Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

Cattle Fever Tick Eradication Program Fence Deterrent in Cameron and Starr Counties, Texas

Final Environmental Assessment

June 2024

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1 Introduction and Purpose and Need

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS), Veterinary Services is responsible for a) protecting and improving the health, quality, and marketability of U.S. animals by eliminating animal diseases, and b) monitoring and promoting animal health and productivity. The Animal Health Protection Act of 2002, as amended (7 United States Code (U.S.C.) § 8301-8317), provides broad authority for USDA APHIS to prevent the introduction into, or dissemination within, the United States of any pest or disease of livestock (§ 8303-8305). The Act authorizes the prohibition and restriction of the importation, exportation, and interstate movement of animals moving in trade and strays, as well as exportation, inspection, disinfection, seizure, quarantine, destruction and disposal of animals and conveyances (§ 8303-8308). This includes the ability to "carry out operations and measures to detect, control, or eradicate any pest or disease of livestock" and identifies specific cooperative programs as one way to achieve these actions (§ 8308).

Cattle fever ticks are agricultural pests of concern for U.S. livestock because they can cause devastating economic losses. These ticks reduce animal wellness by feeding on blood and inducing anemia. Ticks also spread protozoan parasites that cause disease. USDA APHIS established the Cattle Fever Tick Eradication Program (CFTEP) in 1906 as a cooperative State-Federal cattle fever eradication effort, which shared program costs and cooperation between the Federal government, States, local governments, and individual livestock producers. By 1943, the United States was declared free of cattle fever ticks (CFTs) (*Rhipicephalus* (*Boophilus*) *annulatus* and *R. (B.) microplus*), except in the Permanent Tick Quarantine Zone (PTQZ) in South Texas that extends more than 500 miles from Del Rio, Texas to the Gulf of Mexico (Figure 1).

To ensure U.S. animal health continues to be unaffected by CFTs and associated diseases (such as bovine babesiosis), the CFTEP works to prevent their establishment in the United States. For this reason, USDA APHIS will continue to maintain port-of-entry inspections to reduce pest introduction from imported animals. Ongoing CFTEP efforts in Southern Texas include surveillance and patrolling for stray or smuggled tick-infested livestock, livestock movement quarantines, treatment of tick-infested animals, and vacating of tick-infested pastures and premises. While these methods are effective, the free-ranging movement of wildlife, such as white-tailed deer (*Odocoileus virginianus*) and other ungulates (hoofed animals), and of stray livestock across non-fenced properties, as well as the overall white-tailed deer population growth have led to the increase of the CFT infestations in South Texas in recent years, and eventually to the spread of CFT in the Southern region.

CFT infestations cause lengthy quarantine restrictions on cattle herds and increased herd management efforts and expenses to cattle producers in the tick-free zone in South Texas. As of February 2024, there were about 85 infested quarantine premises in Southern Texas, including 15 permanent quarantine zone premises and 70 non-permanent quarantine zone premises. Counties with infested premise quarantines include Cameron, Starr, Val Verde, Webb, Willacy,

and Zapata (TAHC, 2024a). When tick-infested animals enter pastures, the effectiveness of ongoing tick eradication measures (vacating pastures and systematic tick treatments for cattle) may become compromised. In the mid-1930s, wildlife managers used game fences to alter the movement of wild animals, which contributed in minimizing the spread of disease in wildlife populations.

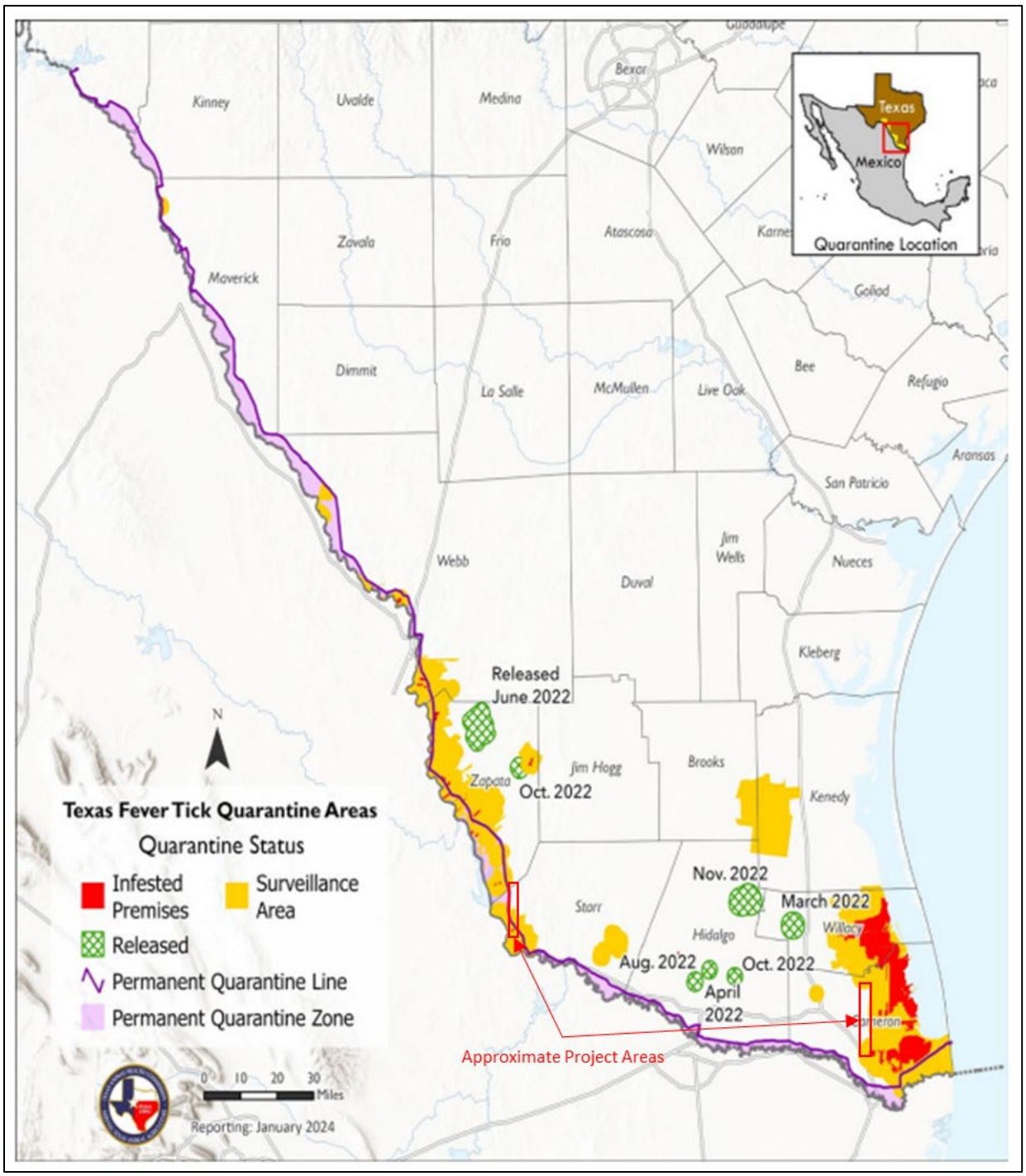

Figure 1. Texas Fever Tick Quarantine Areas and Approximate Project Locations

Source: (TAHC 2024a).

USDA APHIS defines game fencing as a type of fencing intended to help prevent the spread of cattle fever ticks by free-ranging tick hosts (such as white-tailed deer and nilgai) from Mexico to the United States, outside of the permanent quarantine area (USDA APHIS 2018).
The Texas Animal Health Commission defines game proof fence as a fence that has a minimum height of eight feet, consisting of wire mesh of sufficiently small size to prevent or impede the movement of domestic or exotic wildlife over, under, or through the fenced area (TAHC 2024b). So, in the framework of the CFTEP, high game fencing is designed to deter the movement of white-tailed deer and nilgai antelope (*Boselaphus tragocamelus*) which are main tick hosts, and thereby facilitating the CFT eradication efforts in the areas of concern. High game fences (eight foot tall) are expected to be more efficient than the traditional cattle fences (four foot tall) which are more easily accessible by many wildlife species. In general, such tick-host animal species easily jump over existing cattle (low) fences to forage alongside cattle. Therefore, installing high game fencing may help the CFTEP with quarantine efforts, reduce the need for acaricide (chemical) treatment of tick-infested animals, and decrease animal production costs in Southern Texas.

In response to the increasing tick infestations of ranches and other natural environments, USDA APHIS has funded the installation of high game fences and cattle fences in certain areas of Southern Texas, including Cameron and Starr counties (see Figure 2 and Figure 3). The purpose for providing funding toward the installation of high game fences is to limit the spread of CFTs by free-ranging animals into the tick-free area and possibly across the regions. Previous evaluations of CFTEP fence deterrent in South Texas include:

- Cattle Fever Tick Eradication Program – Tick Control Barrier, Maverick, Starr, Webb, and Zapata Counties, Texas, Final Environmental Impact Statement, May 2018 (USDA APHIS 2018);
- Cattle Fever Tick Eradication Program Fence Deterrent in Cameron and Willacy Counties, Texas, Final Environmental Assessment, July 2021 (USDA APHIS 2021);
- Cattle Fever Tick Eradication Program Fence Deterrent in Cameron and Willacy Counties, Texas Final Supplemental Environmental Assessment, March (USDA APHIS 2022a); and
- Cattle Fever Tick Eradication Program Fence Deterrent in Cameron and Zapata Counties, Texas Final Supplemental Environmental Assessment, March 2023 (USDA APHIS 2023).

The information presented in these documents is incorporated in this EA by reference.

APHIS continually assesses the CFT situation in Southern Texas and evaluates additional locations that are likely to benefit from the CFT fencing. In this regard, USDA APHIS has identified four new locations including one location in Starr County (eight-foot-tall game fence) and three locations in Cameron County (two with eight-foot-tall game fences and one with five-foot-tall pasture/cattle fence). The descriptions of these proposed fences are provided in Chapter

2 and Chapter 3 of this document. USDA APHIS will support the cost of materials for the fencing and will install and maintain the fences. The characteristics of the high game fences and the information regarding their installation will not differ from those described in the EIS (USDA APHIS, 2018), previous EAs (USDA APHIS, 2021; 2022; and 2023), and associated biological assessments (USDA APHIS, 2020; 2022b; and 2024).

This assessment describes the potential impacts of the Agency's action to the human environment. It is consistent with requirements in the National Environmental Policy Act of 1969 as amended (NEPA; 42 U.S.C. § 4321 et seq.), NEPA regulations promulgated by the Council on Environmental Quality (CEQ) (title 40, *Code of Federal Regulations* (40 CFR) § 1500-1508), USDA NEPA regulation at 7 CFR part 372 1b, and APHIS implementing procedures at 7 CFR part 372.

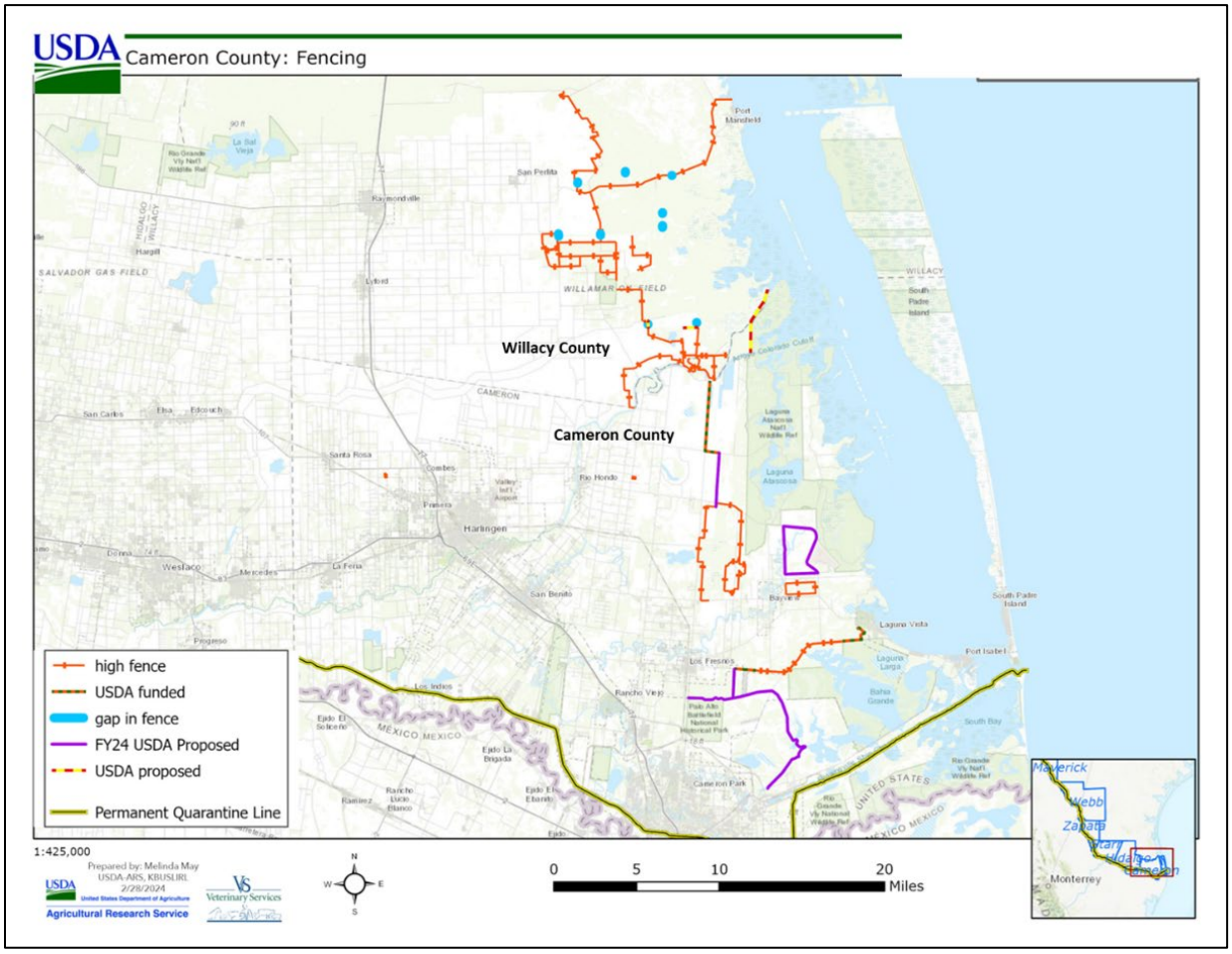

Figure 2. Existing and FY24 Proposed Fencing in Cameron County, Texas.

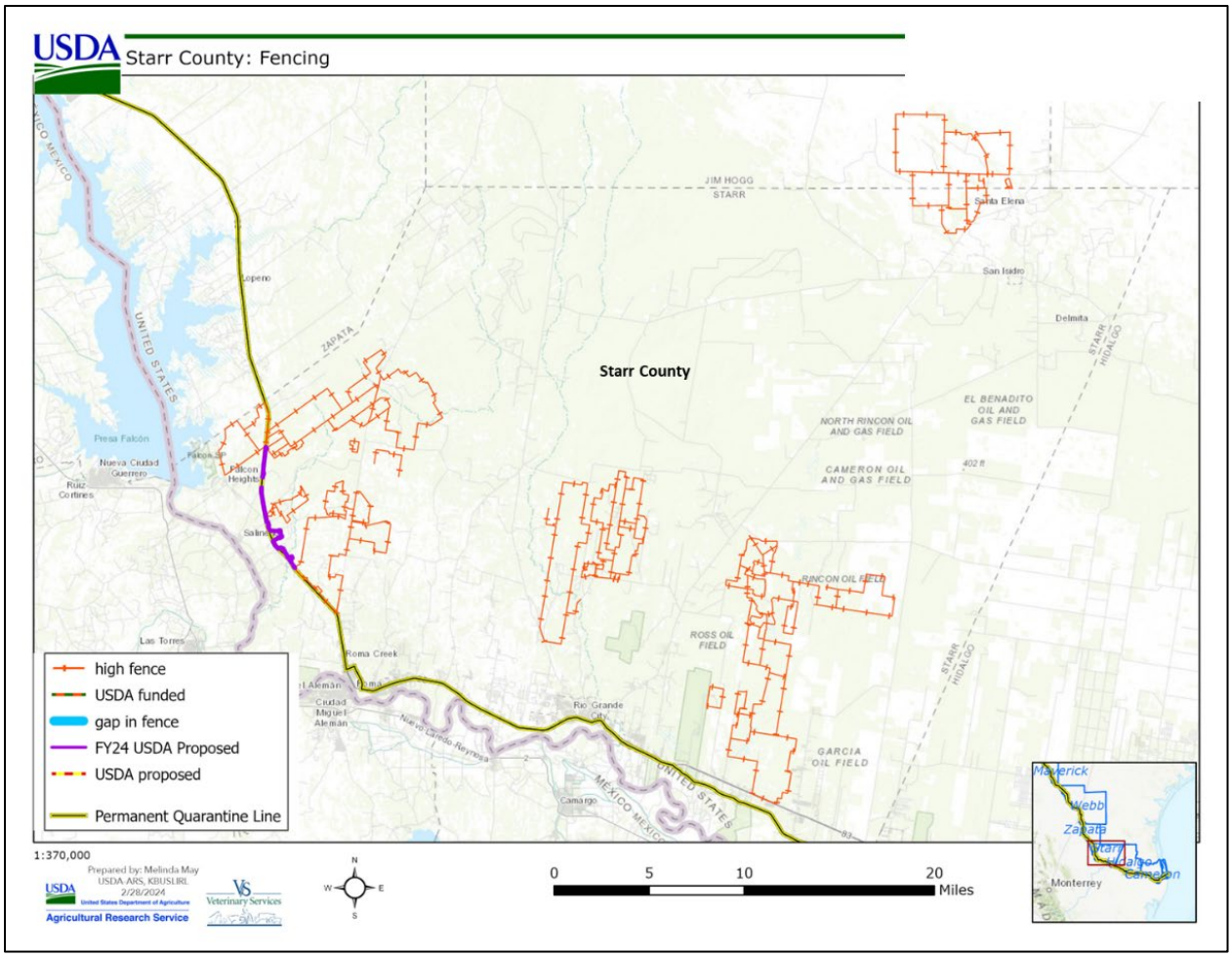

Figure 3. Existing and FY24 Proposed Fencing in Starr County, Texas.

2 Alternatives

This EA considers two alternatives including, a no action alternative and a proposed (preferred) action alternative:

Under the no action alternative, USDA APHIS would not provide any funding toward the installation of game fencing at the four locations in Cameron and Starr counties that are being evaluated in this EA. However, funding of the installation of fencing evaluated in previous NEPA documents would proceed as planned, pending landowner consent and agreement to install fences on their properties (USDA APHIS 2021; 2022a; 2023). The Agency would also continue its ongoing program's operations that help prevent the spread of ticks and related disease. These include inspection of livestock, patrolling for stray or smuggled livestock, vacating premises, and pesticide treatment of tick-host livestock (primarily cattle and horses) on quarantined premises.

