

COMPATIBILITY DETERMINATION: TEXAS POINT NATIONAL WILDLIFE REFUGE –  
CONTROLLED LIVESTOCK GRAZING

**USE:** Continuation of Controlled Livestock Grazing

**REFUGE NAME:** Texas Point National Wildlife Refuge

**ESTABLISHING and ACQUISITION AUTHORITIES:**

Migratory Bird Conservation Act, Emergency Wetlands Resources Act, Refuge Recreation Act, Fish and Wildlife Act of 1956.

**REFUGE PURPOSE(S):**

"... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act).

**NATIONAL WILDLIFE REFUGE SYSTEM MISSION:**

The mission of the Refuge System is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. (National Wildlife Refuge System Improvement Act of 1997, Public Law 105-57).

**DESCRIPTION OF USE:**

**(a) What is the use?**

Texas Point National Wildlife Refuge (NWR) proposes to resume a controlled cattle grazing program on the Refuge through authorized Special Use Permits (SUP) during the summer months (June – September). Grazing is an economic use that contributes to an important habitat management tool (coastal marsh/prairie management) to benefit migratory birds and wildlife utilizing the Refuge. This Compatibility Determination considers the resumption of a controlled grazing program and includes consideration of modifications to the program proposed by the Service under Refuge Management Alternative D (proposed action) of the Texas Chenier Plain National Wildlife Refuge Complex Environmental Impact Statement/Comprehensive Conservation Plan/Land Protection Plan (EIS/CCP/LPP) (USFWS 2008).

**(b) Where is the use conducted?**

The resumption of a light to moderate, controlled grazing program is proposed for approximately 8,097 acres (99.3%) of the NWR within Jefferson County, Texas.

**(c) When is the use conducted?**

The grazing program on Texas Point NWR would resume as a cow-calf operation with some bulls introduced for breeding purposes. Grazing seasons will be established in accordance with the requirements of the wildlife resources, soil, and vegetation, with due consideration given to the management objectives established for the lands involved. Additionally, in consideration of mottled duck (*Anas fulvigula*) nesting and brood rearing seasons, Texas Point NWR may adjust grazing seasonality to avoid impacts to this species.

**(d) How is the use conducted?**

Grazing by cattle has been conducted on designated areas of the Refuge by one Refuge grazing permittee. Between 1998 and 2005, an average of 761 (range 0 – 1,140) animal unit months (AUMs) occurred annually on Texas Point NWR, and from 1996 to 2002, grazing occurred at an average of 30.1 Animal Unit Months (AUM) per year across 8,097 acres of the Refuge (USFWS 2008) (Fig. 1). In this Compatibility Determination, Texas Point NWR proposes to allow grazing by private individuals for the purpose of habitat management during months that would primarily benefit mottled ducks. Permittee selection and associated determination of cost will follow relevant regional or national specific guidance for grazing on National Wildlife Refuges.

Using a graze-rest strategy, permittees would graze the coastal marshes seasonally to reduce rank vegetation, promote vegetative diversity, while avoiding impacts to mottled duck nesting/brood rearing periods (January-May). Haukos et al. (2010) determined that mottled duck hens prefer nesting near fresh water bodies that have received recent grazing pressure. Waters in the Texas Point NWR typically become more saline in the months overlapping with mottled duck brood rearing, and salinity concentrations of more than 9 parts per trillion (ppt) were determined to reduce duckling condition and survival (Moorman 1991). Thus, grazing strategies would include variations in stocking rates and duration that avoid creating attractive habitat to nesting mottled duck hens while aiding in habitat management objectives. Stocking rates and rotations would be determined annually according to management objectives for the NWR and the quantity and condition of forage within. Stocking rates would be influenced by the availability of freshwater.

Grazing is not expected to take place uniformly across the NWR, particularly in coastal marshes. Cattle tend to concentrate grazing pressure adjacent to upland areas with decreased grazing pressure with increasing distance from high ground. Acres grazed and grazing pressure would be expected to vary from year to year.

