2.0 The Planning Process

2.1 Description of the Planning Process

This CCP complies with the requirements of the Improvement Act and NEPA. Refuge planning policy also guided the process and development of the CCP, as outlined in Part 602, Chapters 1, 3, and 4 of the Service Manual. Service policy, the Improvement Act, and NEPA provide specific guidance for the planning process, such as seeking public involvement in the preparation of the EA. The development and analysis of "reasonable" management alternatives within the EA include a "no action" alternative that reflects current conditions and management strategies on the refuge. Figure 2-1 outlines the steps in the CCP planning process.

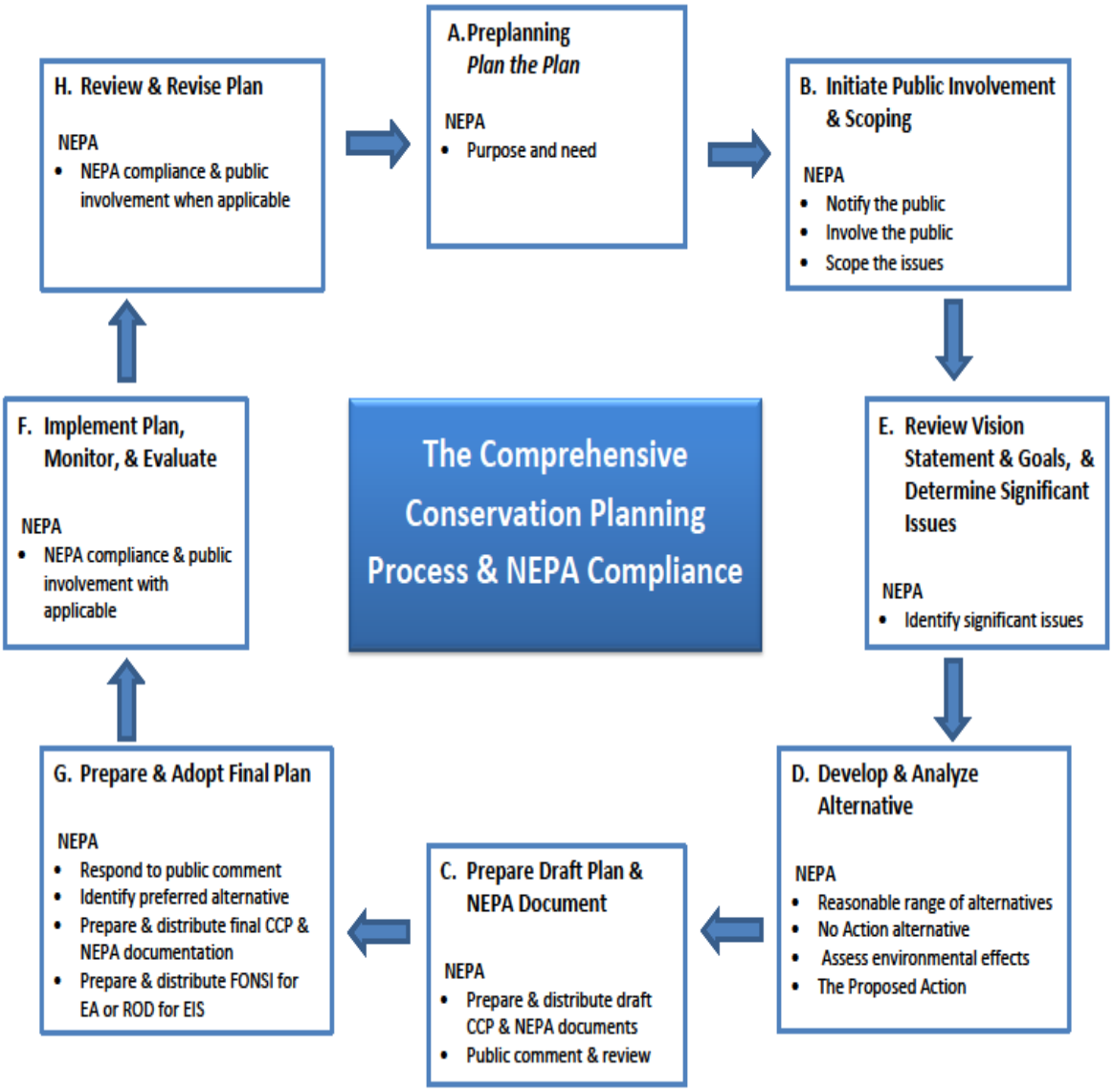

Figure 2-1. The Planning Process

2.2 Preplanning

The Service completed the following preplanning tasks prior to formally initiating the development of this CCP, in order to support planning activities:

- Established an interdisciplinary interagency planning team
- Identified refuge purpose, history, and establishing authority
- Identified all relevant laws, regulations, and policies that would have to be considered during the development of the Plan
- Identified purpose and need for the plan to make sure all issues are adequately addressed
- Identified planning area and resource data needs

Table 2.1.
Concerns Grouped by Category and Listed by Stakeholder

Concern	General Public	State of Texas	Federal Agencies	USFWS
Habitat Management				
Climate Change	X	X	X	X
Habitat Fragmentation	X			X
Wind Energy Research				X
Prairie Management and Restoration	X	X	X	X
Invasive Flora Species	X	X		X
Moist Soil Management		X		X
Lakebed Management	X			
Water Quality				X
Wildlife Management				
Native Fauna				X
Invasive Fauna				X
Visitor Services				
Hunting				X
Fishing				X
Environmental Education and Interpretation	X			X
Wildlife Observation and Photography	X			
Camping	X			
Bicycling	X			
Facilities Management				
Administrative Facilities				X
Public Use Facilities	X			
Quality and Safety of Refuge Roadways				X

2.3 Initiate Public Involvement and Scoping

The formal planning process begins with the scoping period, which involves a thorough assessment of issues, concerns, opinions, thoughts, ideas, concepts, and vision for the refuge.

Formal scoping began with publication of a notice of intent to prepare an EA, which was published in the Federal Register on June 19, 1998 (Volume 63, Number 118, pp. 693-694).

A public meeting for scoping was announced through a planning update mailing and a public notice. The meeting was held on Tuesday, December 15, 2009 at Buffalo Lake NWR and an estimated 100 individuals attended. In addition to the public meeting, a mailer was sent out to the refuge mailing list requesting feedback. Between the two, a total of 69 comments were received at the conclusion of the public involvement period. They indentified numerous concerns from a variety of stakeholders in both verbal responses at the meeting and through the return of a questionnaire that was a part of the planning update mailing. Table 2.3 lists these concerns and specifies which stakeholder group voiced them.

2.4 Determine Issues

To determine the issues being addressed in the CCP, the planning team reviewed the concerns identified by the public along with management concerns identified by refuge staff and TPWD.

Refuge planning policy defines an issue as any unsettled matter that requires a management decision: an initiative, opportunity, resource management problem, threat to refuge resources, conflict in uses, public concern, or presence of an undesirable resource condition (602 FW 1.6I.). Public responses obtained through a newsletter and three public open house meetings - in addition to management concerns identified by the refuge staff and State and Federal natural resource agencies - were used to identify issues addressed in the CCP/EA.

Planning issues were identified for consideration during the development of this CCP. Scoping identified a number of issues reflecting problems, opportunities, or points of discussion that the CCP addresses in a variety of ways. The complete set of written comments received is available from the U.S. Fish and Wildlife Service Southwest Regional Office in Albuquerque, New Mexico.

The issues, concerns, and opportunities expressed during the first phase of planning have been organized under the following headings: Habitat Management, Wildlife Management, Visitor Services and Facilities Management.

2.4.1 Habitat Management

Climate Change

Two members of the public commented with concerns about climate change. One of those individuals described the need to address climate change in management planning, and the other expressed concern regarding potential effects of climate change on the Refuge, recommending minor management changes to help out. The Refuge acknowledges that climate change has the potential to alter the distribution of habitat types in Texas and the rest of the world; as habitats

change, the wildlife species that inhabit those habitats will also change. Although the Refuge can do little to resolve this issue, it can recognize when change is occurring, document changing conditions through data collection, and adapt management to reflect changes in hydrology and plant communities. Concerns regarding climate change also indicate the need to develop baseline data on refuge habitat resources so that the refuge can appropriately respond to changing conditions.

