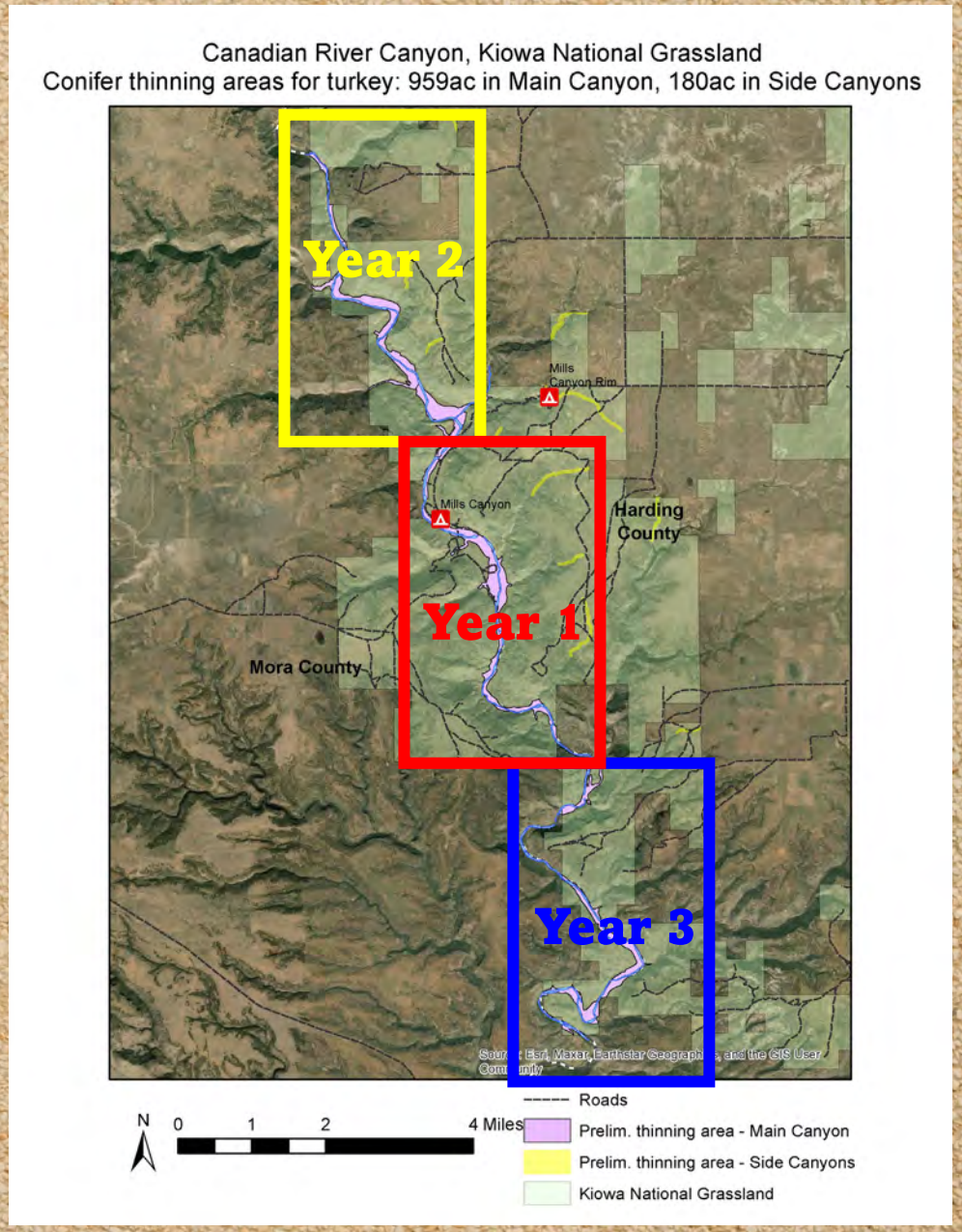
- **Remove wire cages around previous plantings and implement additional plantings where appropriate**

NEW MEXICO DEPARTMENT OF WILDLIFE

Longterm Goals

Apply cross boundary treatments in collaboration with other stakeholders on this landscape to:

