

Hunt Plan, Environmental Assessment, & Compatibility Determination for a Controlled Mule Deer Hunt on the Lake Lowell Unit of the Deer Flat National Wildlife Refuge

CANYON COUNTY, IDAHO

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Hunt Plan
for a Controlled Mule Deer
Hunt on the Lake Lowell Unit of the
Deer Flat National Wildlife Refuge

CANYON COUNTY, IDAHO

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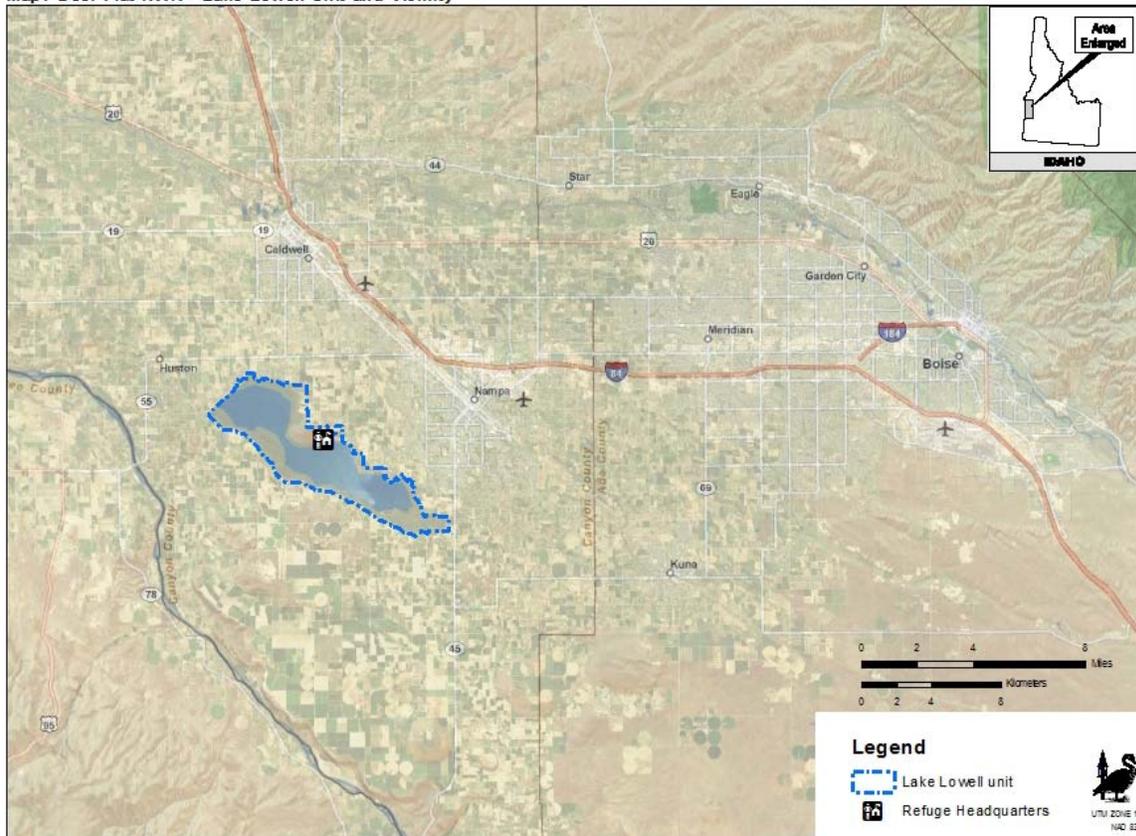
I. INTRODUCTION

The Deer Flat National Wildlife Refuge (Refuge) is situated in the Middle Snake subbasin. The Middle Snake subbasin is an area that lies in the Snake River Plain and is surrounded by several mountain ranges: Jarbidge and Owyhee mountains to the southwest, Boulder Mountains and the Sawtooth Range in the northeast, and the Seven Devils and Wallowa mountains surrounding the northwestern areas of the subbasin (Ecovista and IDFG 2004). Nestled in the high desert landscape in southwest Idaho, the Refuge is provides important breeding area for birds and mammals, as well as other wildlife.