Habitat Fragmentation

Much of the land surrounding the refuge is used for agricultural purposes, thereby reducing or fragmenting the amount of shortgrass prairie habitat available to wildlife species. Five members of the public provided comments expressing concern over habitat loss associated with development, and one individual requested that the refuge work on preventing fragmentation both on its land and on surrounding lands. The refuge has an opportunity to increase habitat restoration practices beyond its current borders by working with adjacent landowners and acquiring additional lands.

Wind Energy Research

Although there are no wind energy developments being proposed on or adjacent to the refuge, staff is interested in how the presence of such developments nearby may impact migratory birds that use the refuge. In anticipation of possible construction of wind turbines near the refuge, refuge staff has been conducting both nocturnal (night time) and diurnal (day time) avian activity surveys to better understand how wind energy developments may affect migratory birds in terms of feeding flight duration and trajectory. The refuge views this development as a potential partnership opportunity and has initiated acoustic monitoring with a current wind energy developer. Refuge staff maintains knowledge of future projects through partnerships with wind energy developers in order to track and anticipate potential changes in habitat fragmentation and wildlife behavior.

Prairie Management and Restoration

Buffalo Lake NWR provides 4,373 acres of native short grass prairie in an area where much of this habitat has been lost through development and fragmentation. Members of the public and refuge staff are concerned with protecting this remaining native short grass prairie habitat provided on the refuge. In addition, the refuge recognizes the need to enhance the quality of existing prairie habitat through restoration efforts.

Prescribed burning and grazing are the primary management tools used to maintain and restore native prairie. When properly managed, grazing and prescribed fire serve to maintain and encourage native grasses and forbs and to cycle nutrients through the ecosystem. As such, the refuge currently leases lands for grazing purposes.

The public wants to see the continued use of both grazing and prescribed fire on the Refuge to enhance forage types and deter noxious weeds. Specifically, members of the public suggested the

use of intensive rotational or patch grazing and burning, recommending that Buffalo Lake NWR mimic the grazing patterns at Muleshoe NWR. In addition, one member of the public requested an in-depth review of the grazing rights and fees associated with the refuge.

Invasive Flora Species

One threat to the refuge is the presence of invasive plant species; however, it is estimated that 2% of the refuge has been encroached upon. The primary invasive species on the refuge include salt cedar, Siberian elm, Russian olive, kochia, and musk thistle. These plant species out-compete native plant species and reduce the quality and potential of habitat. The majority of the non-native trees are located within or around the edges of the lake bottom and along Tierra Blanca creek. While their rate of spreading is restricted due to the lack of consistent flood events on the refuge, the fact that invasive species are present along the drainage system is cause for alarm. Historically, encroachment of woody species into grasslands was minimized by periodic fires characteristic of short grass prairie ecosystems; however, nearby farming, fire suppression, and introduction of exotic species have caused an increase of woody species distribution throughout the short grass prairie. The refuge is concerned about this management problem, and the public identified the need for eradication of certain invasive species through grazing and prescribed burning. More information on this issue is available in Section 3.3.1.6 in Chapter 3 of the CCP.

Moist Soil Management

The refuge contains 10 individual four-acre moist-soil management units in the Tierra Blanca Creek floodway, which were constructed to compensate for the lack of migratory bird habitat due to the receding water table and subsequent drying of Buffalo Lake. The moist soil units are watered as necessary to encourage the growth and germination of seed producing plants to be used as food for ducks in late winter an early spring. These moist soil units have become the fundamental resource bringing migratory birds to the refuge, thereby serving the purpose of Buffalo Lake NWR. Refuge staff is concerned with providing this integral habitat for migratory birds in order to continue serving the purpose of the refuge.

Lakebed Management

The 2,818-acre dry lakebed of Buffalo Lake contains high concentrations of organic contaminants including nitrogen and nitrates that have been deposited over the years from upstream cattle feedlots. One commenter expressed the desire for the lake to be decontaminated, the dam repaired, and the lake refilled so that humans and waterfowl alike could enjoy it. Because of the high contamination levels, however, the refuge is limited in their abilities to manage the lakebed. Current management options do not include re-establishing the lake for this reason coupled with the limited water supply, the potential for spread of disease due to insufficient flows and subsequent stagnant water conditions, and the sheer expense of such a project. Please refer to the discussion in the “Water Quality” section of 1.8.1 or the background information in Section 1.3 for more information on this management problem.