Areas to be grazed would be stocked at light to moderate levels based on recommendations published in the U.S. Natural Resources Conservation Service range ecological site descriptions for the area and on recommendations made by the Refuge and Complex biologists based on observed and measured habitat conditions. Responses of vegetation would be monitored and stocking rates evaluated on a constant basis. No cattle grazing has occurred on the NWR since 2006, but prior stocking rates were 0.02 AUM/acre are expected to be similar. No incidental affects to surrounding and/or non-target areas is anticipated at this time.

**(e) Why is the use being proposed?**

Grazing is a Refuge economic use that provides an important tool for management of Refuge habitats. This Compatibility Determination considers continuation of the controlled grazing program on the Refuge, and continues modifications to the program proposed by the Texas Chenier Plain Refuge Complex Environmental Impact Statement/Comprehensive Conservation Plan/Land Protection Plan (EIS/CCP/LPP) (USFWS 2008).

Cattle grazing is an inexpensive, dependable, and effective tool used to accomplish Refuge goals, specifically for management of migratory bird habitat including wintering and resident waterfowl, shorebirds, and wading birds. Coastal marshes have evolved with disturbance regime, which includes fire, herbivory by native wildlife, and infusion of saline waters during tidal

surges associated with tropical storms. Natural fire and herbivory by native species now occur less frequently or at reduced levels due to human influences on the ecosystem (Stutzenbaker and Weller 1989). Water level and salinity management, prescribed burning, and controlled grazing are available tools for influencing plant communities (species composition and physical structure) in marsh habitats. Grazing is used to: 1) mimic historic grazing pressure in the marsh to encourage a mosaic of landcover types/structures; 2) open up dense vegetation; 3) depress perennial plants; 4) encourage growth of annual grasses and sedges; and 5) reduce tall, rank grass types and encourage creeping grass species. This program is implemented to encourage a mosaic of habitats based on a grazing continuum across the Refuge to provide wildlife with habitats in multiple successional stages.

#### **AVAILABILITY OF RESOURCES:**

Through the issuance of a SUP, this proposed action is a controlled, commercial program whereby the permittee(s) lease the grazing rights, and the Refuge dictates the number of cattle and areas to receive grazing pressures necessary to meet habitat objectives. Adequate Refuge personnel and base operational funds are available to manage the grazing program at existing and projected levels. Costs associated with this activity are primarily staff time. Some additional expenses are incurred through site preparation work required to protect grazing infrastructure from fire operations and natural disaster abatement. The cost of new or replaced infrastructure is shared between the permittee and the USFWS. Multiple NWR personnel currently conduct monitoring at an opportunistic frequency. Regular communication with the permittee(s), rotation and resting planning, boundary and interior fence inspection, and habitat monitoring are all necessary to gather information and make informed decisions for this habitat management tool.

#### **ANTICIPATED IMPACTS OF THE USE:**

Controlled grazing can be an effective and inexpensive tool in wetland and grassland management providing habitat components that benefit waterfowl and other wildlife species. The relation of cattle grazing to wildlife varies considerably, depending on stocking rate, seasonality, plant community, and wildlife concerned (Chabreck 1968). Research indicates that dual use of grasslands by wildlife and livestock is often compatible when livestock grazing is carefully managed and wildlife needs are considered (Holechek 1982). Additionally, coastal marshes of the upper Texas coast experience high annual rainfall distributed throughout the year, a long growing season, very fast nutrient recycling, and vegetation recoveries quickly following disturbances. These conditions require protracted and synergistic disturbance events, such as grazing coupled with wild/prescribed fire, to maintain a habitat mosaic interspersed with early successional conditions thus resulting in increased biodiversity (Starns et al. 2019).

#### Short and Long-term Impacts:

Short-term and long-term impacts from the proposed grazing program may vary depending on the season of use, grazing intensity, and influence of weather. Any grazing program will have inherent risks associated with overlapping biotic and abiotic resources (i.e., localized heavy grazing, trampling, trailing).