- **Reduce the density of piñon and juniper trees on up to 1,139 acres of Forest Service land within the Canadian River Riparian Corridor**
- **Treat invasive Siberian Elm and Tamarisk wherever present within the Canadian River Riparian corridor**
- **Remove wire cages around previous plantings and implement additional plantings where appropriate**

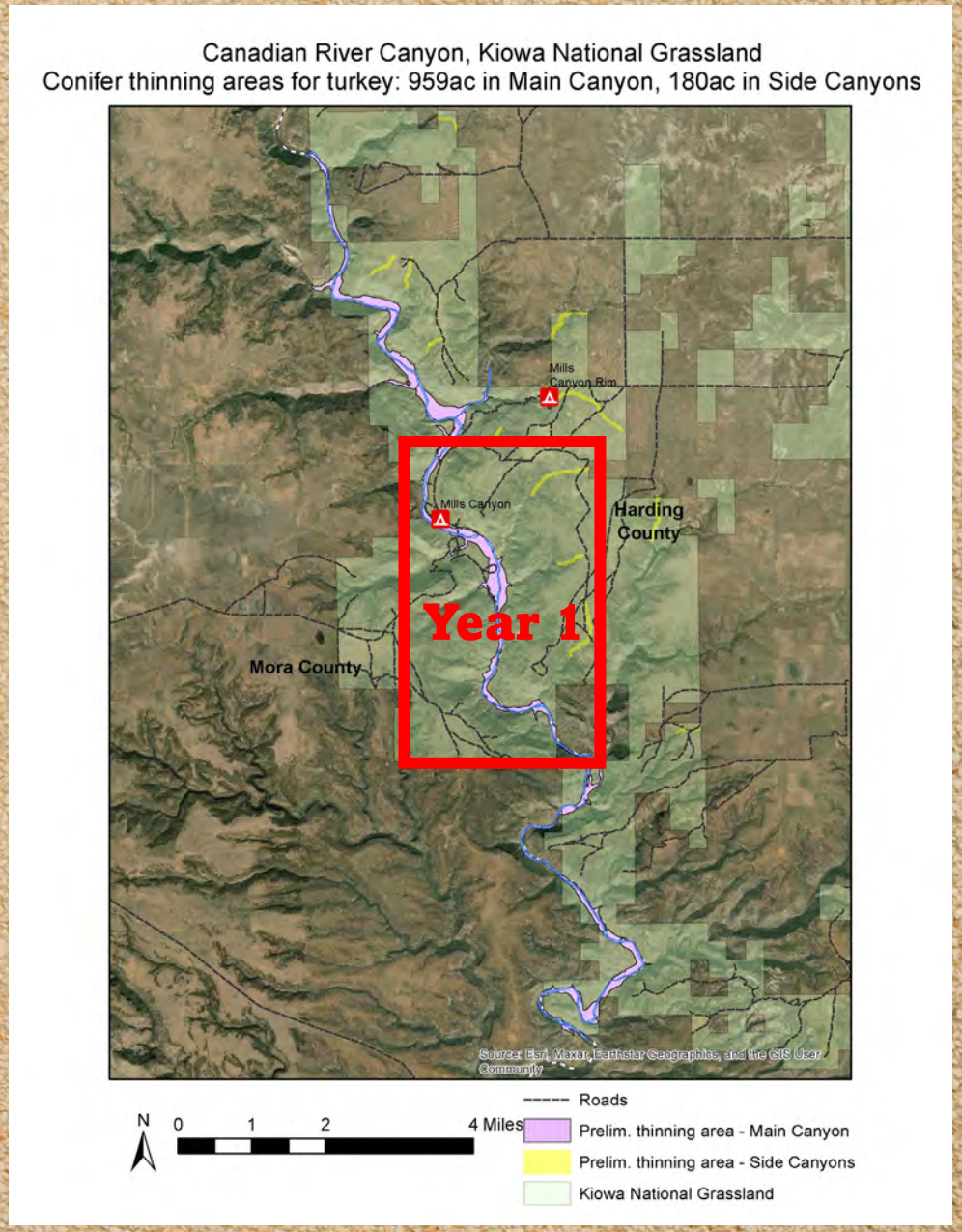


NEW MEXICO DEPARTMENT OF WILDLIFE

Longterm Goals

Apply cross boundary treatments in collaboration with other stakeholders on this landscape to:

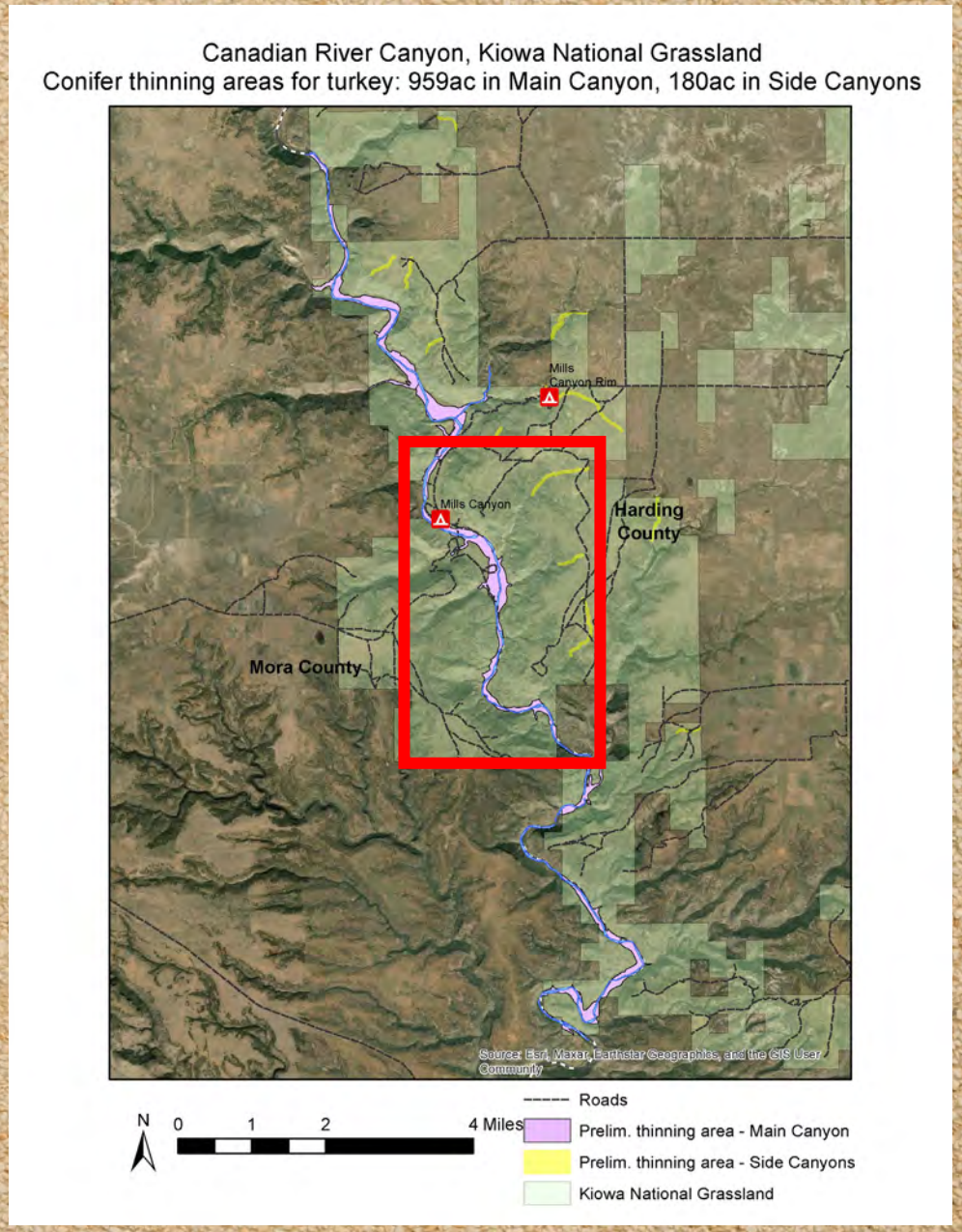
- **Reduce the density of piñon and juniper trees on up to 1,139 acres of Forest Service land within the Canadian River Riparian Corridor**
- **Treat invasive Siberian Elm and Tamarisk wherever present within the Canadian River Riparian corridor**
- **Remove wire cages around previous plantings and implement additional plantings where appropriate**