Since it was last drained, the lakebed reverted to monotypic, dense stands of kochia, a non-native invasive plant. These stands restrict native vegetative growth and ad to the threat of wildfire beyond other herbaceous vegetation, thereby presenting a management problem for refuge staff. Cooperative farming in this area is the primary management tool that the refuge uses to deal with this management problem and reduce organic contaminants in the soil, break up monotypic stands of kochia, and reduce woody encroachment by salt cedar, while simultaneously providing desirable wildlife food sources.

Water Quality

As mentioned in Section 1.3 (Background), the area surrounding the refuge experiences significant flood events during periods of heavy rainfall. These events carry contaminated run-off to the former Buffalo Lake. The refuge is located downstream from multiple cattle operations in Hereford, Texas. As a result, the surface run-off during flood events contains a high amount of fecal coli form contamination that, if not removed from the flood waters, is transported through the refuge and into the watershed. This is an issue recognized by refuge staff and members of the public.

Receding Water Table

The tapping of the Ogallala Aquifer for residential and commercial uses has caused the water table to drop substantially, causing the natural springs that fed Tierra Blanca Creek to cease flowing. Therefore, Buffalo Lake has gone dry, and the Refuge has a limited water supply for management purposes. Multiple members of the public are concerned about the current water shortage and the potential for continued lowering of the water table. One individual suggested that the refuge adapt its management to the drier habitat that exists there now, and another person wrote that, without water, the refuge may have no value.

2.4.2 Wildlife Management

Native Fauna

While many members of the public expressed their general support for the refuge's management of wildlife, concerns regarding native fauna were focused on deer, prairie dogs, bison, gophers, and coyotes were identified. The public raised this issue with concern over resulting damage to habitat and the potential for these overpopulated species to spread onto neighboring lands causing crop damage. Other concerns regarded wildlife disease and balancing wildlife management with providing public use opportunities. One individual also commented with the desire to reintroduce bison on the refuge due to their historic presence prior to their eradication in 1880. Another member of the public expressed concern over the spread of gophers while one individual commented on his perception that the refuge is too focused on protecting coyotes although the refuge manages habitat for the benefit of all wildlife.

Invasive Fauna

There has been a rapid increase in the population of feral hogs across the panhandle of Texas in recent years. Feral hogs can cause massive habitat destruction by rooting into soils when digging for food, subsequently leaving the disturbed soils highly vulnerable to the spread of invasive flora. Although feral hogs are not currently present on the refuge, the refuge recognizes the importance of not letting this invasive species become established on refuge land. Members of the public also commented with concern about the looming threat of feral hogs.

Shift Refuge Emphasis

The refuge was originally established to provide habitat for migratory birds. At that time, the lake provided habitat for millions of migrating and wintering waterfowl along with other wetland-dependent wildlife. As discussed in Section 1.3 (Background) and 1.8.1 (Ecosystem-Related Management), the lake has since dried up, thereby decreasing the amount of migratory waterfowl habitat available on the refuge. Members of the public also expressed concern over water availability to attract waterfowl. Suggested remedies included keeping water in the lake, the Stewart Marsh area, and behind the dikes, as well as creating a small wetland. Another commenter requested the refuge shift their emphasis from waterfowl to grassland wildlife due to the water shortage.

2.4.3 Visitor Services

Through the Refuge Improvement Act of 1997, the Service established six wildlife-dependent recreational uses of national wildlife refuges that are to be considered a priority during the planning process. These include hunting, fishing, environmental education, interpretation, wildlife observation, and photography. The public provided feedback regarding hunting, environmental education, and wildlife observation, as well as other potential recreational activities including horseback riding, camping, and bicycling.

Hunting

Although one individual provided a comment requesting that the refuge remain closed to hunting, others commented in support of hunting. The refuge is not currently open to hunting, but this activity provides an opportunity to provide an additional visitor services program as well as assist in controlling overpopulated species.