Impacts to federally protected species are not anticipated to occur due to a grazing program on the Refuge. The following is a list of species that may be documented occurring on or near the Refuge and warrant protections under the Endangered Species Act, 1973:

Green sea turtle (*Chelonia mydas*) (Threatened)  
Hawksbill sea turtle (*Eretmochelys imbricate*) (Endangered)  
Kemp's Ridley sea turtle (*Lepidochelys kempii*) (Endangered)  
Leatherback sea turtle (*Dermochelys coriacea*) (Endangered)  
Loggerhead sea turtle (*Caretta caretta*) (Threatened)  
Piping Plover (*Charadrius melodus*) (Threatened)  
Red Knot (*Calidris canutus rufa*) (Threatened)  
Attwater's Greater Prairie-chicken (*Tympanuchus cupido attwateri*) (Endangered)  
West Indian Manatee (*Trichechus manatus*) (Threatened)  
Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) (proposed Threatened)

At this time, no impact is anticipated from a grazing program to the sea turtle species and West Indian manatee due to the fact that cattle grazing is excluded by fencing from areas where these species may interact and the lack of the available dune nesting habitat required for sea turtle nesting. Piping Plovers and Red Knots have been documented wintering on the coastal portions of the Refuge; however, grazing is excluded from these areas, and no impacts from grazing are anticipated. Attwater's Greater Prairie-chickens are extremely limited in their geographic range with the closest viable population being located over 100 miles away. The Eastern Black Rail has been proposed as Threatened, and the species has been documented on the Refuge year-around. While there is scant information on the impacts of grazing on the Eastern Black Rail, a recent study on the Refuge by Tolliver et al., (2019) determined that eastern black rail occupancy and abundance was not significantly different amongst the coastal Texas NWR's both with and without an active grazing program. Therefore, no impacts to the Eastern Black Rail are anticipated given the information from Tolliver et al. (2019) coupled with the fact that cattle grazing and Eastern Black Rails have co-occurred on the Refuge since its creation.

Trampling and temporary disturbance of wildlife, particularly nesting waterbirds, may occur; however, current grazing protocol tends to remove cattle from wetlands in the winter months to upland areas during the spring and summer. Through utilizing this grazing regime, the Texas Point NWR avoids/mitigates against impacts to waterbirds during the breeding, nesting, and brood rearing seasons. Additionally, stocking densities have been on the extreme light end, thus further negating any potential impacts to species from a grazing program.

Immediate loss of vegetation and seed sources may result from a grazing program. Warm-season annuals are particularly vulnerable if grazed prior to seeding dispersal (Chabreck 1986). However, these potential impacts would be easily mediated through cattle rotations and/or cattle exclusion from areas of wildlife and habitat importance. As stated previously, the extreme vegetative productivity documented at the Texas Chenier Plain would be expected to quickly recover following any disturbance event, especially controlled cattle grazing.

Along with potential vegetation loss, soil compaction and erosion may occur in areas with sensitive soils or that receive frequent cattle traffic and hoof action. Again, this impact is easily mediated through controlled cattle rotations or exclusion from impacted/sensitive areas. Often, high ground (e.g., levees, cattle walks, roads, watering sites, etc.) and mineral supplement areas receive the most cattle traffic and subsequent impacts to soil and vegetation resources. Cattle

pasture rotations and movements proposed by this program would allow for impacted areas to “rest” and recover from grazing pressure.

Excessive nutrient deposition in the form of cattle feces into nearby water bodies is another potential short-term impact from the proposed grazing program – particularly around areas of frequent cattle congregations (water troughs, mineral supplements areas, levees etc.). While nutrient cycling in grazed units is a benefit, overloading of nutrients into waterbodies may have impacts to microbial communities as well as aquatic invertebrates and some aquatic vertebrates. Rotating cattle, maintaining conservative stocking rates, and the use of calculated responses to perceived, undesirable habitat alterations would avoid or minimize these potential impacts.

Long-term impacts to wildlife and habitat resources may include vegetation diversity reductions from overgrazing in areas of high use and soil erosion due to excessive cattle traffic and numbers. However, seasonal rotations and stocking rate fluctuations have been and would continue to be employed to obtain a mosaic of habitat types and plant successional stages on the landscape, thereby benefiting multiple plant and wildlife species on the Refuge. In the practical application of a tool like grazing, the available herd is focused in certain areas to achieve the moderate grazing regime desired, leaving large areas lightly grazed or ungrazed to the benefit of the species desiring the cover of emergent vegetation. Neither intensive grazing nor the lack of grazing is desired over the whole Refuge.