NEW MEXICO DEPARTMENT OF WILDLIFE

Year 1: Proposed Project Area

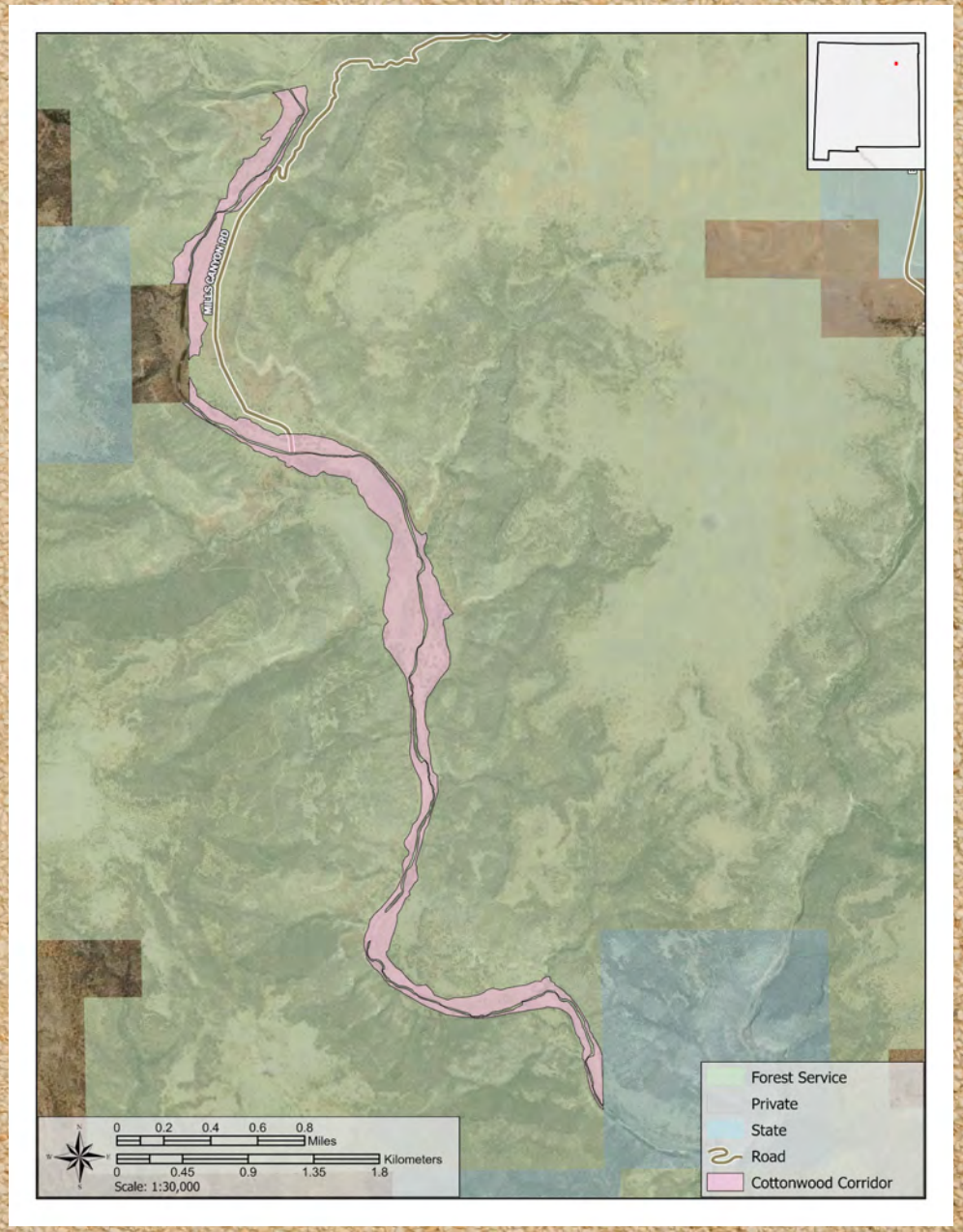
- 348 Acres
- 4.5 River Miles



NEW MEXICO DEPARTMENT OF WILDLIFE

Year 1: Proposed Project Area

- 348 Acres (~4.5 river miles)
- Most accessible for first year
- Ground truthed
- Cleared for treatment by Fall 2026
- Prescriptions shared across property boundaries