The Refuge has two management Units, the Snake River Islands and Lake Lowell. The Snake River Islands Unit contains about 800 acres on 101 islands. These islands are distributed along 113 river miles from the Canyon-Ada County Line in Idaho to Farewell Bend in Oregon. This plan is specific to the Lake Lowell Unit approximately 20 miles outside of Boise, Idaho. Lake Lowell is adjacent to Nampa, Idaho, the second largest city in the state. See Map 1 for a landscape perspective of the area. The Lake Lowell Unit is situated on a plateau between the Snake River and Boise River (IDEQ 2010). The Unit encompasses approximately 10,500 acres, including the almost 9,000-acre Lake Lowell. Lake Lowell is approximately 14.5 square miles in surface area with 28 miles of shoreline. Much of the lake is fringed with riparian habitat and mudflats that are pronounced at low-pool elevation levels (IDEQ 2010). The private lands surrounding the Lake Lowell Unit are a mix of rural irrigated agricultural lands and urban residential housing.

Before settlement, the area that was to become Deer Flat National Wildlife Refuge was a low-lying nourished by many springs. In winter, herds of deer and elk were attracted to the spring fed grassland and marshes. Early settlers dubbed the area as 'Deer Flat' based upon the abundance of wintering animals. With settlement within Southwest Idaho came the desire to irrigate cropland to sustain the populous. The challenge of irrigating the arid west largely fell to the newly established Bureau of Reclamation. By 1906 local landowners, including James H. Lowell, had lobbied the Bureau of Reclamation to construct an irrigation reservoir at Deer Flat. Upon completion of the reservoir, President Theodore Roosevelt realized the value of a nearly 9,000 acre lake in an arid ecosystem to wildlife. In 1909 Roosevelt established Deer Flat National Bird Reservation as a "... preserves and breeding grounds for native birds' by Executive Order. In 1937 President Franklin D. Roosevelt by Executive Order reaffirmed the Deer Flat Migratory Waterfowl Refuge with the purpose of "a refuge and breeding grounds for migratory birds and other wildlife".

Map1 Deer Flat NWR - Lake Lowell Unit and Vicinity



Data Sources: USFWS Refuge Boundaries from USFWS/R1; USA Topo Maps from ESR; 2009 Idaho NAIP
File: 12-019-1

II. CONFORMANCE WITH STATUTORY AUTHORITIES

Any use of the Refuge must be compatible with resource protection and conform to applicable laws, regulations and Fish and Wildlife Service (Service) policies. Recreational use, in this case hunting, is allowed under the Refuge Recreation Act of 1962 (16 U.S.C. 460K, amended), which authorizes the Secretary of the Interior to administer refuges, hatcheries and other conservation areas for recreational use.

The Refuge Recreation Act requires that:

- 1) any recreational use permitted will not interfere with the primary purpose for which the refuge was established; and
- 2) funds are available for the development, operation and maintenance of the permitted forms of recreation.

Likewise, statutory authority for Service management and associated habitat/wildlife management planning on units of the National Wildlife Refuge System (NWRS) is derived from the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd-668ee). The National Wildlife Refuge System Improvement Act (NWRISA) provided a mission for the NWRS and clear standards for its management, use, planning and growth. The National Wildlife Refuge Improvement Act recognizes that wildlife-dependent recreational uses - including hunting,

fishing, wildlife observation and photography, and environmental education and interpretation, when determined to be compatible with the mission of the NWRS and the purposes of the refuge—are legitimate and appropriate public uses of national wildlife refuges. Sections 5(c) and (d) of the National Wildlife Refuge Improvement Act states “compatible wildlife-dependent recreational uses are the priority general public uses of the NWRS and shall receive priority consideration in planning and management; and when the Secretary [of the Interior] determines that a proposed wildlife-dependent recreational use is a compatible use within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable, and appropriate.” The term compatible use is defined as a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge. The U.S Fish and Wildlife Service’s Final Compatibility Policy Pursuant to the Act delegates the responsibility of determining compatibility to the Refuge Manager with concurrence by the Refuge Supervisor. See Appendix A for the Refuge Manager’s Compatibility Determinations in regards to deer hunting on the Lake Lowell Unit of Deer Flat NWR.

The purposes for which Deer Flat National Wildlife Refuge was established are as follows:

- 1 “...as a refuge and breeding ground for migratory birds and other wildlife...” (Executive Order 7655, dated July 12, 1937)
- 2 “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” (16 U.S.C. 715d Migratory Bird Conservation Act)
- 3 “...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1) and “...the Secretary...may accept and use...real... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors...” (16 U.S.C. 460k-2 and Refuge Recreation Act 16 U.S.C. 460k-460k-4, as amended).
- 4 “...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” (16 U.S.C. 742f(a)(4)) “...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” (16 U.S.C. 742f(b)(1) Fish and Wildlife Act of 1956).