Proper grazing can promote habitat for a variety of waterbirds, and multiple studies have found grazing to be inconsequential or beneficial to many of the avian species of concern found utilizing the Refuge (Chabreck 1968; Mizell 1998, Yeargan 2001, Richmond et al. 2010, 2012; Kane 2011; Tolliver 2017; Tolliver et al. 2019). Yeargan (2001) determined that the number of shorebirds, herons and egrets was greater in grazed than ungrazed marshes on Galveston Island, Texas, while the number of gulls, terns, sparrows, rails and other species was not different. Mizell (1998) studied wintering yellow rails (*Coturnicops noveboracensis*) on Texas Point NWR and suggested that cattle grazing may increase availability of yellow rail habitat, which may be beneficial for other sensitive rail species as well. Carefully managed grazing in coastal prairie habitats increases plant vigor of native prairie grasses and increases overall plant species composition and structural diversity. Some of the beneficial effects of grazing wetland habitats include:

- The reduction of rank vegetation which enables migratory birds to access roots and tubers of mature plants and shoots of new vegetative growth.
- The reduction of competing growth of marshhay cordgrass and other dominant climax plant communities which allows for the growth of subdominant plant species often preferred as forage for waterfowl.
- The creation of open water used by waterfowl for loafing and foraging.
- The improvement of plant vigor, productivity, nutrient cycling.
- The reduction of excessive residual plant material build-up and hazardous fuel loading.
- Soil break-up and turn over through hoof action leading to seedling establishment.
- The suppression of regrowth in overlapping burned areas therefore maintaining palatable waterfowl forage.
- The reduction of excessive fuel loading that would support more intense wild fires.

Cumulative Impacts:

No cumulative impacts on other biological or physical resources are anticipated to arise from the administration of a controlled grazing program on Texas Point NWR.

**PUBLIC REVIEW AND COMMENT:**

During public scoping for the preparation of the Texas Chenier Plain NWR Complex Draft Environmental Impact Statement/Comprehensive Conservation Plan/Land Protection Act (USFWS 2008), verbal and written comments were solicited through public meetings, special mailings, and local newspapers from members of the general public on all aspects of current Refuge management. This draft compatibility determination is available for public review and comment for 21 days as part of the Determination Process. Comments on this use are invited and due by the deadline stated on the cover of the draft.

**DETERMINATION:**

\_\_\_\_\_ Use is not compatible

\_\_\_\_\_ Use is Compatible with the following stipulations:

**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

To insure compatibility with the National Wildlife Refuge System and the Texas Point NWR goals and objectives, the controlled grazing program must provide the Refuge with a management tool to improve habitat quality for migratory birds. Furthermore, the controlled grazing program must assist the Refuge in meeting habitat management objectives. The controlled grazing program is governed through the issuance of SUP's to permittees. Stipulations necessary to ensure compatibility with Refuge establishment, purposes, and the mission of the NWRS are included as the Special Conditions of the SUP. Permittees must adhere to all conditions set forth in SUPs, including the following:

- Permittees will graze cattle in only designated locations of the Refuge.
- Stocking rates and pasture rotations will be specified by the Refuge Manager.
- The Refuge Manager must be notified in advance of any introduction or removal of cattle.
- Permittees must annually provide a written record of cattle numbers and movements on and off the Refuge.
- Fences, gates, and cattleguards must be maintained by the Permittee.
- Permittees must comply with all state and federal livestock health laws.

Refuge staff and grazing permittees must monitor habitat conditions and communicate throughout the adaptive management cycle. Factors such as stocking rate, duration, and seasonality must be adjusted as necessary to meet Refuge objectives under changing environmental conditions. To be successful, all participants must understand successional relationships of plant communities and effects of decisions under changing environmental conditions to keep the program aligned with Refuge goals and habitat management objectives.



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