Fishing

Throughout the planning process, the refuge identified the opportunity to provide young visitors to participate in fishing. Staff identified the need to consider this opportunity in the Plan despite receiving only two comments on the topic – one in favor of allowing fishing and one specifying that the refuge should add more wetlands but not allow fishing.

Environmental Education and Interpretation

Comments regarding environmental education and interpretation requested an increase in the refuge's outreach efforts with local schools and area teachers. The refuge currently has an annual education day for surrounding schools and maintains an area on the refuge dedicated to environmental education and interpretation programs, but staff identified the opportunity to expand their interpretation program as part of the Plan.

Wildlife Observation and Photography

The public was generally in support of existing wildlife observation opportunities and requested an increase in the area open to birding and hiking.

Camping

Many public comments were received suggesting that the refuge add camping opportunities, including fee-based camping in designated areas and RV camping. The refuge currently offers primitive camping, which has been determined a compatible use. When camping, visitors often set up personal astronomy equipment in order to stargaze at their campsite.

Bicycling

Two comments were received requesting the refuge allow bicycling in designated areas. Bicycling has been permitted on the auto tour route; however, cross country or off-road uses of bicycles are prohibited.

Horseback Riding

By far the most prevalent concern of some members of the local community is the desire for the refuge to allow horseback riding as it has in the past. Historically, the refuge has permitted horseback riding only on 9.5 miles of the outer fire lane around the old Buffalo Lake lakebed. Here, riders found varied habitats and excellent wildlife viewing. To protect refuge habitat and other visitors, no horseback riding (or loading and unloading) was allowed in any other areas except for the horse trailer parking area located at the end of the auto tour road or at the central pond located below the campground for watering purposes.

Horses were required to be in direct, tethered control at all times but tethering to trees or refuge infrastructure was not permitted. The refuge did not permit overnight horse use nor was watering facilities provided; however, owners were permitted to bring containers, fill them at refuge public water facilities and transport the water to their animals at the designated trailer unloading/loading areas. The refuge prohibits feeding of horses and the transportation of commercial feeds such as hay, mixed grains or supplements onto Buffalo Lake NWR.

In 1998, the refuge determined that horseback riding was not a compatible use because of interference with wildlife-dependent uses. Horseback riding also became a concern of the refuge because of the trampling of vegetation, soil compaction, erosion and the possible introduction of

exotic species that are associated with recreational horseback riding activities. Additionally, while no specific incident occurred, the safety of the recreational horseback riders, their horses and other refuge visitors also became a concern for the refuge staff.

Also in 1998, a natural flood event inundated the areas that horseback riding was allowed, destroying the trails and signs. Prior to the flood, refuge staff was challenged to keep recreational horseback riders in the proper areas as well as keeping other visitors safe. The refuge is currently not adequately staffed or budgeted to control recreational horseback riding.

2.4.4 Facilities Management

Administrative Facilities

The refuge headquarters complex is situated on 85 acres and consists of a small office building, which is also used as a Visitor Contact Center; a maintenance building; two equipment storage buildings; a refuge house with vehicle garage and storage building; two cooperative trailer quarters; an oil storage building; a small storage building; two sign storage bin buildings; a water well pumping house; and a supply yard storage building. The current refuge headquarters is located in an old, small, and congested building serving the purposes of providing all administrative offices and a visitor contact center. This arrangement does not portray the informative and professional image that the refuge should be able to provide to refuge visitors. Shop facilities are also too small for routine equipment maintenance and repair to be conducted indoors. Therefore, the Refuge has determined that the existing administrative complex is not meeting the needs of current staff or the public. Staff has identified the need to add a new permanent Refuge Headquarters with biology lab and a larger shop facility to maintain and repair the heavy equipment used on the refuge.

Public Use Facilities

Currently, the refuge allows public access to 1301 acres or 17 percent of the refuge where visitors can participate in wildlife-dependent recreation. Many of the public comments received described the desire for an increase both in the amount of refuge land open to public use and in the refuge's hours of operation, which are currently Monday through Friday 8:00 am to 6:00 pm from October 1 through March 31 and 8:00 am to 8:00 pm from April 1 through September 31. The refuge feels the amount of land open to the public is adequate. Areas that are "closed" to the public are utilized as areas of conservation, management and habitat restoration for wildlife.