Under the proposed action alternative, USDA APHIS would not only continue its ongoing activities described under the no action alternative above, but would also fund the installation of fencing at the four locations in Cameron and Starr counties evaluated in this EA. These fences are on privately owned properties and on the Laguna Atascosa National Wildlife Refuge (LANWR), also located in Cameron County. The installation of these fences will be done with the landowners' consent. The areas where the proposed fences would be installed are generally considered pasturelands or ranchlands. The physical environment at the proposed fence locations is presented in detail in Chapter 3.

Brief description of the four locations proposed under this alternative:

1. **Cameron High Fence** – A 3.24-mile segment of high game fencing is proposed that would run almost parallel to FM (Farm to Market) 1847/Paredes Line Road, about 1.2 miles west of the LANWR boundary. Its GPS center coordinates are 97.4473774°W and 26.2401368°N. The proposed fencing would be located on private properties, running along a drainage ditch. This proposed fence segment would close the gap between existing high game fencing to the north and south, creating a barrier where nilgai crossings have been observed. The area of the proposed fencing is generally grassy with scrub brush, such as mesquite, huisache, and retama. The proposed fencing is shown in Figure 4, and photographs showing the general environment of the fencing location can be found in Appendix B.

2. **Dulaney Tract** – A 9.75-mile length of fencing is proposed to contain cattle on systematic treatment for CFTs. Its GPS center coordinates are 97.3533788°W and 26.1887821°N. This property was previously privately-owned, known as Dulaney Farms, but was acquired by the U.S. Fish & Wildlife Service (USFWS) in 2021 and is now part of the LANWR; the plans are to restore the native coastal prairie and thorn scrub habitat on the property, adding to the critical wildlife corridor in LANWR (TCF 2021). The

Dulaney Tract fencing would not be a high (eight-foot-tall) game fencing, but rather a (five-foot tall) pasture/cattle fencing constructed of net wire with wires spaced far enough apart to allow ocelot (*Leopardus pardalis*), jaguarundi (*Puma yagouaroundi cacomitli*), and Texas tortoises (*Gopherus berlandieri*) to pass through. An area of approximately 3,420 acres would be enclosed by the fencing. The LANWR and the Port Isabel-Cameron County Airport are situated on the eastern side of the Dulaney tract, bordered by private properties along the remaining sides. The proposed fencing is shown in Figure 4**,** and photographs showing the general environment of the property can be found in Appendix B.

3. **Cameron County Drainage District #1** – A total of 11.56 miles of high game fencing is proposed for installation in southern Cameron County that would run adjacent to drainage ditches. These ditches remove excess surface water from precipitation and runoff and are on property belonging to Cameron County Drainage District #1. The GPS center coordinates of this fence segment are 97.4023633°W and 26.0487178°N. The fencing would run from the Brownsville-Port Isabel Highway (State Highway 48), following alongside the Drainage District's Ditch Number 1 towards the northeast where it intersects with Ditch Number 2. From that location, the high game fencing would continue alongside the District's Ditch Number 2 stopping at Farm to Market Road No. 1847 (FM 1847). This segment of fencing would be about 9.83 miles long. The proposed fencing would run approximately 32.8 feet from the northern boundary of the Palo Alto Battlefield National Park. An additional stretch of high game fencing is proposed that starts at State Highway 100 and runs south along the District's Ditch Number 10 to where it intersects with Ditch Number 2 for a length of approximately 1.72 miles. These drainage networks, including the rights-of-way, are regularly maintained and mowed by the Cameron County Drainage District. The proposed fencing is shown in Figure 4, and photographs showing the general environment of the proposed fencing location can be found in Appendix B.
4. **Starr County High Fence** – This proposed high game fencing sits on private properties, generally following the east side of North U.S. Highway 83 in Starr County. Its GPS center coordinates of this fence segment are 99.0897171°W and 26.5319932°N. From the south, the fencing would start approximately near where Old 83 Road meets U.S. 83, continuing in a north-northwest direction along U.S. 83 and veering to the east at certain points. There are two gaps in the high game fencing, one near the southern end (0.15 miles) and the second around the community of Indio (0.49 miles), thereby creating three fencing sections. The first fencing section, starting from the south, would be 0.17 miles in length; the next section of fencing would stretch over 5.83 miles, stopping before the community of Indio; and the third segment of fencing would start at some point past Indio, continuing along U.S. 83 to FM 2098 for about 1.75 miles. The total length of the proposed Starr high game fencing is approximately 7.75 miles. The proposed fencing is shown in Figure 5, and photographs showing the general environment of the proposed fencing location can be found in Appendix B.

Some key features of all high game fences are described below as follows:

- Height: 8 foot tall
- Design type: StaTite50 [2096-12-330'] made of high-carbon galvanized steel ends, braces, angles, line posts (T-posts), and clips and 2 3/8-inch line pipe. The fencing design also may include other special needs at some locations to prevent animals from being injured or to allow small wildlife species to pass through.
- Each fence segment would have rectangular openings (7 by 12 inches wide) in the galvanized wire mesh. These openings would apply to the entire length of the fence and would allow the movements of ocelot (*Leopardus pardalis*), Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*), and Texas tortoises (*Gopherus berlandieri*), enabling the genetic exchange between neighboring populations.
- A 2- to 3-foot-wide wire skirt of the game fence would be placed perpendicularly (90-degree angle) to the vertical segments and buried underground to limit the passage of nontarget species by digging under the fence.

At the discretion of a landowner, if an existing cattle (low) fence is present in the area where a high game fence is agreed to be installed, the high game fence either could replace the existing low, or it could be built on the existing low fence as an extension to elevate the height of the overall system.

Other alternatives considered, but dismissed:

USDA APHIS considered, and then dismissed from consideration, alternatives with different wire fence components and additional locations. The lack of below-ground skirting and un-galvanized wire are deemed less effective over time because they require more maintenance, and consequently, APHIS would like to use the best available technologies to reduce long-term costs associated with fence upkeep. APHIS continually evaluates additional locations for CFT fencing; however, APHIS only fully evaluates areas likely to benefit from improved fences that are within budgetary and practical constraints.

Figure 4. Map of the Proposed Fence Locations in Cameron County, Texas.

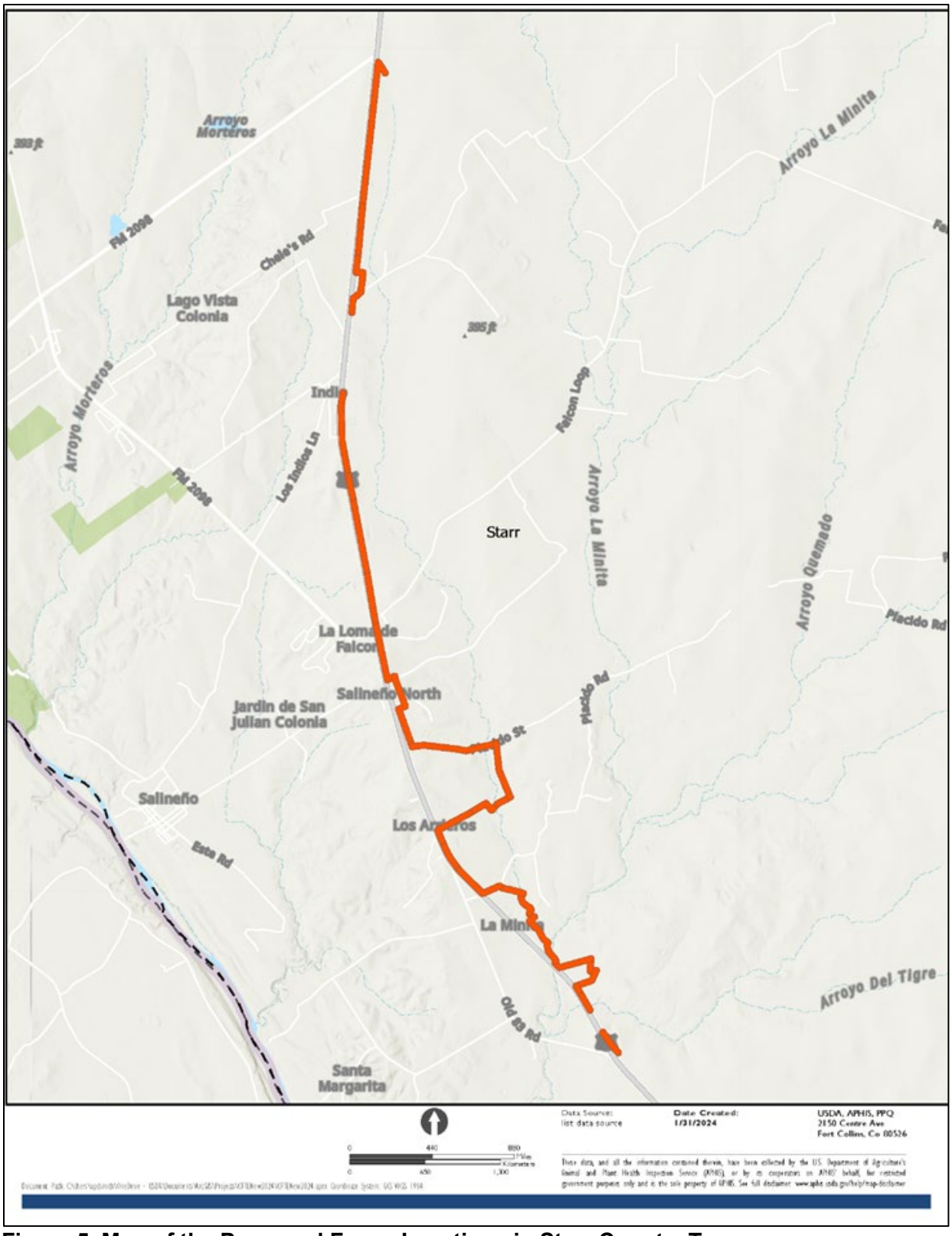

Figure 5. Map of the Proposed Fence Locations in Starr County, Texas.

3 Affected Environment

In its NEPA implementing regulations, the CEQ defines "affected environment" as the environment of the area(s) to be affected or created by the alternatives under consideration (40 CFR 1502.15). This chapter describes the existing physical and social conditions at and near the proposed sites for the installation of fencing in Cameron and Starr counties. To make an informed decision about which actions to take, it is necessary for a federal agency to understand who and what may be affected.

Specific resources described in this section include soil, vegetation, agriculture and livestock, wildlife, water quality, air quality and climate change, Tribal and historic properties, and human and socioeconomic environment. This EA will reference sections from the EIS (USDA APHIS 2018) and EAs (USDA APHIS 2021; 2022a; 2023) to allow the reader to cross-reference the information. Overall, only new or updated information will be included in this chapter.

3.1 Soil

Soil types found in Cameron County were described in Section 3.1 of the 2021 Final EA (USDA APHIS 2021); that information is being incorporated in this EA by reference.

Starr County is in the Sandsheet Prairie, Western, Central, and Lower Rio Grande Plain major land resource areas (Tinker et al. 2008). Starr County has clay, loam, and sandy soils. The terrace along the Rio Grande contains alluvial soils. The majority of soils in Starr County are well suited for rangeland; some are suitable for irrigated cultivation (Thompson et al. 1972).

Figure 6 and Figure 7 show maps of soil types at the proposed fence locations in Cameron and Starr counties. Soil types at the proposed fence locations are as follows:

- Cameron High Fence: Group D soils,
- Dulaney Tract: Groups B, C, and D soils,
- Cameron County Drainage District #1: Groups B, C, D, and C/D soils, and
- Starr County High Fence: Groups B, C, and D soils.

Table 1 provides descriptions of these soil groups at the proposed fence locations.

Table 1. Characteristics of Soil Groups at Proposed Fence Locations.

Soil Group	Descriptions
B	• Soils have moderately low runoff potential when thoroughly wet. • Water transmission through the soil is unimpeded. • Typically have between 10 to 20 percent clay and 50 to 90 percent sand and have loamy sand or sandy loam textures.
C	• Soils have moderately high runoff potential when thoroughly wet. • Water transmission through the soil is somewhat restricted. • Typically have between 20 percent to 40 percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures.
D	• Soils have a high runoff potential when thoroughly wet. • Water transmission through the soil is restricted or very restricted. • Typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures. • In some areas, these soils have a high shrink-swell potential. • Includes all soils with a depth of less than 19 inches to a water impermeable layer. Also, soils with a water table within 24 inches of the surface.
C/D	• Soils from Group D with high water table. • When well drained, these soils are considered Group C (where the seasonal highwater table is at least 24 inches below the surface in a soil where it would be higher in a natural state), but Group D under natural conditions.

Source: (USDA NRCS 2009).

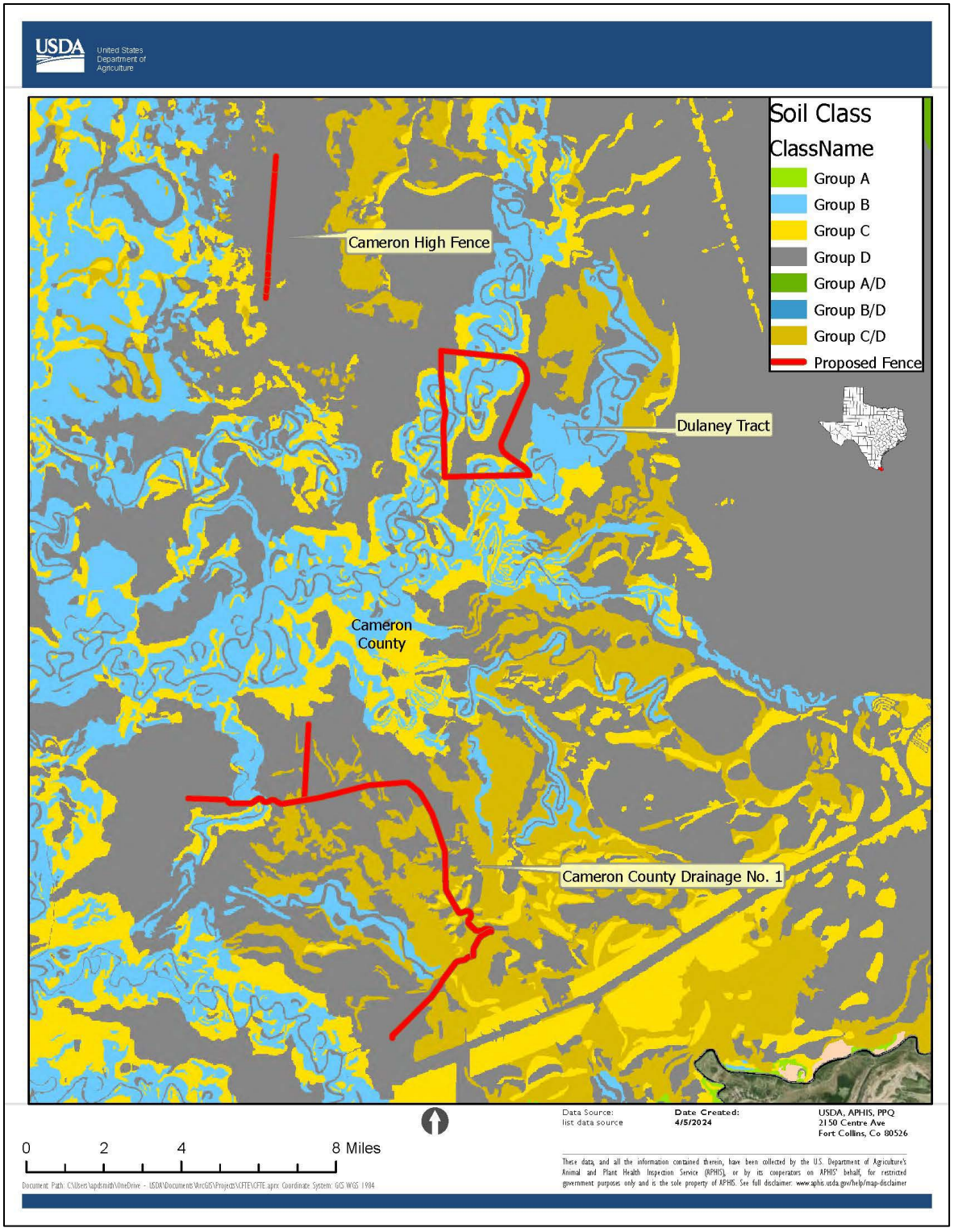

Figure 6. Map of Soils in Cameron County.

Source: (USDA NRCS undated-a)

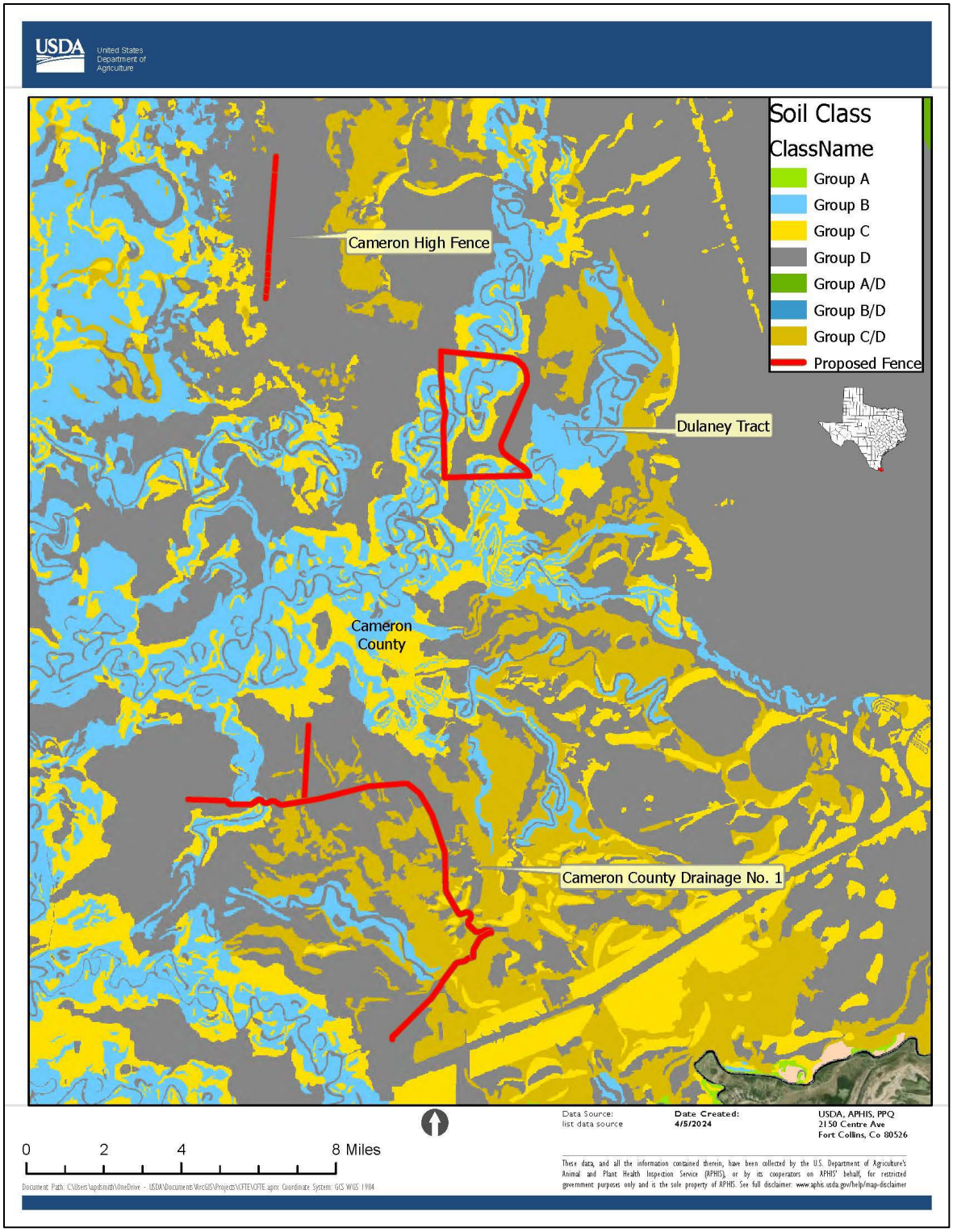

Figure 7. Map of Soils in Starr County

Source: (USDA NRCS undated-b)

3.2 Vegetation

The proposed fencing locations in Cameron County are in the South Texas Plains and the Gulf Prairies and Marsh vegetational area of Texas (Texas Almanac undated). The Gulf Prairies and Marsh vegetation area was described in Section 3.2 of the 2021 Final Supplemental EA (USDA APHIS 2021); that information is being incorporated in this EA by reference.