NEW MEXICO DEPARTMENT OF WILDLIFE

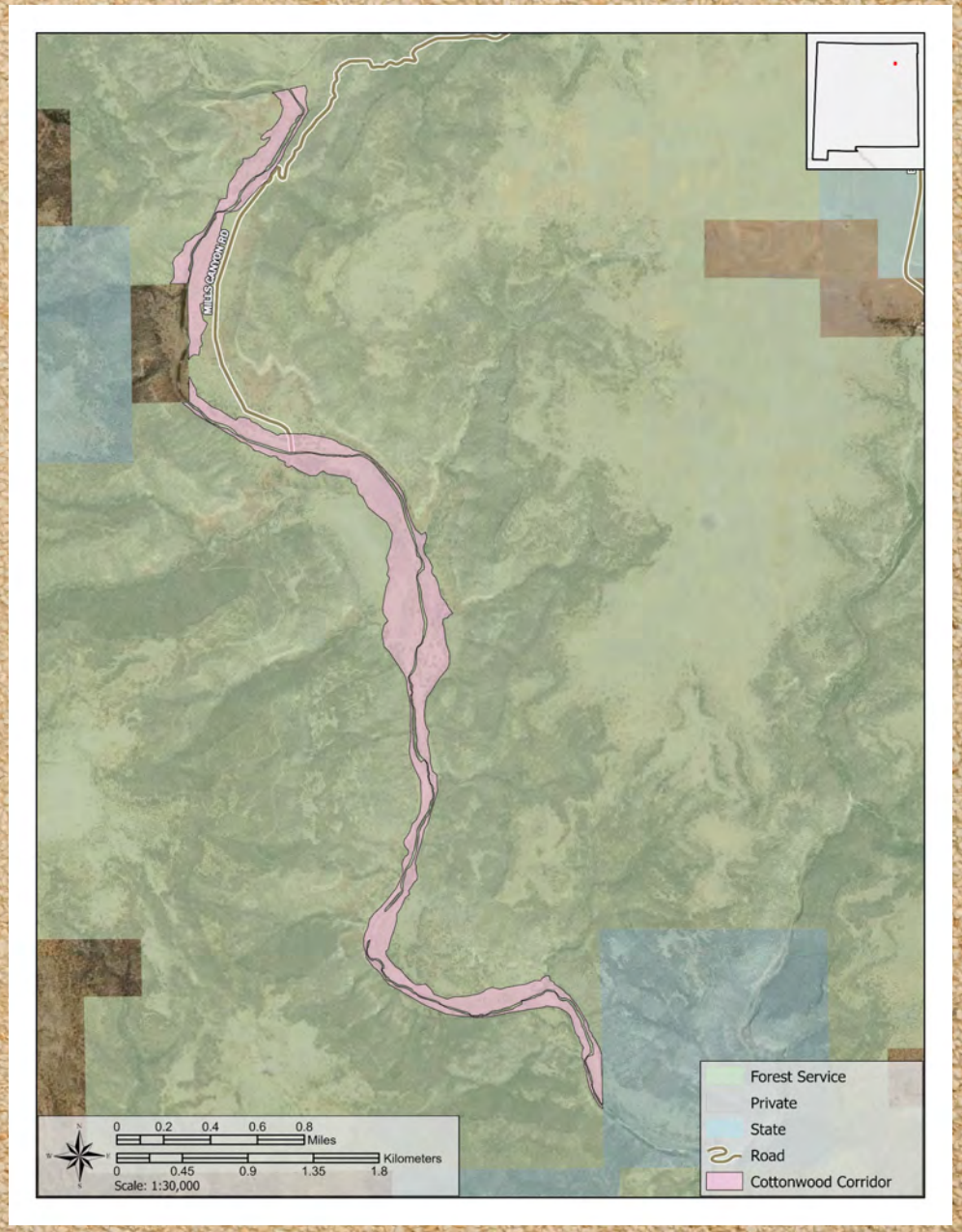
Year 1: Proposed Actions (348 acres, 4.5 river miles)