Individuals also requested that the refuge add new trails and picnic areas and update existing kiosks and restrooms. Since the time of the public comment period, the refuge has added a grassland trail, an ADA accessible prairie dog town trail, and has replaced one of the old restrooms in the camping area. Many comments described the need to lengthen refuge hours, which the refuge recognizes as a potential opportunity to increase visitation. Some individuals commented on the presence of trash and vandalism on the refuge, which the refuge addresses through routine

maintenance and partnerships with local organizations that assist in trash collection. Other comments requested that the Service consider changing Buffalo Lake NWR's name due to the altered hydrology of the former lake.

Quality and Safety of Refuge Roadways

In addition, the refuge is concerned about the current condition of all refuge roadways and parking areas. These roadways and parking areas are gravel, which increases the time and money required for maintenance and limits the safety, efficiency, and quality of refuge visitation.

Refuge Name Change

Many members of the public have bought up the issue of changing the name of the refuge. Much ambiguity is surrounded around the name of Buffalo Lake NWR since there are no buffalo and there is no longer a lake. Additional confusion is related to the name of the refuge since there is a Buffalo Lake NWR in the Dakotas as well as a Buffalo Springs in near-by Lubbock, Texas. The suggested name change would be Tierra Blanca Grasslands National Wildlife Refuge. Tierra Blanca is one of the original names the refuge and surrounding area were first known. The name Buffalo Lake would remain referring to the dry lake bed that was once managed as a destination for many anglers and lake enthusiasts, that will always remain as part of the refuge.

2.5 Develop and Analyze Alternatives

The practice of developing management alternatives as a part of the planning process is derived from the NEPA. This act requires federal agencies to consider the impacts of proposed actions and to develop a reasonable range of alternatives to those actions. Alternatives are "different sets of objectives and strategies or means of achieving refuge purposes and goals, helping to fulfill the Refuge System mission, and resolving issues" (602 FW 1 of the Service Manual). The planning team developed a range of alternatives that respond to the planning issues and eliminated alternatives that did not meet Refuge purposes or that were outside the Service's ability to implement. The environmental consequences of the alternatives were analyzed and the results are presented in Chapter 4 of the EA found in the Appendix C. These alternatives meet the Refuge's purposes and goals and comply with the Service and Refuge System mission.

2.6 Prepare Draft Plan and EA

The CCP and EA were prepared concurrently. An analysis of the potential impacts of implementing each alternative was prepared. The CCP/EA was then submitted for internal review, then submitted to TPWD for review, and followed by public review and comment. This CCP/EA is released to the public for a 30-day review period. The public was notified of the release with a notice in the Federal Register as well as through local media outlets.

2.7 Prepare and Adopt Final Plan

During the full public review period a total of approximately 65 comments were submitted on the Draft CCP. A summary of those comments and the Services response is located in Appendix J of this CCP.

The Final CCP will current management direction after the decision document is signed (See "Decision to be Made" in Appendix C, Environmental Assessment).

2.8 Implement Plan, Monitor, and Evaluate

The Final CCP will become the basis for guiding management over the coming 15-year period. It will guide the development of more detailed step-down management plans for specific resource areas and will underpin the annual budgeting process for refuge operations and maintenance (Chapter 5). Most importantly, it lays out the general approach to managing habitat, wildlife, and people at the refuge that will direct day-to-day decision-making and actions.

A critical component of management is monitoring and measuring resources and social conditions to make sure that progress is being made toward meeting goals. Monitoring also detects new problems, issues, or opportunities that should be addressed. The Refuge is using an adaptive management approach, which means that information gained from monitoring is used to evaluate and, as needed, to modify Refuge objectives.

2.9 Review and Revise Plan

Agency policy directs that the CCP be reviewed annually to assess the need for changes. The CCP will be revised when significant new information becomes available, ecological conditions change, or the need to do so is identified during the annual review. If major changes are proposed, public meetings may be held, or new environmental assessments and environmental impact statements may be necessary. Consultation with appropriate State agencies would occur at least every 15 years.