The Starr County proposed fencing also is in the South Texas Plains vegetation region (Texas Almanac undated), additionally identified as the South Texas Brush Country ecoregion (TPWD 2020). This area is characterized by mid and short grasses, thorny shrubs, mesquite, cacti, and live and post oak (TPWD 2020). This ecoregion is described in detail in Section F, Vegetation, of the 2018 EIS (USDA APHIS 2018); that information is being incorporated here by reference.

Figure 8 and Figure 9 show land cover at the proposed fence locations in Cameron and Starr counties, while Table 2 provides characteristics from the Multi-Resolution Land Characteristics (MRLC) National Land Cover database at those specific locations (MRLC undated).

Table 2. Land Cover Classification and General Descriptions of Proposed Fence Locations.

Fence Segment (County)	Land Cover Descriptions
Cameron High Fence (Cameron)	• Cultivated crops - areas used to produce annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20 percent of total vegetation. This class also includes all land being actively tilled.
Dulaney Tract (Cameron)	• Cultivated crops (see description, above). • Deciduous forest - areas dominated by trees generally greater than 5 meters tall, and greater than 20 percent of total vegetation cover. More than 75 percent of the tree species shed foliage simultaneously in response to seasonal change. • Mixed forest - areas dominated by trees generally greater than 5 meters tall, and greater than 20 percent of total vegetation cover. Neither deciduous nor evergreen species are greater than 75 percent of total tree cover. • Developed, open space - areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. Areas most commonly include large-lot single-family housing units, parks, golf courses, and planted vegetation for recreation, erosion

Fence Segment (County)	Land Cover Descriptions
	control, or aesthetic purposes.
CCDD #1 (Cameron)	• Deciduous and mixed forests (see description, above). • Developed, open space (see description, above).
Starr County High Fence (Starr)	• Scrub-shrub wetlands - areas covered by woody vegetation generally less than 20 feet tall that grows in saturated soil conditions, and are characterized by low, multi- stemmed woody vegetation in young or stunted stages of growth. • Developed, open space (see above). • Developed, low intensity - areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20 percent to 49 percent of total cover. These areas most commonly include single-family housing units. • Grassland, herbaceous - areas dominated by herbaceous vegetation, generally greater than 80 percent of total vegetation. These areas are not subject to intensive management such as tilling but can be used for grazing.

Source: (MRLC undated)

In April 2024, the CFTEP inquired the University of Texas Rio Grande Valley's expertise to conduct botanical surveys for Texas ayenia (*Ayenia limitaris*) and all other potential rare, threatened, or endangered plant species along the 38 miles of prospective fence lines identified for cattle fever tick containment. No listed or rare plants were found in the proposed fence locations.

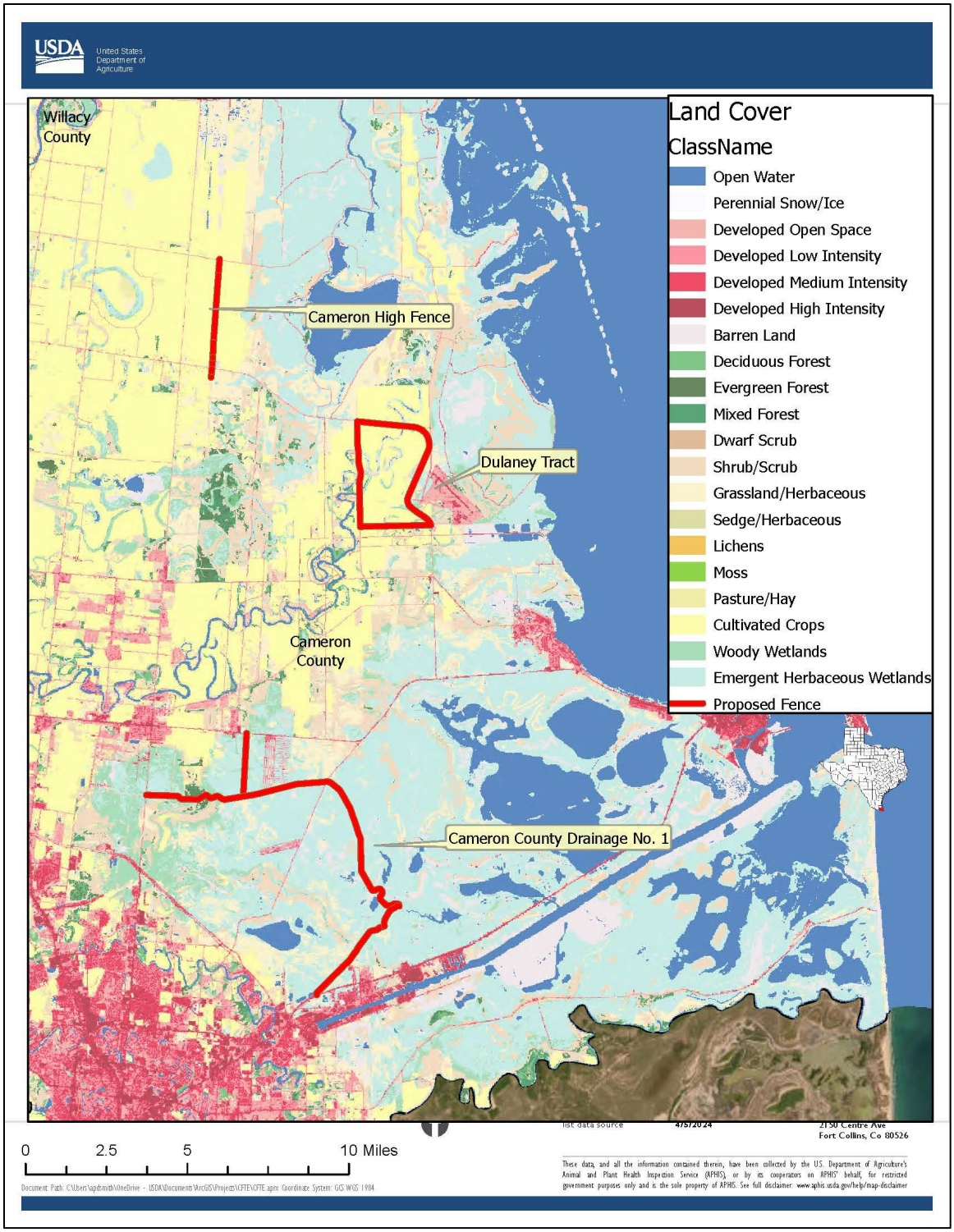

Figure 8. Map of the Land Cover in Cameron County

Source: (Dewitz 2021)

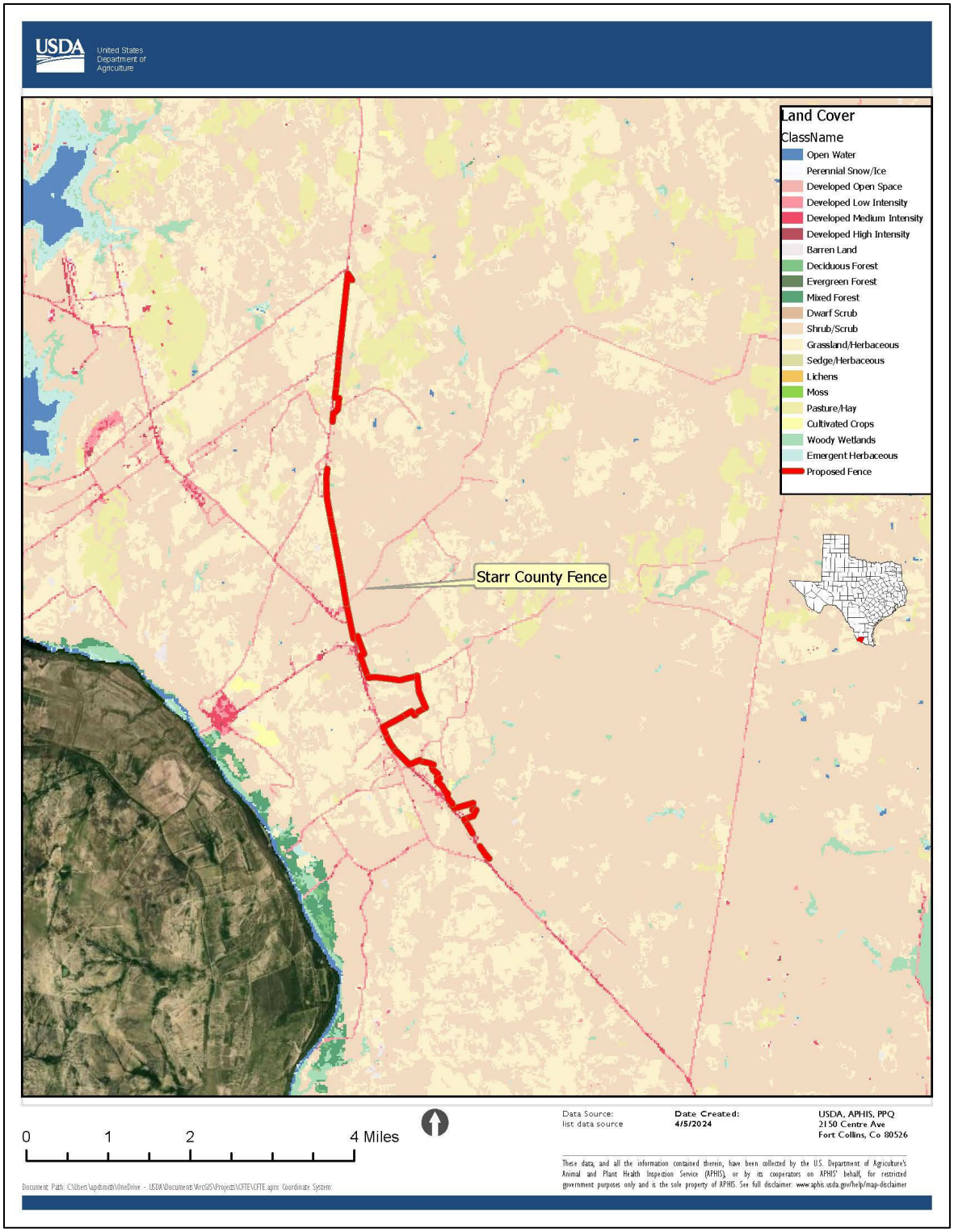

Figure 9. Map of Land Cover in Starr County.

Source: (Dewitz 2021)

3.3 Agriculture and Livestock

The agricultural profile for Cameron County was described in Section 3.3 of the 2021 Final EA (USDA APHIS 2021). That information is being incorporated in this EA by reference.

In Starr County, cropland represents 13 percent of the farmland, pastureland represents 66 percent, woodland represents 18 percent, and other uses represent 3 percent (USDA NASS 2017b). The total farmland area in the county is estimated at 571,483 acres with about 1,345 farms. Top crops produced are sorghum for grain (16,162 acres), forage (10,790 acres), corn for grain (6,317 acres), and cotton (5,400 acres). Crops represent 20 percent of sales while livestock, poultry and product represent 80 percent of sales. In 2017, the market value of agricultural products sold from Starr County was more than $47 million, including market value for crops ($9.4 million) such as grains, oilseeds, dry beans, dry peas, tobacco, cotton and cottonseed, forage/hay, etc. Livestock market value (nearly $37.9 million) is primarily from cattle and calves; other animals produced are hogs and pigs, sheep, goats, wool, mohair, milk, horses, ponies, mules, burros, donkeys, etc. According to the 2017 Census of Agriculture, there are about 2,000 agricultural producers in Starr County (USDA NASS 2017b).

3.4 Wildlife

Texas is home to over 142 different species of mammals, including some that are extremely rare and some that are found only in this state (TPWD undated-c). It is also probably home to more birds than any other state in the United States, with just over 600 species (Lockwood 1997). TPWD controls Wildlife Management Areas (WMAs) in portions of Cameron and Starr counties as part of the Las Palomas WMA, Lower Rio Grande Valley Units (about 3,311 acres) that preserve wetlands for white-winged doves (TCN undated).

The Laguna Atascosa National Wildlife Refuge (LANWR) in Cameron County (over 110,000-acres) is used for the conservation, management and restoration of fish, wildlife, and plant resources, and as habitat for 417 species of wintering waterfowl and migratory birds. This refuge is also home to 130 types of butterflies, 45 mammal species, 44 reptile and amphibian varieties, and about 40 fish species (USFWS undated).

Many species in South Texas are listed by U.S. Fish and Wildlife Service (USFWS) as endangered, such as ocelot (*Leopardus pardalis*) and Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*). Threatened and endangered species are discussed in detail in Section 4.4.1.

Wildlife species found in Cameron County was described in Section 3.4 of the 2021 Final EA (USDA APHIS 2021). The information presented there is being incorporated in this EA by reference.

Wild animals found in Starr County are species of South Texas Plains, which include white-tailed deer (*Odocoileus virginianus*), nilgai antelope (*Boselaphus tragocamelus*), coypu (*Myocastor coypu*), collared peccary (*Pecari tajacu*), common raccoon (*Procyon lotor*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), nine-banded armadillo (*Dasypus novemcinctus*), black-tailed jackrabbit (*Lepus californicus*), fox squirrel (*Sciurus niger*), eastern cottontail (*Sylvilagus floridanus*), American beaver (*Castor canadensis*), gray fox (*Urocyon cinereoargenteus*), and American badger (*Taxidea taxus*). Spotted ocelots (*Leopardus pardalis*) are rare, but small numbers of them may still live in the thick brushy country and woodlands of the Rio Grande Valley (TPWD undated-c).

In the 2020-2021 hunting seasons, wild animals targeted by hunters included alligator (*Alligator mississippiensis*), plain chachalaca *(Ortalis vetula),* dove (*Columbidae* spp.), duck (*Anatidae* spp.), goose (*Branta canadensis*), javelina (*Tayassu tajacu*), hares and rabbits (*Lepus* spp.), gallinules (*Gallinula galeata*), sandhill crane (*Antigone canadensis*), teal (*Anas crecca carolinensis*), wild turkey (*Meleagris gallopavo*), white-tailed deer (*Odocoileus virginianus*), Wilson's snipe (*Gallinago delicata*), and woodcock (*Scolopax rusticola*). Species most hunted during hunting season are chachalaca (*Ortalis vetula*), quails (*Colinus* spp.), rabbit (*Sylvilagus aquaticus*), mourning dove (*Zenaida macroura*), and white-tipped dove *(Leptotila verreauxi*) (TPWD undated-b).

3.5 Water Quality

Water resources and water quality in Cameron County (Figure 10) were described in Section 3.5 of the 2021 Final EA (USDA APHIS 2021); that information is being incorporated in this EA by reference.

Starr County overlaps two major water bodies: Falcon Reservoir (also called Falcon Lake) and the Rio Grande River (Figure 11). Falcon Reservoir is connected to the Rio Grande, 40 miles southeast of Laredo, Texas, and Nuevo Laredo, Tamaulipas (Mexico side) (JPL 2022). With a storage capacity of over 2.6 million acre-feet encompassing a surface area of about 85,000 acres, this reservoir was created to provide water for conservation, irrigation, flood control, and hydroelectricity to the area (JPL 2022). Falcon Lake has experienced prolonged periods of low water level due to recent extended drought (TPWD 2022).

With about 1,901 miles in length, the Rio Grande is fifth longest river in the United States. It originates in the San Juan Mountains of Colorado and flows to the Gulf of Mexico. The Rio Grande drainage basin has an area of approximately 336,000 square miles with about 54,000 square miles of the total watershed located within Texas (RGRWPG 2020).

Surface waterbodies nearby the proposed fencing (within 0.10 miles) are El Civolo Tank, Resaca

de Los Cuates, and San Martin Lake (Cameron County); and Arroyo la Minita and Arroyo del Tigre (Starr County). No fence segment impedes the waterways.

Groundwater and surface water in Cameron and Starr counties may be used for municipal water, manufacturing, power, irrigation, and livestock. Water uses and their sources in these two counties are shown in Table 3.

Table 3. Water Uses and Sources in Cameron and Starr Counties.

Water Use	Water Source(s) Used	
	Cameron County	Starr County
Municipal	GW, SW	GW, SW
Manufacturing	GW, SW	GW
Mining	None	GW, SW
Power	SW	none
Irrigation	GW, SW	GW, SW
Livestock	GW, SW	GW, SW

*GW – groundwater; SW – surface water.

Source: (TWDB 2024)

Potable water supply sources may include rivers, lakes, streams, ponds, reservoirs, springs, and wells. In Cameron County drinking water comes from the Rio Grande River via the Amistad-Falcon Lake/Reservoir System or the Gulf Coast Aquifer System (TWDB 2024). For Starr County, drinking water may come from the Rio Grande River Amistad-Falcon Lake/Reservoir System, as well as the Gulf Coast Aquifer System. Additionally, the Yegua Jackson is a minor aquifer underlying the western area of Starr County and provides small to moderate amounts of usable quality water (RGRWPG 2020). Drinking water may also come from wells on private property.