- **Reduce piñon and juniper tree density within the Canadian River Riparian Corridor**
  - **Remove all conifers within 10 feet of a cottonwood dripline**
  - **Remove most other conifer trees 14” DRC and below**

- **Chemically treat invasive Siberian Elm and Tamarisk wherever present using search and destroy techniques**

- **Remove wire cages around previous plantings**

- **Implementation in Fall 2026**



NEW MEXICO DEPARTMENT OF WILDLIFE

Landscape Benefits

- **Enhance Cottonwood recruitment by removing conifers in the riparian zone**
  - **Opens up sites for cottonwood seedling establishment**
  - **Frees up water and nutrient resources for cottonwoods**
  - **Reduces risk of fire in the riparian corridor**
- **Restore key ecological processes and functions for a self-sustaining ecosystem**
- **Enhance watershed health and upland forage production**

NEW MEXICO DEPARTMENT OF WILDLIFE

Wildlife Benefits

- **Turkeys roost and forage quality will likely be improved via the open space generated from conifer removal**
- **Reducing the understory below cottonwoods will increase the attractiveness of the habitat to turkeys and improve the vigor of the trees**
- **Grasses and forbs can become re-established under the former conifer canopy, benefitting foraging wildlife such as white-tailed and mule deer.**

NEW MEXICO DEPARTMENT OF WILDLIFE

Year 1: Budget Estimate

- **348 acres of conifer removal and thinning**
  (348 acres at $450/acre = $156,600)

- **Up to 348 acres of mixed chemical invasive treatment**
  - **Cut stump chemical treatment**
  - **Chemical spraying treatment**

  (348 acres at $300 - $425/acre = $104,400 – $147,900)

- **Cage removal ($10,000)**

- **Estimated Budget for Year 1 = $315,000**

NEW MEXICO DEPARTMENT OF WILDLIFE

Project Summary

- **The Canadian River Riparian Corridor Restoration plan incorporates a new treatment type to the long-term multi agency restoration work being done on the Canadian River, expanding the scope and scale of ongoing restoration efforts**

- **The Canadian River Riparian Corridor Restoration plan encompasses 3 years of implementation work on Forest Service land at a total estimated cost of $900,000**

- **This HSP funding will cover "Year 1" of this project amounting to a third of the total implementation cost at $315,000**

- **Compliance will be complete by Summer 2026**

- **Anticipated implementation start date of Fall 2026**

NEW MEXICO DEPARTMENT OF WILDLIFE

Project Name: Canadian River Riparian Restoration Year 1

Project relation to CAC advice or prioties:

This project benefits turkey and ungulates on the Mill's Canyon Landscape. This project also continues a legacy of restoration work in Canadian River corridor. Once implemented this project will increase the health, resiliency, and scale of riparian habitat in Mill's Canyon, as well as improving turkey habitat, and ungulate forage.

Project Specific Details:

This project is the first year of a three year plan to remove conifer species encroaching on the riparian area, continue removing invasive Tamarisk, remove invasive Siberian Elm, and follow up previous planting by removing the protective cage enclosures. This work may include the use of hand crews, heavy machinery, and aerial herbicide spraying.

Historical Data:

In 1992 NMDGF translocated turkey onto this landscape providing enhanced hunting opportunities on public land. From 2009 to present many entities have contributed to restoration work on this landscape, treating invasive Tamarisk and conducting upland and riparian plantings.

Itemized Use of Funds:

Hand thinning conifer: $450/acre
Chemical invasive spray treatment invasive plants: $300 - $425/acre (contractor dependent)
Chemical cut stump treatment of invasive plants: $300 - $425/acre (contractor dependent)
Removal of planting cages: $10,000

Comprehensive Project Analysis:

This project will benefit wildlife species, including turkeys and ungulates by increasing the quality and quantity of roosting and foraging habitat. Thinning conifers will invigorate cottonwood growth and recruitment and create space for forb growth.

Monitoring Plan/ Strategy:

Mill's Canyon is a focal point of the Kiowa Grasslands garnering lots of attention and management. Continued monitoring of previous and ongoing projects is carried out by the USFS and NMDGF in this area. The proposed work will be monitored as a part of these actions.

Project Emphasis Species:

Turkey, Deer