In compliance with Section 305(b) and 303(d) of the Clean Water Act (CWA), Texas Commission on Environmental Quality (TCEQ) uses data collected during a specific time to assess water bodies in the state, identifying those that do not meet the uses and criteria defined in the Texas Surface Water Quality Standards. Each water quality parameter is assigned one of five categories reflecting the status of the water quality. Waters falling into Category 5 are added to the 303(d) List of Impaired Waters for which total maximum daily loads or other management strategies may be needed. Results are submitted to USEPA biennially (TCEQ 2022).

The 2022 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d) indicates that both Cameron and Starr Counties contain waterways that are classified as impaired, particularly segments of the Rio Grande River (Cameron and Starr counties), Arroyo Los Olmos (Starr County), and Arroyo Colorado (Cameron County). These water bodies

are considered impaired due to bacteria in the water, depressed dissolved oxygen, and mercury or polychlorinated biphenyls in (fish) edible tissue (TCEQ 2020).

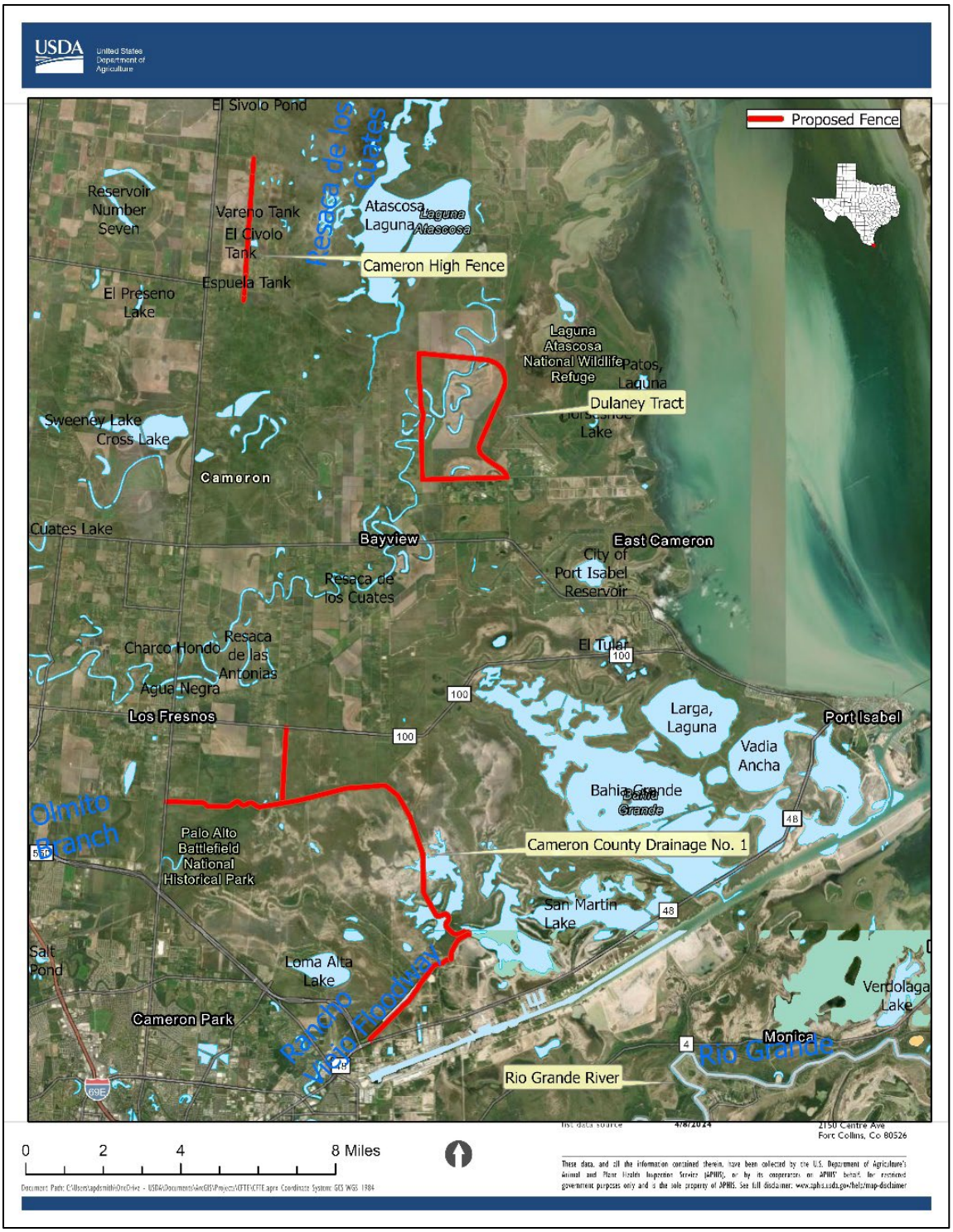

Figure 10. Map of Major Surface Waterbodies in Cameron County.

Source: (USGS 2022)

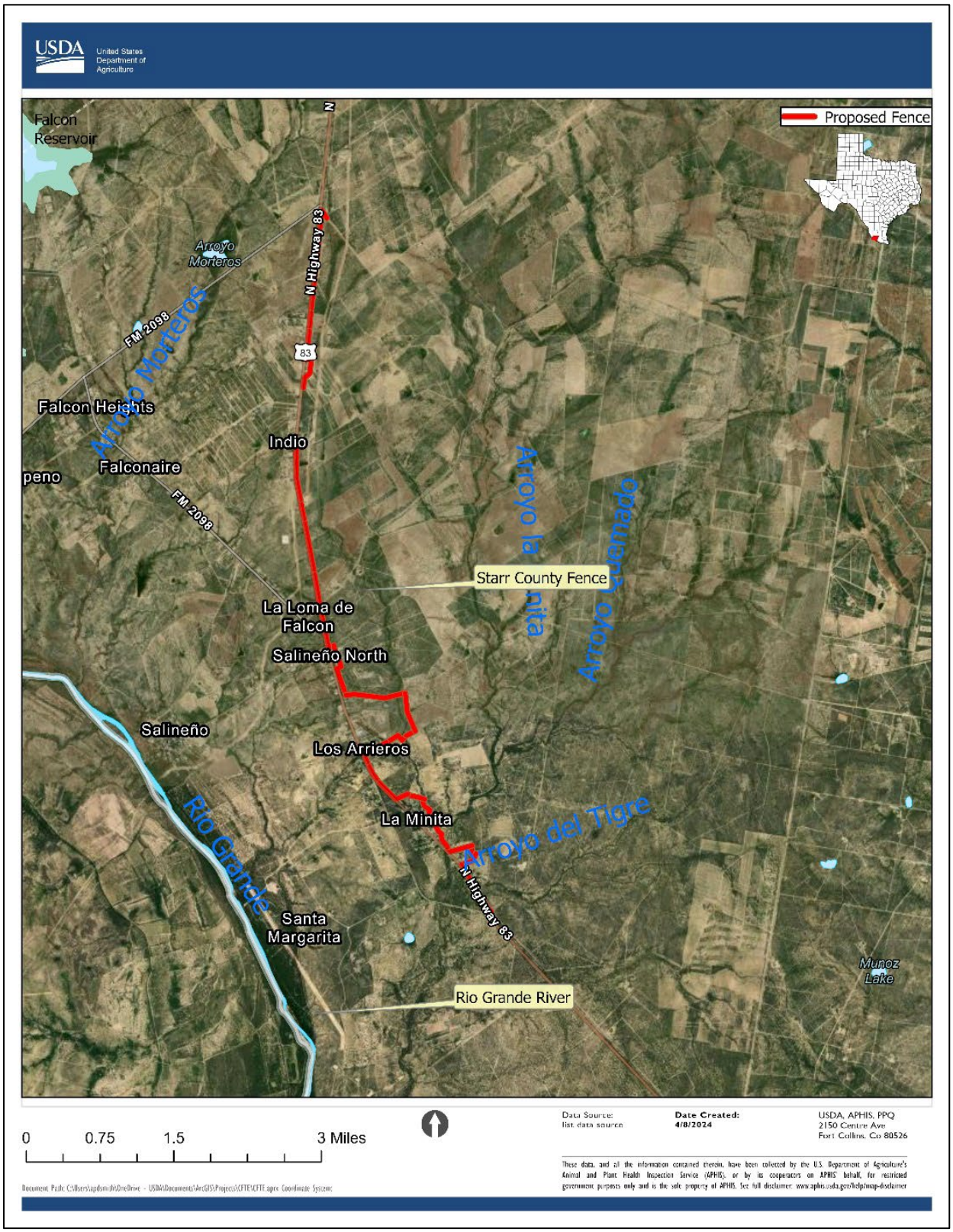

Figure 11. Map of Major Surface Waterbodies in Starr County.

Source: (USGS 2022)

3.6 Air Quality and Climate Change

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources (42 U.S.C. §7401 et seq. (1970). It protects the nation's air quality for the purposes of public health and welfare. Among other things, this law authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. These pollutants, known as criteria pollutants, include ozone, particulate matter, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The CAA identifies two types of national ambient air quality standards (primary and secondary). The primary standards provide public health protection, including protecting the health of sensitive populations (e.g., asthmatics, children, and the elderly), and the secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The status of air pollution in any area is based on whether that area is in attainment (compliance) or nonattainment (noncompliance) with the NAAQS. To enforce requirements under the CAA, the EPA delegated responsibility for ensuring compliance of the NAAQS to local authorities. In Texas, TCEQ monitors and regulates air quality.

As of March 31, 2024 (date of the current assessment), Cameron and Starr counties are not on the EPA's nonattainment list for all criteria pollutants (EPA 2024). Figure 12 and Figure 13 show that the particulate matter (in parts per million, or ppm) in the proposed fence areas is less than 6 ppm (Cameron County) and less than 14 ppm (Starr County), respectively. This indicates that, overall, the air quality index (AQI) for each of these two counties would be in the "good air quality" category (0 – 50) as defined by the EPA.

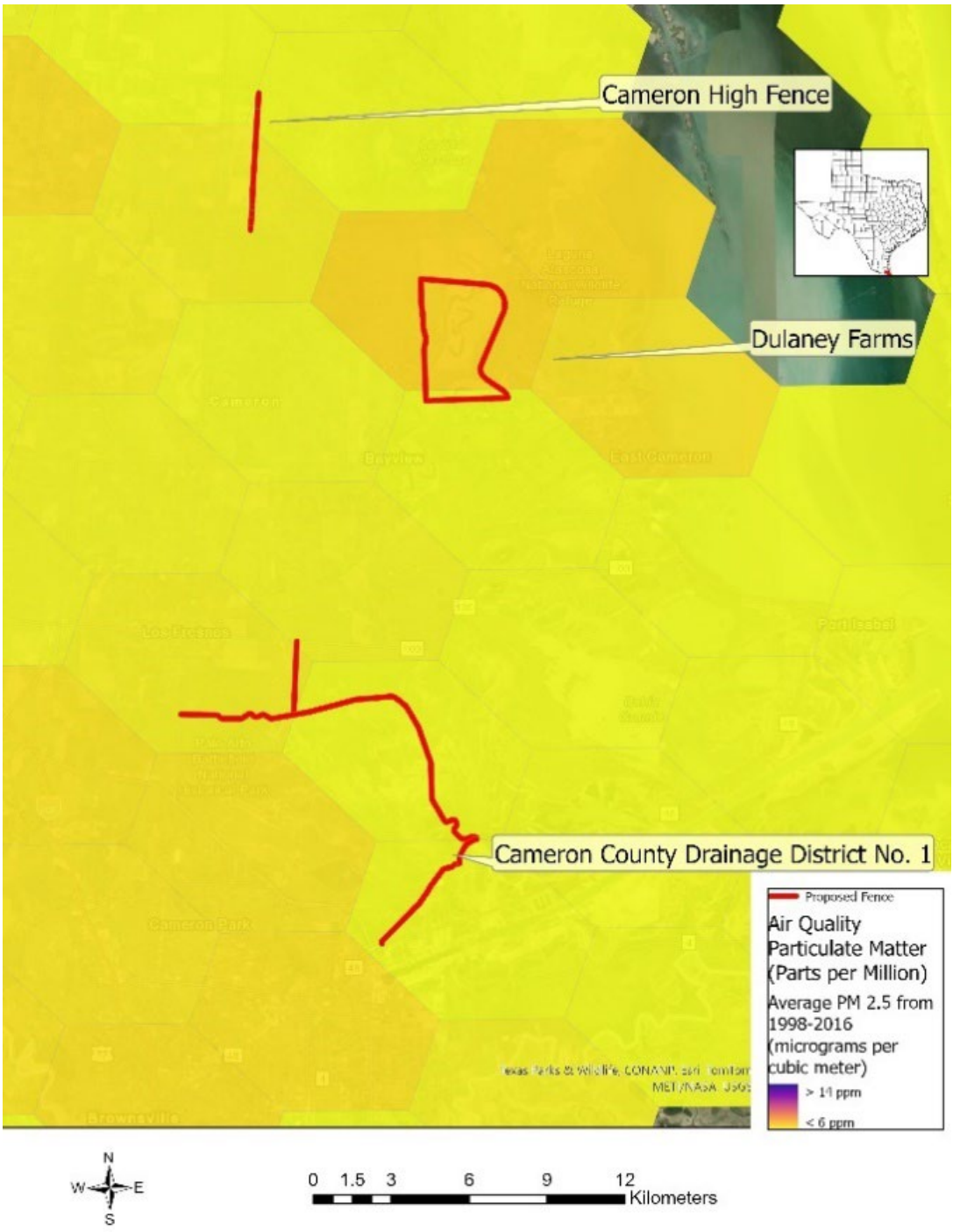

Figure 12. Air Quality Particulate Matter (ppm) in Cameron County.

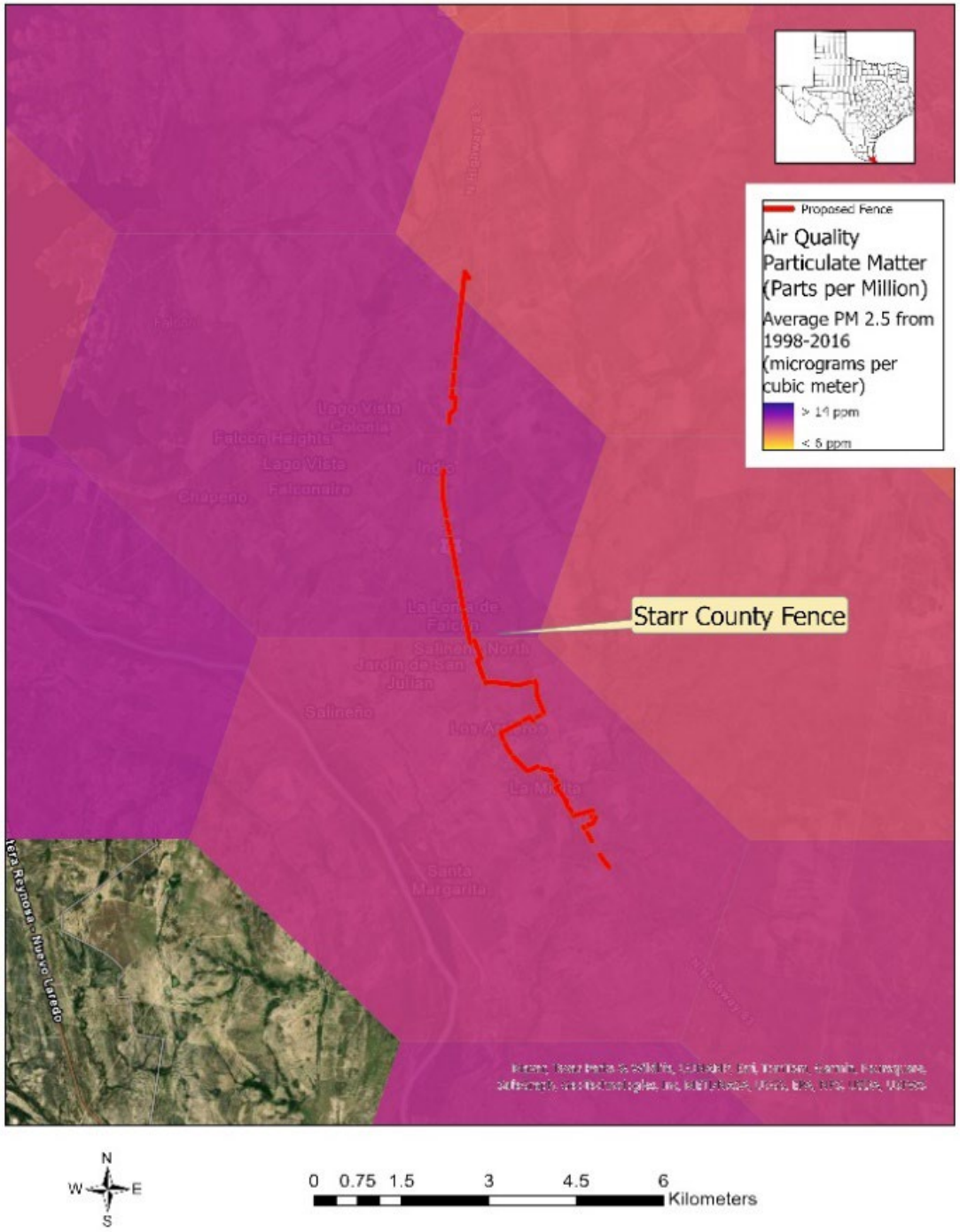

Figure 13. Air Quality Particulate Matter (ppm) in Starr County.

Climate change refers to long-term shifts in average weather patterns that define the Earth's local, regional, and global climates. This includes changes in average daytime and nighttime temperature, precipitation, drought periods, periodicity of tornadoes and rainfall, polar ice melting, and ocean/sea level rise. Climate indicators in Cameron County and Starr County are shown in Figure 14 and Figure 15, respectively. These maps display the temperature rates of

change in Cameron and Starr counties in 2022, which ranged between 1.0 and 1.5°F/century.

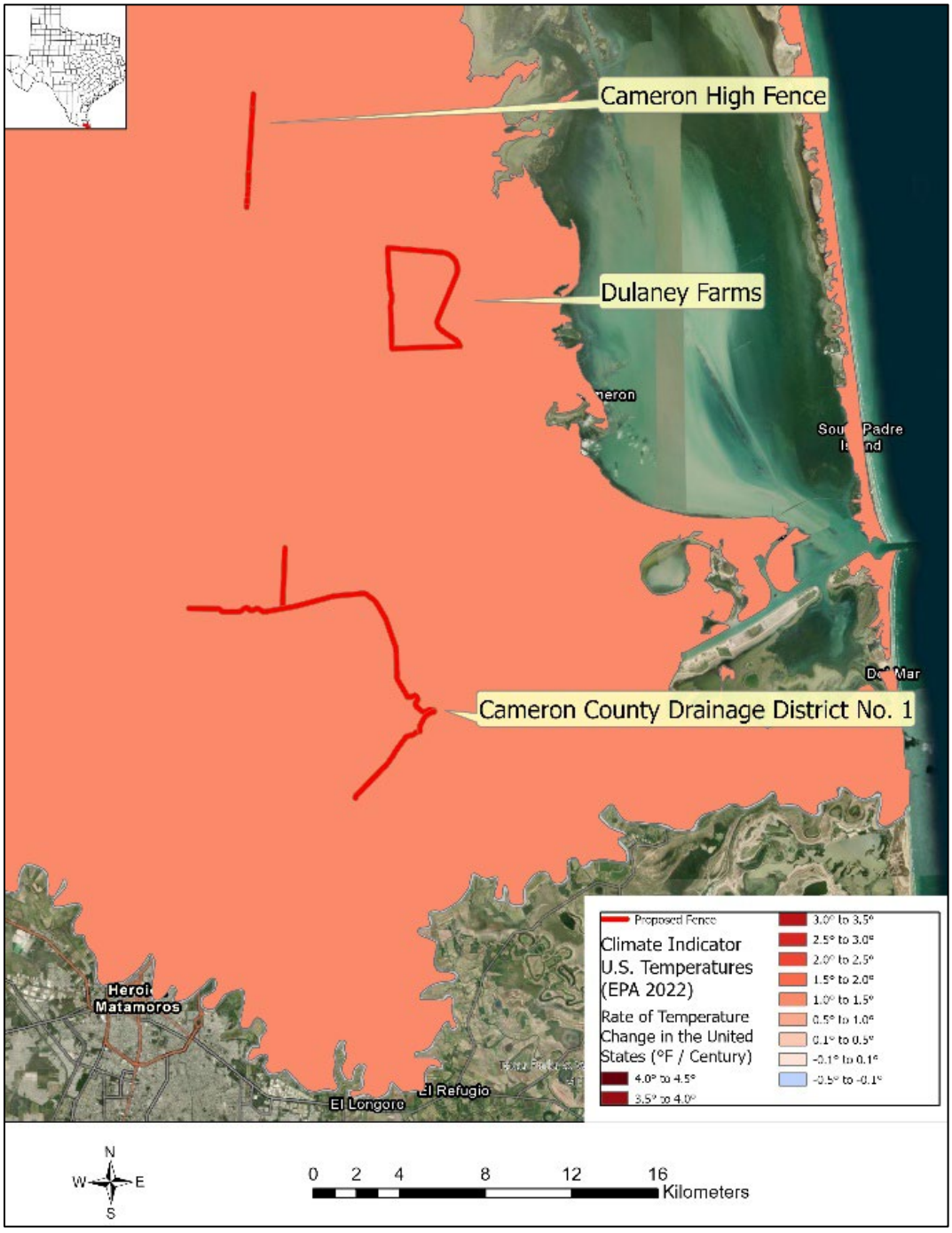

Figure 14. Climate Indicators in Cameron County.

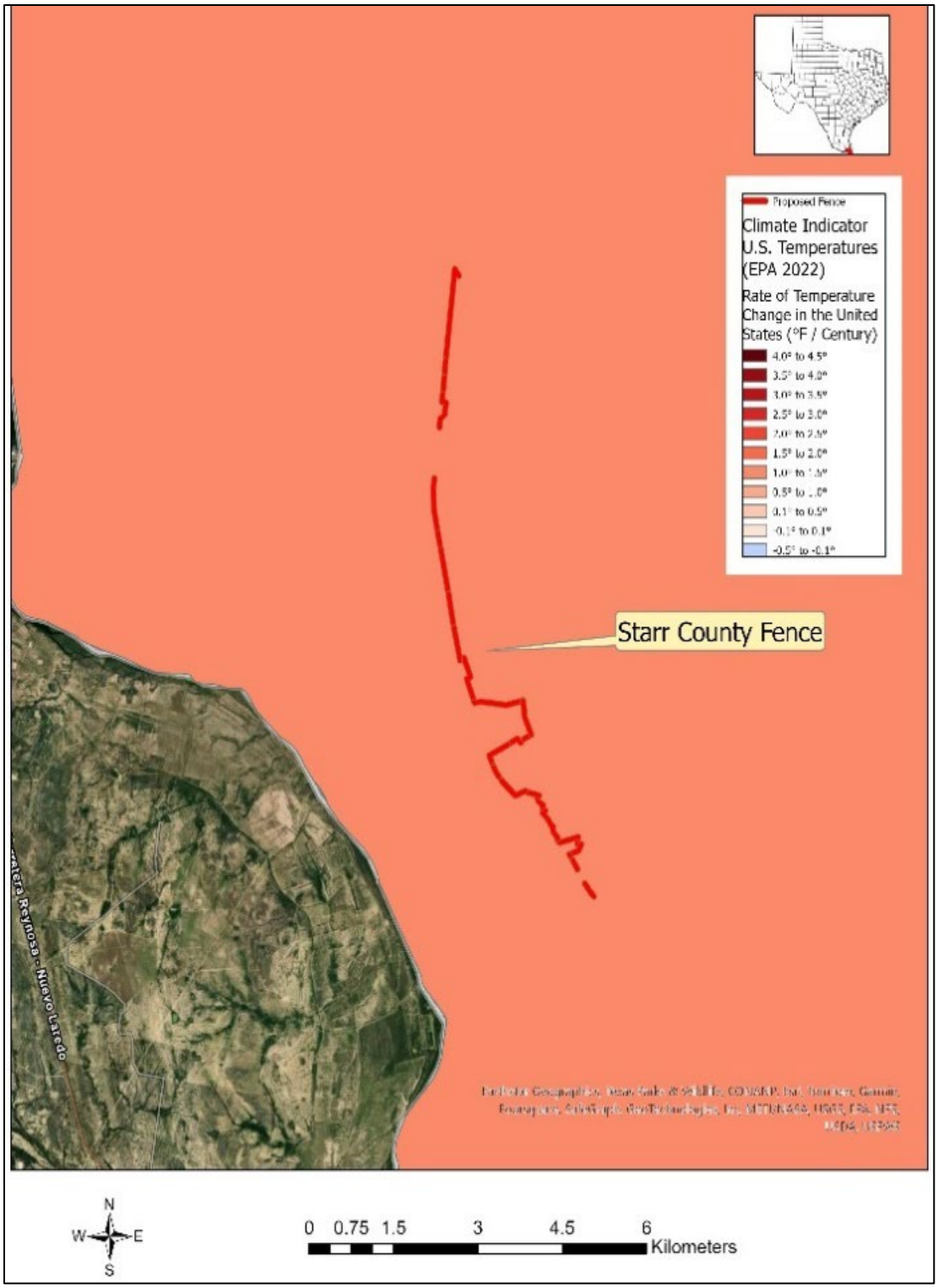

Figure 15. Climate Indicators in Starr County.

3.7 Tribal and Historical Properties

According to the Bureau of Indian Affairs (BIA undated), there are no Federally recognized Tribal lands in Cameron County or Starr County. Using the Housing and Urban Development's (HUD) Tribal Directory Assessment Tool (TDAT), USDA APHIS identified and contacted Tribes with a historical interest in the areas affected by this project in March 2024 to solicit any concerns. Tribes identified by TDAT are:

Starr County

- Apache Tribe of Oklahoma
- Comanche Nation, Oklahoma
- Tonkawa Tribe of Indians of Oklahoma
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma

Cameron County

- Tonkawa Tribe of Indians of Oklahoma
- Apache Tribe of Oklahoma
- Comanche Nation, Oklahoma
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma

USDA APHIS also identified 35 historic properties located in Cameron County and six in Starr County. The Agency considered potential effects on all these properties designated on the National Register of Historic Places. In Cameron County, the closest properties to the proposed fencing are the Palo Alto Battlefield (0.23 mi away) and Manatou House (7.28 mi away). In Starr County, the closest properties to the proposed fencing are the Roma-San Pedro International Bridge (6.91 mi away) and the Fred Guerra & Nell Kain House (16.57 mi away). USDA APHIS submitted both the analysis and associated maps to the Texas Historic Commission (THC)/State Historic Preservation Office (SHPO) in April 2024 for their review and concurrence of no effect determination.

3.8 Human Health and Socioeconomics

CFTs are damaging ectoparasites (parasites that live on the skin) that cause reduced cattle productivity and transmit protozoan parasites that cause tick fever, which can be fatal when genes for immunity are not present in the animals they bite. Humans are not hosts of these species of ticks, although they can serve as hosts to a wide variety of other ticks that carry diseases. CFTs do not pose a direct risk to public health in the United States. There are no direct human health impacts expected from CFT populations.

General descriptions of the human population and socioeconomic environments in Cameron and Starr Counties are provided in Table 4. It is shown that Cameron and Starr counties are about the

same size (1,276.4 and 1,229.1 mi, respectively). However, the population of Cameron County (425,208) is more than six times the population of Starr County (65,728). Overall, these two counties are considered urbanized (urbanization rate above 70 percent in either county). Youth (under 18 years) in Cameron and Starr counties constitute 29 percent and 32 percent of the population, respectively. The populations in both counties are predominantly white (over 97 percent), but the dominant ethnic group is the Hispanic group (more than 90 percent).

Unemployment rate in Cameron County (5.7 percent) is about half of that of Starr County (11 percent). Cameron County's poverty rate (22.6 percent) is also lower than Starr County's poverty rate (32.8 percent). Inversely, the GDP of Cameron County ($12 billions) is more than nine times the GDP of Starr County ($1.3 billion).

The largest communities in Cameron County are Brownsville, Harlingen, San Benito, and Los Fresno. In Starr County, the largest communities are Rio Grande City, Roma, Escobar, and La Grullo.

Table 4. Socioeconomic Status of Cameron and Starr Counties Residents.

Description	**Cameron County** (Population statistics)	**Starr County** (Population statistics)
County size (mi^2)	1,276.4	1,229.1
Total population	425,208	65,728
Percent female	50.5	51.18
Percent urban	82.42	71.40
Percent rural	17.58	28.60
Persons under 18	28.6%	32.2%
Persons 65 years and over	14.1%	11.2%
White alone	96.8%	98.6%
Black alone	1.0%	0.5%
Hispanic or Latino	89.8%	96.1%
White alone, not Hispanic or Latino	8.5%	3.5%
Largest communities, population	• Brownsville, 189,382 • Harlingen, 71,678 • San Benito, 24,665 • Los Fresnos, 8,215	• Rio Grande City, 15,269 • Roma, 11,520 • Escobares, 2,572 • La Grulla, 1,207
Median household income	$47,435	$35,979
Total employment	110,493	8,689
Unemployment rate	5.7%	11.0%
Persons in poverty	22.6%	32.8%
Top Employers • Health care and social assistance	34.83%	54.22%

Description	**Cameron County** (Population statistics)	**Starr County** (Population statistics)
• Retail trade	15.45 %	19.45%
• Accommodation and food service	13.12 %	10.39%
• Transportation and warehousing	4.35 %	3.88%
• Finance and insurance	3.55 %	3.00%
Description	**Cameron County** (Gross domestic product ($1,000))	**Starr County** (Gross domestic product ($1,000))
Total	$12,032,752	$1,285,475
Agriculture, forestry, fishing, and hunting	$39,398	$5,929
Mining, quarrying, and oil and gas extraction	$12,551	$69,466
Manufacturing	$1,014,869	$3,829
Professional and business services	$1,205,415	$23,765
Transportation and warehousing	$502,279	$113,057
Government and government enterprises	$2,456,374	$520,771
Educational services, health care, social assistance	$1,957,362	$121,359
Description	**Cameron County** (Agricultural products value ($1,000))	**Starr County** (Agricultural products value ($1,000))
Total	$122,554	$47,230
Crops	$117,845	$9,394
Livestock, poultry, and animal products	$4,710	$37,836
Cattle population (in-state rank)	13,401 (#206 of 254)	45,557 (#90 of 254)

Sources: (TXCIP 2012a; 2012b; USDA NASS 2017a; 2017b; USCB 2023; Carson 2024; TXCIP 2024b; 2024d; 2024a; 2024c).

Table 5 displays additional socioeconomic information specifically in the proposed fencing areas (0.5 mile-buffer around fence lines). It is shown that climate change as it is related to flood risks at the proposed Cameron high fence location (55 percent) is more than five times the average flood risk in Texas (10 percent) and nearly eight times the flood risk at the proposed Starr high fence location (7 percent). Likewise, climate change wildfire risks are higher at the Dulaney Tract (31 percent), CCDD #1 (59 percent), and Starr high fence (73 percent) locations, compared to the average wildfire rate in Texas (30 percent). However, under the preferred alternative, the

proposed fencing is highly permeable to water and not designed to impede water flow. So, any flood risk due to fencing installation is unlikely (USDA APHIS 2018; 2021; 2022a; and 2023).

Table 5. Socioeconomic Status of Cameron and Starr Counties Residents in the Proposed Fence Areas

Area	Cameron County	Cameron County	Cameron County			Starr County	Texas
Fence segment			Cameron HF	Dulaney	CCDD #1	Starr HF	-
Persons with disabilities, %			18	16	9	25	12.3
Climate change flood risk, %			55	67	61	7	10
Climate change wildfire risk, %			25	31	59	73	30
Low income, %			81	32	39	70	34
Unemployment rate, %			0	1	9	20	5
Persons with limited English, %			0	8	10	40	8
People of color, %			78	45	86	100	50

Source: EPA EJ Screening and Mapping Tool (epa.gov/ejscreen) and (Ura et al. 2021).

4 Potential Environmental Consequences

This chapter analyzes the potential environmental consequences associated with the no action and preferred alternatives described in Chapter 2.

Under the no action alternative, USDA APHIS would not provide any funding toward the installation of the proposed game fencing in Cameron and Starr counties, Texas. The Agency would simply continue its CFTEP operations described in Chapter 2 that help prevent the spread of CFTs and the potential related disease (babesiosis).

Under the proposed action alternative, USDA APHIS would fund the installation of the proposed game fencing on privately owned properties in Cameron and Starr counties, Texas, with landowner consent. These properties are in general open natural rural areas that are often used by wildlife and/or cattle for ranching. High game fences are expected to be more efficient than the traditional cattle fences, which are lower (four foot high) and more easily accessible by many wildlife species due to their smaller size. The high game fence would be designed to deter the movement of white-tailed deer and nilgai antelope, thereby facilitating CFT eradication efforts in the areas of concern.

The analysis of the potential environmental consequences focuses on specific resources including soil, vegetation, agriculture and livestock, wildlife, water quality, air quality and climate change, Tribal and historic properties, and human and socioeconomic environment. Some presidential executive orders and other considerations as they relate to the consequences on the human environment are also examined in this chapter.

4.1 Soil

Under the no action alternative, only minimal soil disturbance would occur to soil surfaces during border patrol surveillance for stray or smuggled livestock, and during the maintenance of existing cattle fences. This regular low-intensity foot, horse, and vehicular traffic may cause some soil erosion and/or soil compaction, particularly Group D and Group C/D soils known for their slower infiltration and water transmission rates over time, as well as their runoff potential when thoroughly wetted. However, soil disturbance under the no action alternative would be very minimal given the limited scope and time for border patrol surveillance.

Under the preferred alternative, USDA APHIS would fund the fence installation at the proposed locations in Cameron and Starr counties. During the fencing installation activities, there may be temporary soil disturbance and minimal soil loss along the new fence lines, but this installation only lasts a short time relative to the project's useful time span. Staging sites would occur in previously cleared areas, roads, or driveways. The sites would be determined case by case, depending on the location of the fencing and an agreement between USDA APHIS and the concurring landowner. A crawler tractor, a type of equipment generally used to prepare ground

for fence installation, would be used where needed to remove vegetation and level the ground surface.

Erosion impacts during the fencing installation would be transient. Excavated soil would be scattered around each fence post. Earthen diversion berms may be required in some locations to prevent erosion beneath the fence. There is likely to be temporary soil compaction during construction activities, but it would be confined to the fence line during installation. As the vegetation regrows, soils would be secured and return to preconstruction conditions. Therefore, the fence is unlikely to influence the potential for flooding. In addition, the proposed fencing is permeable to water and not designed to impede water flow.

The effects to soil associated with fencing and service vehicles would depend on the weight of the vehicles and number of trips through an area. USDA APHIS anticipates use of light-duty vehicles that do not create appreciable amounts of fugitive dust. To maximize program efficiency, USDA APHIS minimizes the number of trips for both fencing installation and maintenance activities. While vehicles may move mud during raining periods, the relative mud amount depends on how recently rain occurred and/or how much rain fell.

Galvanized materials often used in fencing are usually coated with a layer of zinc that protects steel from rust and corrosion, which makes galvanized wires last for decades without any impact on soil depending on the environment (Dean and Geusic 2021). The program does not expect galvanized materials of the proposed game fencing to leach or cause any impact on soil attributes (such as pH and salinity) from zinc coating because these materials are recognized as inert, and they resist rust and corrosion (USDA APHIS 2018). Galvanized wires are widely used for roofing, siding, gutters, telephone pole hardware, guardrails, storage, fencing, etc. (Dean and Geusic 2021). For these reasons, USDA APHIS finds the proposed actions would not have long-term, direct, or indirect effects to soil.

4.2 Vegetation

Under the no action alternative, USDA APHIS would not fund the installation of high game fencing in Cameron and Starr counties, and clearing of the vegetation for that purpose would not happen. Therefore, the existing vegetative cover consisting of overgrown grasses, cacti, and thorny brush such as mesquite and acacia trees, etc. would continue to grow in areas of these counties unless a weather event (such as hurricane, tornado, etc.) destroyed such it. Weeds and invasive plants would continue to spread by wind, water, wildlife, and service vehicles maintaining the existing cattle (four-foot) fencing. Also, areas most used by livestock and by patrolling agents during CFTEP operations may incur continued trampling of the vegetation. However, trampled plants would regrow and recover naturally.

Under the preferred alternative, the fence installation would require temporary removal of

vegetation along the fence line, particularly where posts and underground skirting are to be installed. An area between 5 and 20 feet wide may need to be cleared of vegetation and leveled in preparation for installing the fences. Based on this estimate, each mile of prepared area would be equivalent to about 0.75 - 3.03 acres of vegetation in total. However, given that some areas may require less preparation than others (e.g., areas of existing cattle fences), only a smaller vegetation removal would be expected.

The holes in the wire mesh skirting are large enough to stop underground seeds from germinating, and such large holes would be ineffective at stopping overgrowth from nearby plants; fencing activities may temporarily alter soil ecosystem moisture, which may in turn temporarily disturb the balance of microflora along the fence line; also, routine fence maintenance may involve a physical removal of the vegetation growing on fences and interfering with fence integrity. Fortunately, these short-term effects would end as the vegetation regrows naturally and recovers fully. USDA APHIS does not use pesticides to retain vegetation-free zones around fencing.

In April 2024, vegetation surveys conducted by the University of Texas Rio Grande Valley (UTRGV) in the framework of the CFTEP revealed no presence of listed or rare plants in proposed fencing locations.

4.3 Agriculture and Livestock

Under the no action alternative, stray livestock (cattle and horses in particular) that may potentially carry cattle fever ticks would continue to move around without any physical barrier or restriction, except where current game fencing has been installed. Such unrestricted movements of CFT hosts may contribute to the increase of the number of CFT infestations in Southern Texas (USDA APHIS 2018). Unfenced areas are open corridors for wandering CFT hosts whose unrestricted movements are likely to increase the spread of CFTs. Under the no action alternative, CFT-infested hosts would continue to mingle with both wildlife and other livestock animals in ranches, thereby increasing the likelihood of babesiosis outbreaks in the U.S. cattle populations (Pérez de León et al. 2012). If this trend continues, cattle producers and government agencies may respond by increasing acaricide (pesticide) treatment of livestock and/or vacating pastures more often, which may lead to more economic concerns.

Under the preferred alternative, the proposed high game fencing would restrict the movement of stray livestock. By this action, USDA APHIS expects reduced transport and spread of CFTs by stray farm animals, of which cattle and calves represent the largest populations (83 percent in Cameron County and 97 percent in Starr County). Under the preferred alternative, animal health is likely to improve in the program area because of the potential for fewer contacts between tick-infested wildlife and healthy livestock and calves.

4.4 Wildlife

Under the no action alternative, movements of wild animals would not be restricted by any game fences in Cameron and Starr counties as USDA APHIS would not fund the installation of such fences. White-tailed deer, nilgai, and other potential wild CFT hosts would continue moving around as usual, searching for resources (water, forage, and shelter). Continued movements and spread of CFTs across the region may cause risks for disease (babesiosis) outbreaks in South Texas and serious impacts on the U.S. cattle industry.

Under the preferred alternative, the proposed high game fencing would be installed at specific locations in Cameron and Starr counties to alter movements of wildlife species including white-tailed deer and nilgai. Smaller and medium-size wild animals such as coyotes (*Canis latrans*), foxes (Canidae), American badger (*Taxidea taxus*), desert cottontail (*Sylvilagus audubonii*), Mexican ground squirrel (*Ictidomys mexicanus*), desert shrew (*Notiosorex crawfordi*), and southern plains woodrat (*Neotoma micropus*) may still move through the 7- by 12- inch fence openings, or cross horizontal and/or vertical breaks of fence segments without being likely impacted by the proposed high game fencing, but these species are not the preferred CFT hosts (nilgai or white-tailed deer are).

Potential negative effects of high game fencing on wildlife populations exist. For examples:

- Corridor connectivity for ground-dwelling birds such as wild turkey (*Meleagris gallopavo*) and northern bobwhite quail (*Colinus virginianus*) may be temporarily lost due to reduced ground cover vegetation during the fence installation (Stromberg 1990). However, this temporary effect would cease as the ground cover vegetation regrows.
- There may be accidental collisions into fencing by ungulates with poor depth perception when chased by predators. This incapability of perceiving depth by certain animals is due to the poor binocular vision (relative to human vision), which causes these animals not to look at things from very different angles. So, fencing may be used by predators as a hunting perch.
- Also, animals may become entangled in woven wire fences made with strands of barbed wire. However, USDA APHIS does not propose using barbed wire in its programs. The design features of the high game fencing in the preferred alternative limit the potential for entanglement and allow passage of species. The 7-inch by 12-inch openings would apply to the entire length of the fence and would allow movement of ocelots (*Leopardus pardalis*), Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*), and Texas tortoises (*Gopherus berlandieri*) across to northern ranches, thereby, enabling genetic exchange between neighboring populations (USDA APHIS 2020).

4.4.1 Endangered Species Act

Section 7 of the Endangered Species Act (ESA) and ESA's implementing regulations require

federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of critical habitat. APHIS requested official species lists from USFWS for the proposed fence locations in Cameron and Starr Counties:
In Cameron County, federally listed and proposed species include: West Indian manatee (*Trichechus manatus*); Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*), ocelot (*Leopardus pardalis*); tricolored bat (*Perimyotis subflavus*); cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*); eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*); northern aplomado falcon (*Falco femoralis septentrionalis*); piping plover (*Charadrius melodus*) [Atlantic Coast and Northern Great Plains populations]; red knot (*Calidris canutus rufa*); green sea turtle (*Chelonia mydas)*, Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), hawksbill sea turtle (*Eretmochelys imbricata*); Mexican fawnsfoot (*Truncilla cognata*); Salina mucket (*Potamilus metnecktayi*); South Texas ambrosia (*Ambrosia cheiranthifolia*); and Texas ayenia (*Ayenia limitaris*).

In Starr County, federally listed and proposed species include: ocelot (*Leopardus pardalis*); tricolored bat (*Perimyotis subflavus*); cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*); piping plover (*Charadrius melodus*); Mexican fawnsfoot (*Truncilla cognata*); Salina mucket (*Potamilus metnecktayi*); Texas hornshell (*Popenaias popeii*); ashy dogweed (*Thymophylla tephroleuca*); prostrate milkweed (*Asclepias prostrata*); star cactus (*Astrophytum asterias*); Walker's manioc (*Manihot walkerae*); and Zapata bladderpod (*Physaria thamnophila*).

No critical habitat overlaps with the proposed areas of fence construction in Starr or Cameron counties. USDA APHIS will ensure that the proposed action is not likely to adversely affect federally listed and proposed species in the proposed fence area. The agency prepared a biological assessment for compliance with Section 7 of the ESA, and consulted with USFWS, Ecological Services, Alamo Sub-office. The proposed action will not be carried out until Section 7 consultation is completed.

4.4.2 Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668–668c)

The bald eagle (*Haliaeetus leucocephalus*) is present in the lower 48 states and Alaska. Although it was officially removed from the List of Endangered and Threatened Species as of August 8, 2007, due to recovery after near disappearance decades ago, bald eagles continue to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA).

The bald eagle's preferred habitats are undisturbed forests with tall canopies near water bodies. Nest sites typically include at least one perch with a clear view of water bodies or areas where the eagles usually forage (USFWS 2007). According to the Texas Parks and Wildlife Department

(TPWD undated-a), bald eagles are present year-round throughout Texas as spring and fall migrants, breeders, or winter residents. There are two populations in this state: Breeding population and nonbreeding or wintering population. The breeding populations occur primarily in the eastern almost half of the State (Figure 16) and along coastal counties from Rockport (Aransas County) to Houston (Harris County), while the nonbreeding or wintering populations are located primarily in the Panhandle, Central, and East Texas, and in other areas of suitable habitat throughout the state. There is no evidence that bald eagles occur in Cameron and Starr counties, although the online journal ebird.org (eBird 2023) indicates a bald eagle was eventually observed at Salineño Wildlife Preserve (Starr County) in November 2023. However, this wildlife preserve is approximately over two miles away from the closest fence segment (around La Loma de Falcon). In either case, the impact of the proposed action on bald eagle nests at the game fencing locations is unlikely because the proposed fencing locations are cattle ranches, not "undisturbed forests with tall canopies near water bodies". Moreover, based on the bald eagle distribution provided by the Texas Parks and Wildlife Department (TPWD), the program area in Cameron and Starr counties is more than 150 miles away from the breeding population area (between Rockport, Aransas County and Houston, Harris County), and several hundreds of miles away from the nonbreeding or wintering population areas (Panhandle, Carson County; Central and East regions of Texas). (Figure 16).

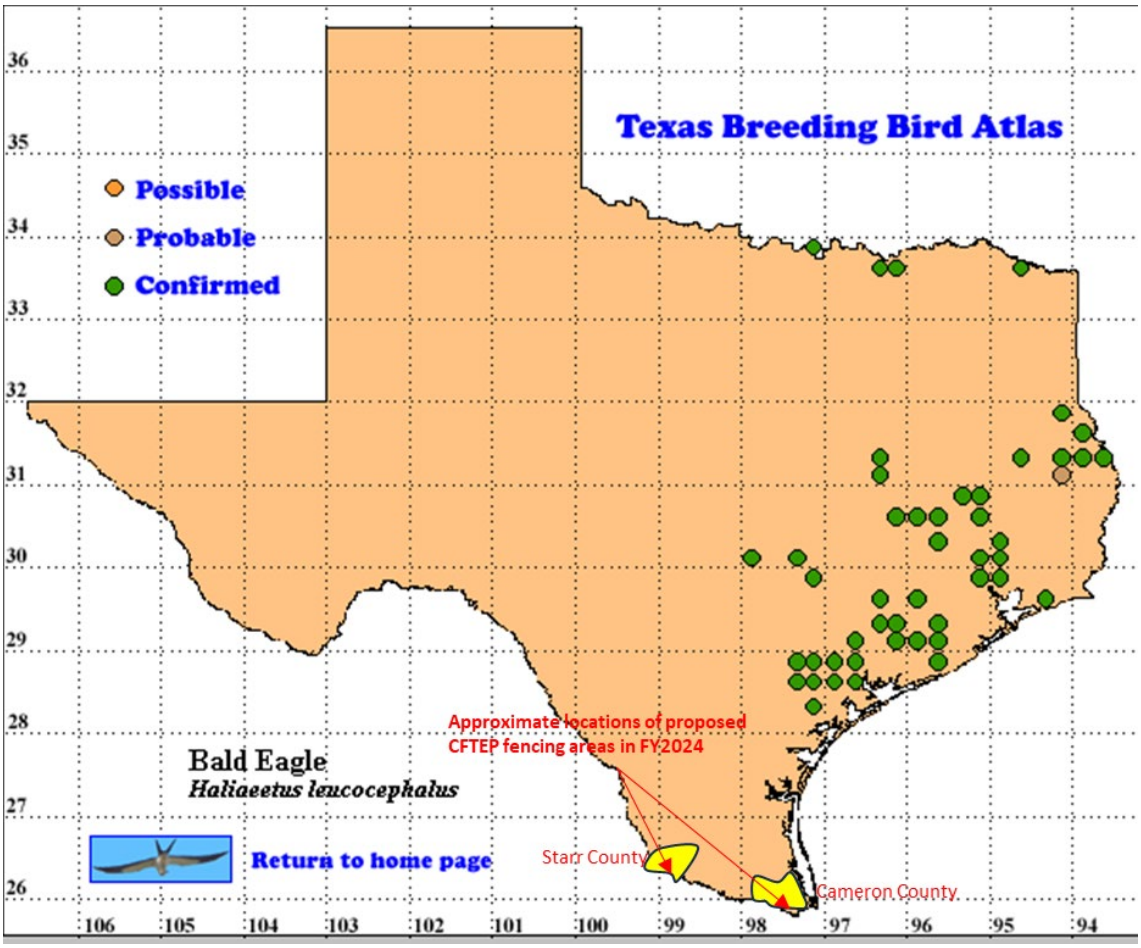

Figure 16. Map of Bald Eagle Breeding Areas in Texas.

The golden eagle (*Aquila chrysaetos*) can adapt to various habitats, although it typically inhabits regions with minimal shaded ecological features. It is best suited to hunting in open or semi-open areas and can be observable year-around. Native vegetation seems to be attractive to the golden eagle and it typically avoids developed areas of any type from urban to agricultural as well as heavily forested regions. In isolated areas, the golden eagle can occur regularly at roadkill and garbage dumps where it typically scavenges on animal carcasses (Vukovich et al. 2015). This species seems to prefer mountainous regions, where populations are usually found in large numbers hunting and nesting on rock formations. However, this species can also breed in lowlands, wherever local habitats are suitable.

According to the USFWS, the golden eagle is known or believed to occur in several counties in Texas including Cameron and Starr counties. Bird watchers kayaking on the Rio Grande may have recently (February 18, 2024) observed a golden eagle near the Salineno Wildlife Preserve (Starr County), which is about over two miles away from U.S. 83 (eBird undated). However, there is no evidence of the existence of golden eagle on cattle ranches along U.S. 83, where the proposed high game fencing would be installed.

In the event bald or golden eagles are observed eating live prey or scavenging on dead animals in or nearby the proposed fencing locations, chances that the eagles would be harmed during or after construction of game fencing are very unlikely because these locations have always been used for cattle ranching and would continue to serve the same purposes after the USDA fencing activities. Potential disturbance of eagles would be limited in time and scope. If any eagle or nest is found at the proposed locations during fencing activities, the program personnel would notify the state wildlife service, who would assist program personnel in minimizing potential impacts to the eagle or nest following the National Bald Eagle Management guidelines (USFWS 2007).

4.4.3 Migratory Bird Treaty Act of 1918 (16 U.S.C. 703–712)

USFWS and its partners manage migratory birds and their habitats based largely on routes the birds follow as they migrate between nesting and wintering areas. There are four Migratory Flyways: The Atlantic, Mississippi, Central, and Pacific Flyways (Figure 17). In the United States, Texas is covered by the Central Flyway along with Alaska, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Utah, and Wyoming. Examples of migratory birds using the Central Flyway include American golden plover (*Pluvialis dominica*), chimney swift (*Chaetura pelagica*), ruby-throated hummingbird (*Archilochus colubris*), purple martin (*Progne subis*), northern parula (*Setophaga americana*), black-throated green warbler (*Setophaga virens*), yellow-throated warbler (*Setophaga dominica*), black-and-white warbler (*Mniotilta varia*), Hudsonian godwit (*Limosa haemastica*), buff-breasted sandpiper (*Calidris subruficollis*), olive-sided flycatcher (*Contopus cooperi*), eastern wood-pewee (*Contopus virens*), willow flycatcher (*Empidonax traillii*), alder flycatcher (*Empidonax alnorum*), magnolia warbler (*Setophaga magnolia*), Blackburnian warbler (*Setophaga fusca*), barn swallow (*Hirundo rustica*), yellow-billed cuckoo (*Coccyzus americanus*), golden-winged warbler (*Vermivora chrysoptera*), cerulean warbler (*Setophaga cerulea*), and bay-breasted warbler (*Setophaga castanea*) (Shackelford et al. 2005).

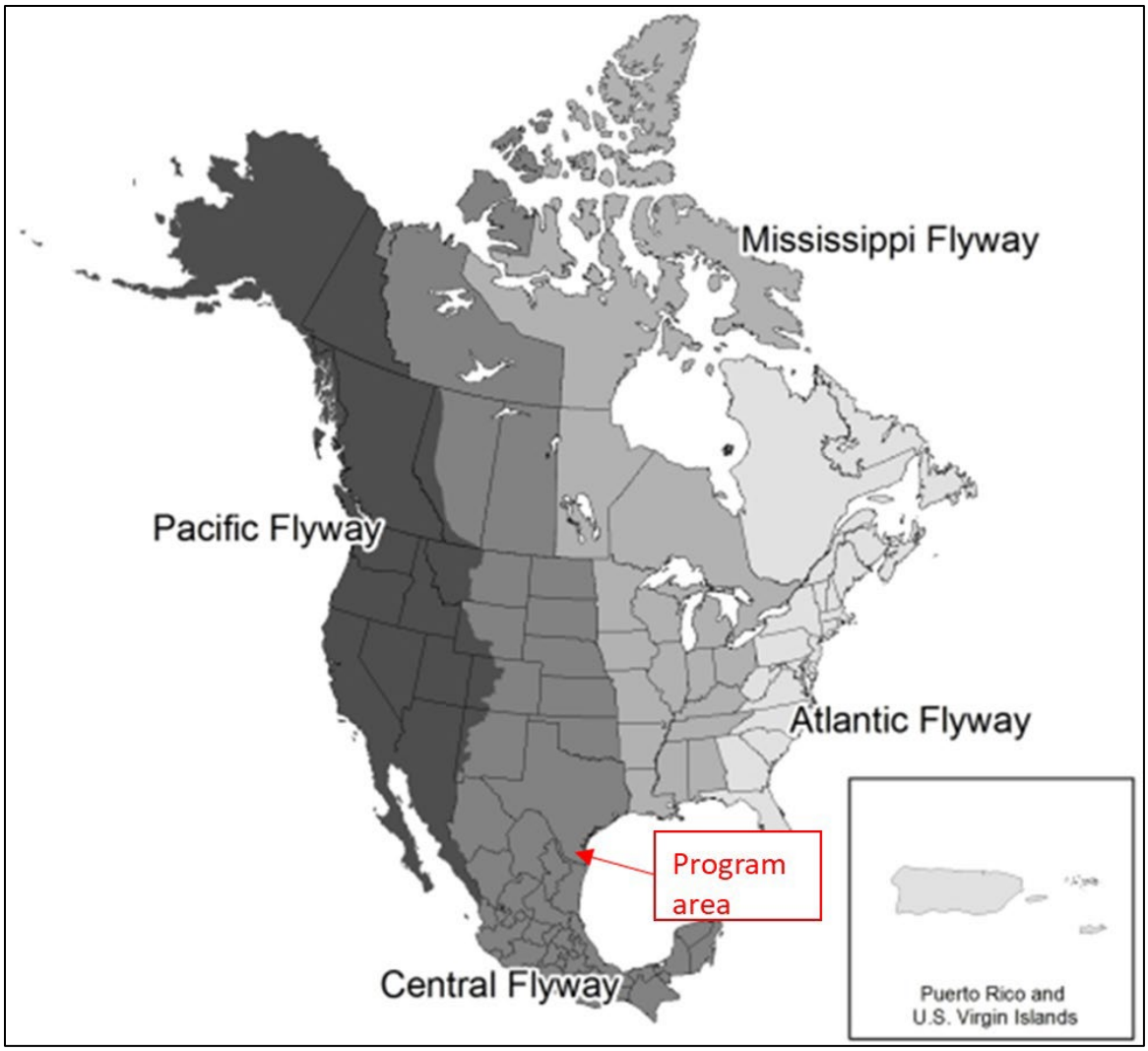

Figure 17. Migratory Birds Flyways.

Source: (NPS undated)

According to Shackelford et al. (2005), some threats to migratory birds include: a) Habitat loss (such as food and shelter degradation by clearing of forest and grassland), b) human disturbances, c) pet cats (which are serious threats to fledglings, roosting, and nesting birds), and d) lighthouses, skyscrapers, and other tall structures (such as electronic towers and cables for radio, television, and cellular phones, which cause deadly collisions in the night or fog).

Under the preferred alternative, it is unlikely that the high game fencing would cause any harm to migratory birds either during or after its installation. Historically, the proposed fence locations have served as ranch lands, and there is no indication that these places shelter migratory birds. The program personnel would minimize potential impacts to migratory birds or nests, as necessary, particularly during mechanical clearing of brush and trees. USFWS also recommends leaving a buffer of vegetation (≥100 feet) around detected songbird nests, if found, either until

the young have fledged or the nest is abandoned; other species such as water birds or raptors require larger buffer distances, of 500 feet or more (U.S. Customs and Border Protection 2020).

4.5 Water Quality

Under the no action alternative, there would be no effects to the water quality from installation of fencing as this program would not be funded. The maintenance of the existing cattle (low) fences would continue as usual, which often causes no (or minimal) soil erosion. Similarly, minimal and temporary disturbances to local vegetation are unlikely to alter water flow patterns.

Under the preferred alternative, the proposed high game fence installation may temporarily cause some potential soil erosion and surface water runoff, but these effects would cease as the vegetation regrows. Moreover, fencing would not alter ground permeability to stormwater. Galvanized wire is designed to be inert, resist rust and corrosion, and last for decades (Dean and Geusic 2021). The underground skirting of the fence is not of sufficient size to alter the usual water flow pattern in an area. After the installation of the high game fencing, erosion from water flow through the fence's wire grid and underground skirting is expected to continue at the pre-fencing or prior levels. USDA APHIS does not anticipate chlorine, zinc, heavy metals, or substantial particulate levels to enter runoff water either during or after fence construction based on the small footprint of activity at each fence-post location and the limited duration of construction activities.

4.6 Air Quality and Climate Change

Air Quality

Under the no action alternative, there would be no effects to air quality due to high game fencing as this program would not be funded. However, there would be negligible effects to air quality, mostly attributed to the maintenance of existing cattle fences using service vehicles. This is because USDA APHIS usually minimizes the number of trips by service vehicles from/to cattle fence locations to limit air emissions.

Under the preferred alternative, release of air pollutants can be associated with production of fence materials, installation activities, and vehicular travel.

- The fence materials would be produced offsite, which means any pollutant emissions associated with such production are not under USDA control.
- The fence installation and maintenance activities using service vehicles would cause air emissions, but these emissions would be very limited in time and scope in comparison to the lifespan of the fencing. Based on the overall small scale of USDA APHIS fencing projects, any on-site emissions related to fencing installation would be low in volume and duration and would be likely to rapidly dissipate below detectable levels.
- The number of service vehicle trips would also be limited to reduce air emissions. USDA

annually reports air emissions at the agency level.

Under both alternatives, trips by the service vehicles transporting fence materials from/to project locations would cause the release in the air some dust and debris that may become airborne during fencing activities. However, these airborne particulates should quickly settle and not have any significant or long-term impacts. USDA APHIS would minimize the potential for dust emissions during fence installation by using best-management practices including: a) Preserving grass and low-growing bush cover as much as possible, b) mulching cleared vegetation and spreading it out over the easement, c) periodically spraying water onto exposed soil to reduce the likelihood of traffic-raising dust, d) using predetermined staging areas to store fencing materials, and e) replanting areas with native grasses to the extent necessary to reduce erosion. Vegetation removed or disturbed in the process of installing fencing is highly likely to regrow within a few months.

Based on the overall small scale of the CFTEP, releases of air pollutants associated with any onsite construction or maintenance activities are expected to be low in volume, temporary in duration, and highly likely to rapidly dissipate below detectable levels. For these reasons, USDA APHIS finds that neither the no action nor the preferred alternative would create long-term effects to air quality.

Climate Change

A recent study by Nuttall (2022) summarizes evidence that climate change is impacting ticks and tick-borne infections. For instance, in Alaska and western Canada, average winter temperatures have risen by 3-4 °C in the past 50 years, and such a rising temperature is driven primarily by increasing concentrations of greenhouse gases in the atmosphere, particularly carbon dioxide, methane, and nitrous oxide resulting from human activities (Nuttall 2022). So, climate change affects tick survival, potentially permitting their establishment in areas previously inhospitable to them. Alterations in plant coverage and other habitat factors as a result of climate change may provide new opportunities for the survival of tick larvae and possible northward movement of these and other important tick species (Osbrink et al. 2021). Also, changes in tick species composition are being recorded, with increases in more heat tolerant phenotypes (such as *Rhipicephalus microplus* that is well established in Africa and *Haemaphysalis longicornis* that is becoming established in the United States) (Nuttall 2022).

Direct effects of climate change on the CFTEP fence program have been discussed extensively in the *Cattle Fever Tick Eradication Program Fence Deterrent in Cameron and Willacy Counties Supplemental Environmental Assessment* (USDA APHIS 2022a). Effects include increased likelihood of introduction and modification of the incidence, prevalence, persistence, and locations of CFT outbreaks. Over time, biological modifications to *Rhipicephalus* spp. are highly likely to include more generations per year, increased reproductive rates, and populations that survive over winter. Extreme precipitation and soil erosion coupled with overall drought increase

the risk of livestock exposure to heat events that reduce productivity. All these direct effects elevate risks to U.S. agricultural and natural resources (USDA APHIS 2022a). Specific examples of impacts to program operations include: a) Extreme weather events may interfere with the health, care, and treatment of livestock, b) higher temperatures and drought may reduce health and immunity in livestock, and c) cattle fever tick program funding may be redirected to disaster relief and other emergency responses.

Pertinent findings from the USDA APHIS Annual Energy Report for 2019 are summarized in Table 6 below. Data in this table shows that the estimate of the total Agency non-aviation greenhouse gas emissions was 37,996.8 MT CO2 equivalents with a total CFTEP vehicle standard operation and construction (gas) of 115.7 MT CO2 equivalents.

Table 6. Summary of 2019 USDA APHIS Reported Greenhouse Gas Emissions.

Category				**Total GHG in MT CO_2 equivalents[1]**
Standard Operations: Total purchased electricity consumption in buildings				11,401.4
Standard Operations: Mobile Emissions from the Federal Automotive Statistical Tool (FAST) for petroleum (diesel and gasoline)				25,222.5
Non-Standard Operations: Mobile Emissions from FAST for high intensity operations				64.1
Total Biogenic CO_2 emissions				1,308.8
Total Agency Non-Aviation Greenhouse Gas Emissions				**37,996.8**
Total Standard Operations: vehicles operation and construction (gas)				115.7
Program	**Fuel Used**	**Estimated GHG Emissions**	**Estimated GHG Emissions**	**Total GHG in metric tons (MT) CO_2 equivalents[1]**
Cattle Fever Tick Eradication (estimate based on similar programs)	13,873.8 gallons	CO_2 = (8.31 kg/gal)(13,873.8 gal)(1000g/kg) + N_2O = (0.07 g/gal)(13,873.8 gal)(298 factor to convert to CO_2) + CH_4 = (0.36 g/gal)(13,873.8 gal)(25 factor to convert to CO_2)	115,291,300 g + 289,417.6 g + 124,865 g	115.7

Source: (USDA APHIS 2019)

The CFTEP uses minor truck and passenger vehicle traffic to inspect, transport and treat affected cattle. Additionally, the installation and inspection of game fencing are all part of an integrated

pest management program. Calculations for the CFTEP vehicle greenhouse gas emissions was based on the annual fuel quantity used by vehicles and construction equipment.

The combined agency total for the other pertinent categories is less than 40,000 metric tons (MT) CO2 equivalent. Based on the number of USDA APHIS programs, shared use of facilities, and assuming proportionate fleet uses, the cattle fever tick program emissions would be less than the former 25,000 MT CO2 equivalent threshold for a quantitative analysis suggested by the Council for Environmental Quality (CEQ) (USDA APHIS 2019; USEPA 2020).

Under the no action alternative, the program would likely limit its activities to the maintenance of existing fences. In this regard, the exhaust emissions during movements of the service vehicles and the effects to air quality and climate change would be negligible.

Under the preferred alternative, vehicle exhaust emissions are expected to be temporary and very minimal, and they would likely rapidly dissipate below detectable levels because the program would limit the number of service vehicle trips to/from the program area. Installation and maintenance activities are very limited in time and scope in comparison to the lifespan of the fencing. Based on the overall small scale of USDA APHIS fencing projects, any onsite construction emissions are expected to be low in volume, temporary in duration, and highly likely to rapidly dissipate below detectable levels. USDA usually reports its program air emissions annually. For these reasons, USDA APHIS finds both the no action and preferred alternatives would not create long-term effects to air quality or climate change.

Potential sources of greenhouse gas emissions inherent in CFT control or eradication activities include ground transportation of materials by service vehicles used during program delivery and fence construction, soil disturbance during fence installation, livestock treatment, application technologies, etc.

USDA APHIS considered the following mitigations to reduce greenhouse gas emissions resulting from cattle fever ticks program activities:

- Efficiently combining vehicle trips by personnel.
- Construction of high game fencing in rural, isolated areas.
- Coordinating with animal health and pesticide manufacturers to discuss potential reductions of greenhouse gas emissions during manufacture and application technology development.
- Efficient vehicle uses and improvements in fleet efficiency (probably most promising measures).

4.7 Tribal and Historical Properties

The CFTEP proposed fencing activities will have no effect on federally recognized Tribal or ceded lands in the program area. According to the Bureau of Indian Affairs (BIA undated), there are no federally recognized Tribal lands in Cameron or Starr counties, Texas. Using the Housing and Urban Development (HUD)'s Tribal Directory Assessment Tool (TDAT), USDA APHIS identified and contacted Tribes with a historical interest in the areas affected by this project in March 2024 to solicit any concerns.

In accordance with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations, USDA APHIS assessed the historic properties within Cameron and Starr counties and analyzed the agency's action's potential effects on those properties. USDA APHIS found that the proposed action would have no effect on listed historic properties within the program area. USDA APHIS submitted its analysis and associated maps to Texas SHPO for their review. The SHPO concurrence with USDA APHIS's finding of no effect of the proposed action on historic properties was received on April 30, 2024.

The USDA APHIS proposed action would not alter, change (restore or rehabilitate), modify, relocate, abandon, or destroy any historic buildings, edifices, or nearby infrastructure. USDA APHIS program activities would not directly or indirectly alter the characteristics of any listed historic property that qualifies it for inclusion in the National Register of Historic Properties. USDA APHIS activities would not use heavy equipment that could create noise levels requiring auditory protection. Any visual, atmospheric, or auditory impacts during the installation of high game fencing would be limited in duration, intensity, and area.

4.8 Human Health and Socioeconomics

CFTs do not pose a direct risk to public health in the United States. There are no direct human health impacts expected from uncontrolled CFT populations. However, wildlife such as white-tailed deer may be hosts to other ticks that can transmit human diseases—most notably is the transmission of Lyme disease (caused by the bacteria *Borrelia burgdorferi*) which is vectored by deer ticks (*Ixodes scapularis*). For these reasons, tick control on animals is important for human health.

Under the no action alternative, the unchecked spread of CFTs and related disease (babesiosis) may lead to a substantial economic downturn in the livestock sector in Cameron and Starr counties. Knowing that the cattle population's mortality rate in South Texas due to CFT is estimated at 70 percent to 90 percent (TFB, 2019), without effective CFT containment measures including wildlife host fencing, the cattle industry in Southern Texas risks losing millions of dollars annually, thereby exacerbating unemployment and poverty rates, especially among the

Hispanic communities that depend on ranching for their livelihoods.

The preferred alternative would limit the spread of cattle fever ticks across the region and improve the cattle health and socioeconomic benefits to ranchers residing in Cameron and Willacy counties. Beneficial effects associated with the fencing are expected to include: a) reduced CFT spread and disease transmission to cattle population, b) reduced likelihood of human exposures to CFT and diseases from wildlife sources (e.g., hunters in game fenced areas are likely to take CFT-free, healthier deer and Nilgai), c) more productive animal husbandry in the area, and d) reductions in the costs of animal products.

Under the preferred alternative, the materials and design features of the proposed fencing would not pose health risks to members of the public and workers installing the fences (USDA APHIS 2018; 2021; 2022a; 2023). The fencing material used does not contain any chemicals that pose human health risks. For example, galvanized wires are widely used for roofing, siding, gutters, telephone pole hardware, guardrails, storage, fencing, etc. (Dean and Geusic 2021). USDA APHIS does not expect the installed fencing to pose any long-term, direct, or indirect effects to occupational or public health.

Populations living nearby the proposed fence locations and onsite workers may be exposed to noises and dust, particularly during installation of concrete footers, and from the use of ground clearing equipment and weed control activities if mowers or "weed eaters" are used. The use of crawler tractors to prepare the ground for fence installation may increase noises and related nuisances. However, these noises are expected to be infrequent, intermittent, and relatively low in volume. Likewise, USDA APHIS expects any construction debris and dust to be minimal, short-term, and in limited locations, with negligible effects to nearby air, drinking water, consumable vegetation (e.g., crops), and human populations.

Occupational workers may be exposed to safety concerns and hazards associated with general construction activities during fence installation, but these physical hazards would be temporary as they would be removed once the fence is built. Also, workers, who have the greater potential for exposure, will adhere to safety instructions and other precautionary measures, including wearing proper personal protective equipment (PPE) (e.g., gloves, masks, and goggles, etc.) during program activities in accordance with applicable safety and health regulations (29 CFR §§ 1910 et seq.). To the greatest extent possible, USDA APHIS contractors would be expected to implement the general construction practice of periodically spraying water to control dust during installation.

Residents living near the proposed fencing routes may be exposed to dust and noise associated with fence installation and maintenance activities, but such exposures are expected to be very limited because program activities take place on private lands, which are remote areas away from public settings. Also, dust and vehicle emissions would be minimal given the limited scope and

duration of the activities.

Under the preferred alternative, the installation of fencing could be viewed as upgrades of existing fences, and this could eventually impact landowners if their property taxes increase due to perceived added value. Fencing upgrades and decreased access to ranch properties by wildlife may reduce the amount of bushmeat available to members of local communities, but may protect vegetation from being eaten by wildlife, especially white-tailed deer. Overall, the negative effects of such potential property tax increase and/or the reduction of bushmeat would be far lower than the positive effects associated with the fence installation (such as reduced CFT spread and disease transmission to cattle population, reduced likelihood of human exposures to tick-borne diseases, greater cattle production, and increased income).

4.9 Other Environmental Considerations

USDA APHIS complies with Executive Order (EO) 13045, "Protection of Children from Environmental Health Risks and Safety Risks", by considering the likelihood and consequences of exposure to the proposed action. Residents under 18 represent 29.9 percent of the population in Cameron County (section 3.8 of the 2021 Final EA in USDA APHIS (2021)) and 32.2 percent in Starr County (section 3.8 above, according to the U.S. Census Bureau (2023)). Under both alternatives, children are highly unlikely to live in or near the proposed fence locations (ranchlands and wildlife refuge). There are no fence segments on public places or facilities children typically use (such as parks, playgrounds, schools, or outdoor community centers).

Federal agencies comply with EO 13990 ("Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis") and EO 14008 ("Tackling the Climate Crisis at Home and Abroad") by considering a) the effects of climate change on a proposed action, b) the potential effects of a proposed action on climate change, and c) potential mitigation measures that could be applied to the proposed action.

The human-produced impact on climate or global temperature (called anthropogenic global warming) may be avoided or reduced by agencies by considering climate change during the NEPA process. NEPA requires U.S. federal agencies to examine the reasonably foreseeable effects of a proposed action on the human environment (40 CFR § 1508.1(g)). This information, discussed in detail in the 2022 assessment (USDA APHIS 2022a), is being incorporated in this document by reference. Additional information was also discussed above in section 4.6 (Air Quality and Climate Change).

Federal agencies comply with EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", EO 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government", and EO 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All", by advancing equity for all, including minorities and underserved communities that are often in persistent poverty

and/or adversely affected by inequality. For instance, data from the U.S. Census Bureau (2023) shows that residents within the program area appear to have lower per capita income ($21,440 in Cameron County and $16,934 in Starr County) compared to the per capita income in the State of Texas ($41,261) and the United States ($37,514). Likewise, these residents also have very limited minority-owned businesses (2,460 in Cameron County and none in Starr County) versus 111,086 in Texas and 1,014,958 in the United States (reference year 2017). Both counties have no women-owned and no veteran-owned businesses although they have a larger percentage of minority Hispanic population (89.8 percent in Cameron County and 96.1 percent in Starr County compared with Texas: 40.2 percent, and the United States, 19.1 percent). The poverty rates in 2020 in both counties were higher (22.6 percent and 32.8 percent in Cameron and Starr counties, respectively, versus 11.5 percent and 14 percent in Texas and the United States, respectively).

In the areas directly affected by the program, the socioeconomic status of the populations was obtained using EPA's online Environmental Justice Screening and Mapping Tool (EJScreen). These residents are predominantly people of color (45 percent to100 percent). They often face challenges such as flood risk (e.g., 55 percent to 67 percent for the proposed fencing in Cameron County) and wildfire risk (e.g., 73 percent for the proposed fencing in Starr County). Other statistics and information related to environmental justice including climate change/water and flood risks were discussed in Chapter 3 (Table 5).

USDA APHIS will continue to conduct its program activities by considering equity among all Americans. The agency's proposed action would be implemented on privately owned properties with landowners' consent. This action would be more beneficial to the communities because the proposed game fencing is expected to limit the movement of wildlife species that are CFT hosts, and to reduce the accessibility of cattle ranches by these main tick spreaders. This proposed alternative would improve cattle health and the overall agricultural and socioeconomical situation of farmers in Southern Texas. Therefore, USDA APHIS does not expect the proposed action to pose any disproportionate and adverse effects to minorities or members of low-income and underserved communities.

Federal agencies must comply with EO 13166, "Improving Access to Services for Persons with Limited English Proficiency", ensuring their program activities are accessible to all residents. To meet this need, USDA APHIS conducts outreach to English-speaking and Spanish-speaking communities through a variety of public notices and informational brochures about the CFTEP.

Colonias

The Texas Department of Health and Community Affairs (TDHCA 2019a) defines "Colonia" (meaning neighborhood or community, in Spanish) as a geographic area located within 150 miles of the Texas-Mexico border that has a majority population composed of individuals and families of low and very low income. These families lack safe, sanitary, and sound housing and are without basic services such as potable water, adequate sewage systems, drainage, utilities, and

paved roads. Colonia residents tend to be young, predominately Hispanic, low to very low income, and employed in low-paying sectors. According to the 1990 Census, 36.6 percent of colonia residents in Texas are children (compared to 29 percent statewide). Nearly all are Hispanic, and 27.4 percent speak Spanish as their primary language. However, contrary to common perception, more than 75 percent of colonia residents were born in the United States and 85 percent are U.S. citizens (TDHCA 2019a). The workforce tends to be young and unskilled; consequently, wages are low. Family incomes in the counties along the border tend to be much lower than the state average of $16,717 (e.g., Starr County $5,559). According to the Texas Department of Housing and Community Affairs (HUD 2002), those numbers are even lower ($8,500 in Texas and $7,800 in Cameron County). Primary occupations are seasonal in nature; agriculture service providers and construction-related jobs account for more than 50 percent of the workforce. Unemployment levels in five Rio Grande Valley colonias ranged from 20 percent to as high as 70 percent, compared with the overall state unemployment rate of only seven percent. A 2014 assessment by the Texas Office of the Secretary of State's Colonia Initiatives Program found that the six Texas counties (including Starr and Cameron) with the largest colonia populations contain 1,854 colonias (196 in Cameron County and 256 in Starr County) with a population of 369,482 (56,005 in Cameron County and 34,143 in Starr County). (TDHCA 2019b).

The status of colonias relative to CFTEP is discussed extensively in the 2018 EIS (USDA APHIS 2018), and the information is being incorporated in this assessment by reference.
In Cameron County, most colonias are quite away from the proposed fence locations and there is no public access at these locations (the closest fence segment is more than a half mile away from colonias, and other segments are located over a kilometer away from colonias).

In Starr County, however, some fence segments are only a few meters from the colonias (such as Indio #1 and Indio #2) while other segments are even closer to colonias (such as Salineno North, Los Arrieros, and La Minita) (Figure 18 and Appendix C). Most of this program area already has existing fencing on private properties, where the program may replace low fence gates with high fence gates or move any gates if the landowner so desires. There is no public access at these fence locations.

To address any potential effect of the proposed action to the colonias in Starr County (Salineno North, Los Arrieros, and La Minita) by which the proposed fencing may be too close, USDA APHIS will ensure its program activities do not disproportionately impact the underserved communities. In April 2024, USDA APHIS' CFTEP reached out to the Texas A&M University (TAMU) Colonias Program, whose main mission is to help increase self-sufficiency and enhance the quality of life for colonias residents all along the Texas-Mexico border. The program also contacted the Texas Historic Commission (THC) and the Commissioner of Precinct 2 (Raul Pena III), who is responsible for the areas in question in Starr County. The agency shared with these resource persons/contacts the CFTEP information including maps, outreach materials, and the

CFT website address. These colonias ombudspersons and program representatives have not indicated any disproportionally negative impacts of the proposed fencing to colonias in question in Starr County.

In compliance with the above-cited executive orders, USDA APHIS will continue to meaningfully engage with underserved communities, including colonias, through outreach opportunities. The agency published the draft EA for 30 days, and addressed public comments in Appendix E. There were no comments with colonias concerns. The program will ensure a Spanish translation of the Finding of No Significant Impact (FONSI) and/or information related to this EA is available to the Texas public and the colonia ombudspersons.

Overall, the preferred alternative is not expected to negatively affect the standard of lifestyle, social behavior patterns, or the needs of colonia communities. On the contrary, fencing installation and maintenance would not interfere with ongoing socioeconomic activities in Cameron and Starr counties. Besides helping agriculture, colonias might benefit from the proposed fencing as wildlife, if not stopped from moving into ranches, could also introduce human- and pet-biting ticks into new areas including colonias. So, on balance and likewise stated earlier, USDA APHIS does not expect the proposed action to pose any disproportionate and adverse effects to members of the colonias.

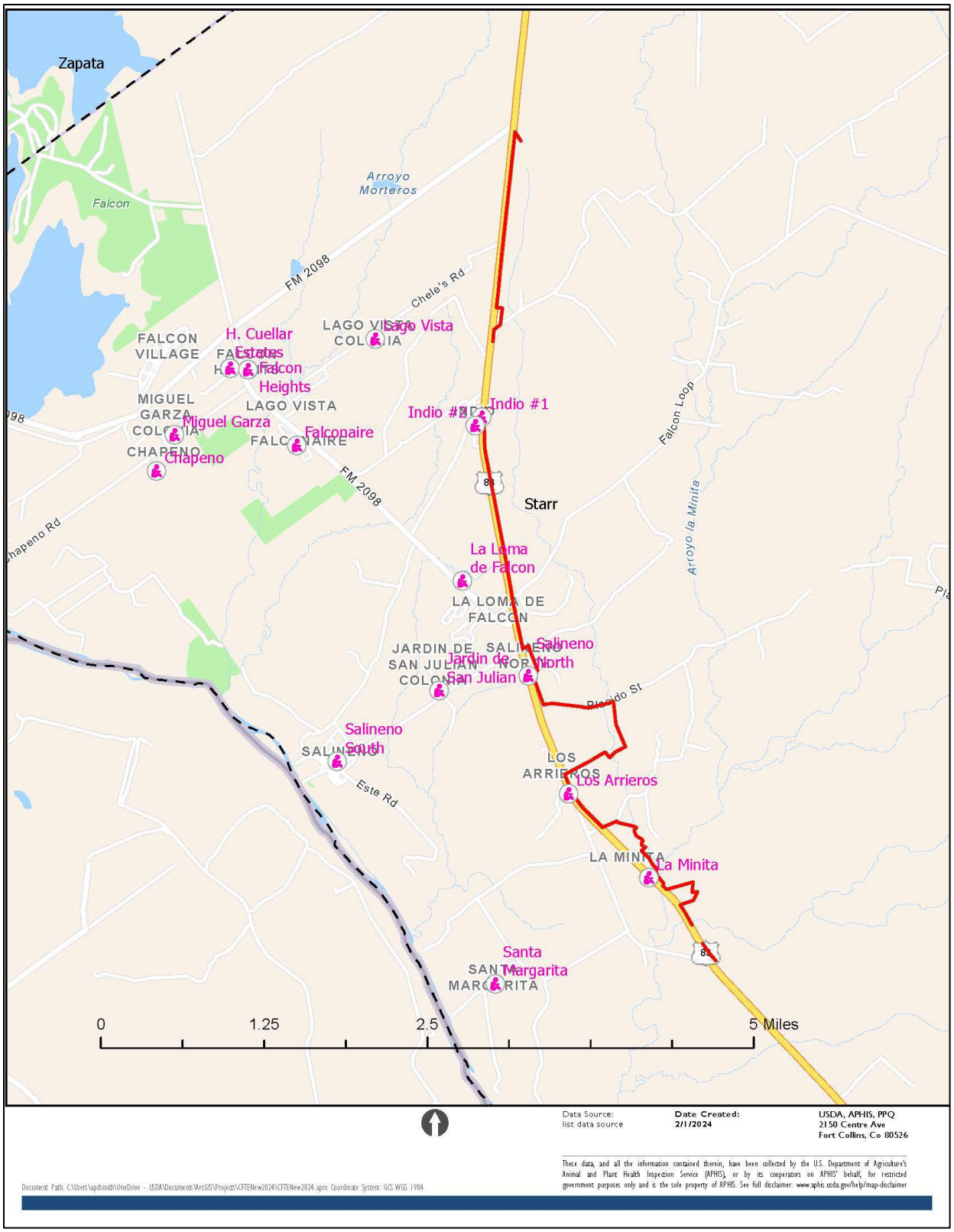

Figure 18. Colonias in Starr County.

5 Cumulative Impacts

Cumulative impacts on the environment result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of the entity conducting those other actions.

USDA APHIS has past and ongoing programs in Cameron and Starr counties, primarily related to plant health and vertebrate pest control. For example, Figure 19 shows Mexican fruit fly quarantine areas (polygons in red) and the approximate locations of the proposed 2024 CFTEP areas (in purple). This figure does not display previously proposed and/or completed CFTEP fences nor the fruit fly program areas for the past years. However, it is important to note that in addition to CFTEP, USDA APHIS conducts other pest eradication programs in Southern Texas such as the boll weevil eradication program, the imported fire ant quarantine program, and the Mexican fruit fly program. Vertebrate pest control measures implemented by APHIS are on an as-needed basis. In general, when the detections of boll weevil, imported fire ant, or Mexican fruit fly are made, chemical treatments are applied to specific locations or to quarantined products shipped to a non-quarantined area. These targeted treatments are infrequent and made in crop fields or in nurseries using products that are registered by the EPA for a wide variety of agricultural and non-agricultural uses.

The CFTEP fence deterrent as a method to control ticks and tickborne disease may limit the use of chemicals that could cumulate in the soil over time. Such reductions in the chemical use would benefit workers by reducing exposure and subsequent health risks. This also has a beneficial cumulative impact to the livestock industry in reducing the probability of chemical resistance developing in cattle fever ticks, more and more observed in Mexico (Pérez de León et al. 2012).

Chemical uses in the CFTEP, fruit fly program, and other pest control programs are restricted in such a way to avoid non-target fish and wildlife impacts. In other words, the types of chemicals used in various USDA APHIS programs poses no (or low) risk to most non-target populations.

Trails that allow the CFTEP to perform surveillance of cattle and wildlife coming across the Rio Grande from Mexico have been in existence since approximately 1938 and have resulted in the loss of some native habitats. Maintaining these trails requires periodic clearing on private and public properties. The loss of habitats resulting from such vegetation clearing is relatively minor compared to the economic development or gain in the counties or areas of concern since the time the frequently maintained trails were established. The lengths of the trails are not expected to increase over time, and their maintenance is usually coordinated between private landowners and public agency managers to minimize impacts to ecological resources.

The potential cumulative impacts to the human environment associated with USDA APHIS activities with the actions evaluated in this EA are minor in comparison to the impacts from current and future activities that would occur in Cameron and Starr counties, including agriculture, energy production, highway maintenance and construction, and property development. The cumulative impacts, when assessed in relation to the current baseline and past, present, and future activities, constitute a small incremental or transient change to the human environment and would be negligible. Some of these cumulative changes may be positive such as the reduction in cattle fever ticks and tickborne diseases (such as babesiosis) along with the associated economic benefits to the cattle industry and local populations.

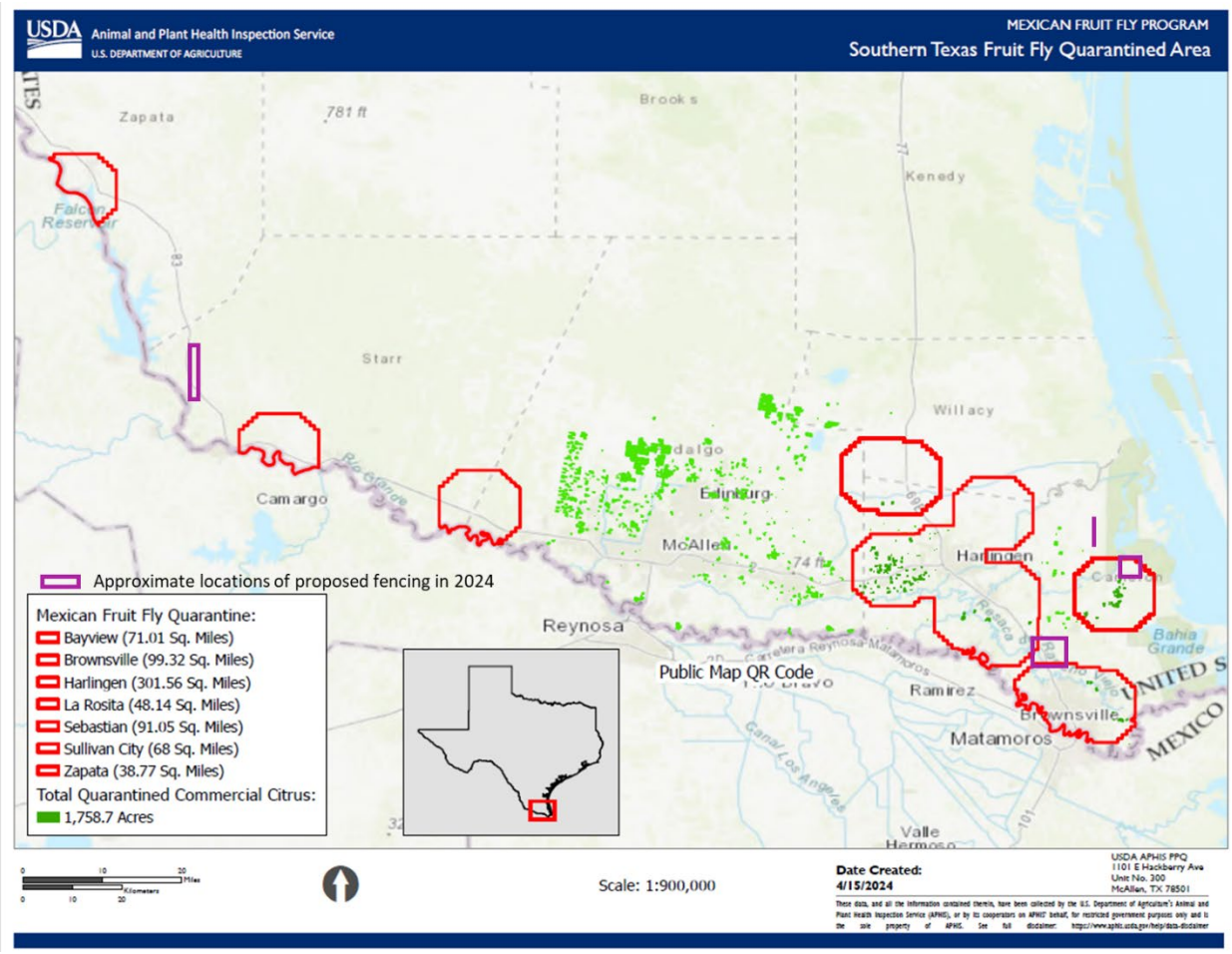

Figure 19. Map of Potential Cumulative Impacts (e.g., FY24 CFTEP and Ongoing Mexican Fruit Fly Program).

6 Agencies and Institutions Consulted

The CFTEP is a cooperative effort between the federal government, the state of Texas, local governments, and individual livestock producers, who share program costs. USDA APHIS has consulted with several people and agencies to gather, exchange, and/or review the information included in this environmental assessment. These individuals and agencies are:

Starr County Texas Commissioners' Court
Precinct 2 Commissioner
500 E. Hwy 83, Roma, Texas 78584

Texas A&M University
School of Architecture, Colonias Program
789 Ross Street, College Station, Texas 77843-3137
https://www.co.starr.tx.us/page/starr.commissioners.court

Texas Historic Commission
Federal Programs/History Programs Division
P.O. Box 12276, Austin, Texas 78711-2276

United States Department of Agriculture
Agricultural Research Service
Knipling-Bushland U.S. Livestock Insects Research Laboratory
Biological Science Research and Mapping Support for CFTEP
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United States Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services, Strategy and Policy
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Appendix B. Photographs of the Proposed Fencing Areas

Appendix B-1. Appendix B-1. Sample Images of the Proposed Cameron High Fencing Environment (Source: APHIS VS CFTEP, 2024)

Appendix B-2. Sample Images of the Proposed Dulaney Tract Fencing Environment (Source: APHIS VS CFTEP, 2024)

Appendix B-3. Sample Images of the Proposed Cameron County Drainage District #1 Fencing Environment (Source: APHIS VS CFTEP, 2024)

Appendix B-4. Sample Images of the Proposed Starr High Fencing Environment
(Source: APHIS VS CFTEP, 2024)

Appendix C. Colonias Proximity to the Proposed Fence Locations (in meters)

Colonia	Distance from the fence (meters)	County	Fence Name
La Minita	0	Starr	Starr high fence
Los Arrieros	0	Starr	Starr high fence
Salineno North	0	Starr	Starr high fence
Indio #2	0	Starr	Starr high fence
Indio #1	0	Starr	Starr high fence
La Loma de Falcon	480	Starr	Starr high fence
Jardin de San Julian	1000	Starr	Starr high fence
Lago Vista	1410	Starr	Starr high fence
Falconaire	2212	Starr	Starr high fence
Falconaire	2890	Starr	Starr high fence
Salineno South	2434	Starr	Starr high fence
Santa Margarita	2389	Starr	Starr high fence
H. Cuellar Estates	3240	Starr	Starr high fence
Miguel Garza	3610	Starr	Starr high fence
Chapeno	3970	Starr	Starr high fence
Arroyo Gardens #4	2666	Cameron	Cameron High Fence
Juan Gonzales	1935	Cameron	Cameron High Fence
Gumesindo Galvan	2519	Cameron	Cameron High Fence
Leonar B. De Villarreal	2796	Cameron	Cameron High Fence
Vicente Sandoval	3414	Cameron	Cameron High Fence
Alfredo Garza	3317	Cameron	Cameron High Fence
Del Mar Heights	1199	Cameron	Cameron Drainage No. 1
Shoemaker Acres	1198	Cameron	Cameron Drainage No. 2
Chula Vista	781	Cameron	Cameron Drainage No. 3
Orason Acres	1357	Cameron	Cameron Drainage No. 4
Paredes Partition	1722	Cameron	Cameron Drainage No. 5
Nogal St.	1324	Cameron	Cameron Drainage No. 6

Appendix D. GPS Coordinates of Proposed Fence Segments

County	Name of fence segment	Start Lat/Lon	End Lat/Lon	Length (miles)
Cameron	Cameron County Drainage District No. 1 - Section 1	26.0487178, -97.4023633	25.9776200, -97.3873401	9.83
Cameron	Cameron County Drainage District No. 1 - Section 2	26.0560832, -97.4344385	26.0560832, -97.4344385	1.73
Cameron	Dulaney Tract	26.193752, -97.384144	26.178027, -97.383670	9.75
Cameron	Cameron High Fence	26.2568444, -97.4460072	26.2127427, -97.4495074	3.24
Cameron	La Cuesta Partners LTD (Scott Campbell)	26.258827, -97.446104	26.254648, -97.446430	0.3
Cameron	Laguna Encantada LP	26.254648, -97.446430	26.225643, -97.448573	2
Cameron	La Cuesta Partners LTD (Scott Campbell)	26.225643, -97.448573	26.219750, -97.449081	0.4
Cameron	La Tina Investments LP (Scott Campbell)	26.219750, -97.449081	26.219437, -97.449111	0.02
Cameron	Leonel Garcia	26.219437, -97.449111	26.216599, -97.499110	0.2
Cameron	J.Pesina Jr.	26.216559, -97.499110	26.215371, -97.449277	0.08
Cameron	J.Vergara	26.215083, -97.499281	26.213872, -97.449409	0.08
Cameron	S.Alaniz	26.213872, -97.449409	26.211632, -97.449632	0.16
Total	-	-	-	*24.55*
County	**Name of fence segment**	**Start Lat/Lon**	**End Lat/Lon**	**Length (miles)**
Starr	Los Laureles Ranch	26.56383, -99.09288	26.56943, -99.09226	0.5
Starr	R Ramos	26.56943, -99.09226	26.57131, -99.09202	0.13
Starr	Figueroa	26.57131, -99.09202	26.57363, -99.09187	0.16
Starr	El Triangulo/ La Paloma	26.57363, -99.09187	26.58616, -99.08946	0.9
Total	-	-	-	*1.69*

Appendix E. Public Comments and Program's Responses

USDA APHIS VS published a draft EA for a 30-day public comment period on June 5th, 2024, online at https://www.regulations.gov (Docket ID **APHIS-2024-0027**) and on APHIS' website at https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/cattle-fever, and announced the document availability and comment period in South Texas newspapers. A total of one (1) comment was made, and it was addressed by the program as follows:

Public comment:

"I recommend phasing out the livestock industry and transitioning to lab-cultured grown meat. Cattle are shot up with vaccines, antibiotics, growth hormones, and steroids to name a few. They are an invasive species and pollute the air and water. I won't camp in our mountains because the creeks from top to bottom are filled with manure."

Program's response:

"USDA APHIS thanks the commentator for this thoughtful comment. The current Environmental Assessment posted for comments proposes installing high-game and cattle fences at certain locations in Cameron and Starr Counties, Texas, to help prevent or limit the spread of cattle fever ticks by free-ranging wildlife hosts (such as white-tailed deer and nilgai) from Mexico to the United States. So, this assessment does not involve cattle vaccinations or grazing on public lands."