III. ASSESSMENT

The Hunt Plan is consistent with the purposes of the Refuge and sound wildlife management principles. The hunt will implement user and administrative stipulations specified in the Deer Hunting Compatibility Determination. After five years the deer hunting program will be thoroughly evaluated to determine if the Refuge is affording the public a quality and safe hunting opportunity. If there have been no unacceptable impacts to other wildlife populations, any unanticipated impact to other public use programs, or objectionable impacts to public safety the hunting programs would be continued. The evaluation will address any reductions, modifications, or other changes to the hunt program to rectify impacts, improve safety, and

promote quality.

IV. BIOLOGICAL SOUNDNESS

Hunting programs need to be based on healthy, sustainable populations of the species hunted. This hunt opening package is specific to the hunting of mule deer (*Odocoileus hemionus*) on portions of the Lake Lowell Unit of the Refuge. Hunting programs for species currently hunted on Refuge (upland game and waterfowl) will be addressed by the Refuge's CCP/EIS.

Status of mule deer on the Refuge

As implied in the Refuge's name, Deer Flat, was named upon an abundance of wintering deer in the area at the time of settlement. Through time the site has seen significant transformations from a natural setting of springs, meadows, and wetlands to a highly engineered irrigation reservoir. Deer still frequent the Refuge seeking cover in the riparian forests around Lake Lowell while foraging on adjacent private lands. These private lands are under production for crops, providing seasonally important and enticing feed for deer.

Mule deer are Idaho's most abundant and widely distributed big game animal providing more recreational opportunity than any other big game species (IDFG 2010). Mule deer densities are highest in Idaho south of the Salmon River. Conversely, north of the Salmon River mule deer are scattered in suitable habitat with white-tailed deer (*Odocoileus virginianus*) being the dominant deer species (IDFG 2010). The deer herd at Lake Lowell is comprised primarily of mule deer, although it is possible that white-tailed deer may be occasionally present. Much of Idaho's historic mule deer winter range has been developed and is now occupied by man. This is evident at Deer Flat where a series of natural low-lying seeps has been transformed into an engineered irrigation reservoir surrounded by large tracts of agriculture interspersed with rural housing and subdivisions.

For game management purposes, Idaho is split into separate Game Management Units (GMUs). Deer Flat NWR is surrounded by the 1.26 million acre GMU 38. GMU is characterized as 46.4% mixed agricultural lands, 47.0 rangelands, and 5.6% urban. Unfortunately, due to logistical challenges mule deer population surveys are not conducted within GMU 38. Surveys have been conducted on the three GMUs adjacent to GMU 38 (GMUs 32, 39, and 40). The surveys of these three GMUs suggest an estimated mule deer population of over 55,000 mule deer, as projected after the annual hunt season. Collectively, GMUs 32, 39, and 40 harvested over 5000 mule deer during the 2010 hunting season (pers. comm.). Over the last decade GMU 38's short-range weapon seasons have annually harvest an average of 234 mule deer. The true population estimate of mule deer within GMU cannot be estimated, however, these lines of evidence suggest that the population within the Southwest Region of Idaho is generally robust and healthy (IDFG pers. comm.).

Recent deer spotlight surveys conducted on the Refuge and adjacent agricultural lands range from 34-131 deer identified along the survey route. The bulk of the local deer population has been observed along the south shore of Lake Lowell both on and off refuge property. The spotlight data isn't presented to suggest an accurate population projection. Generally spotlight data

suggests a density of deer within the survey area that can be used to estimate the population over a larger parcel. The survey data from Table IV is raw data from the initial surveys. The IDFG and FWS estimate the localized population, within ½-mile of the refuge boundary to be at least 125 mule deer (USFWS/IDFG pers. com.).

Date	# Bucks	# Doe	# Fawn	# Unidentified	Total
Aug. 25, 2010	5	21	8	2	36
Dec. 27, 2010	15	81	0	2	98
Mar. 22, 2011	1	130	0	0	131
June 10, 2011	11	51	2	0	64
Aug. 22, 2011	5	18	8	3	34

To refine the deer population data, the Refuge has a contract to conduct an aerial survey using forward-looking infrared (FLIR) imagery over the terrestrial portions of the Refuge and a ½-mile buffer of private land beyond the Refuge boundary. The survey will be done during the dormant period for trees and should successfully count mule deer in forested and open habitats. This survey should offer a better refined estimate of the local mule deer population.

V. DESCRIPTION OF HUNTING PROGRAM

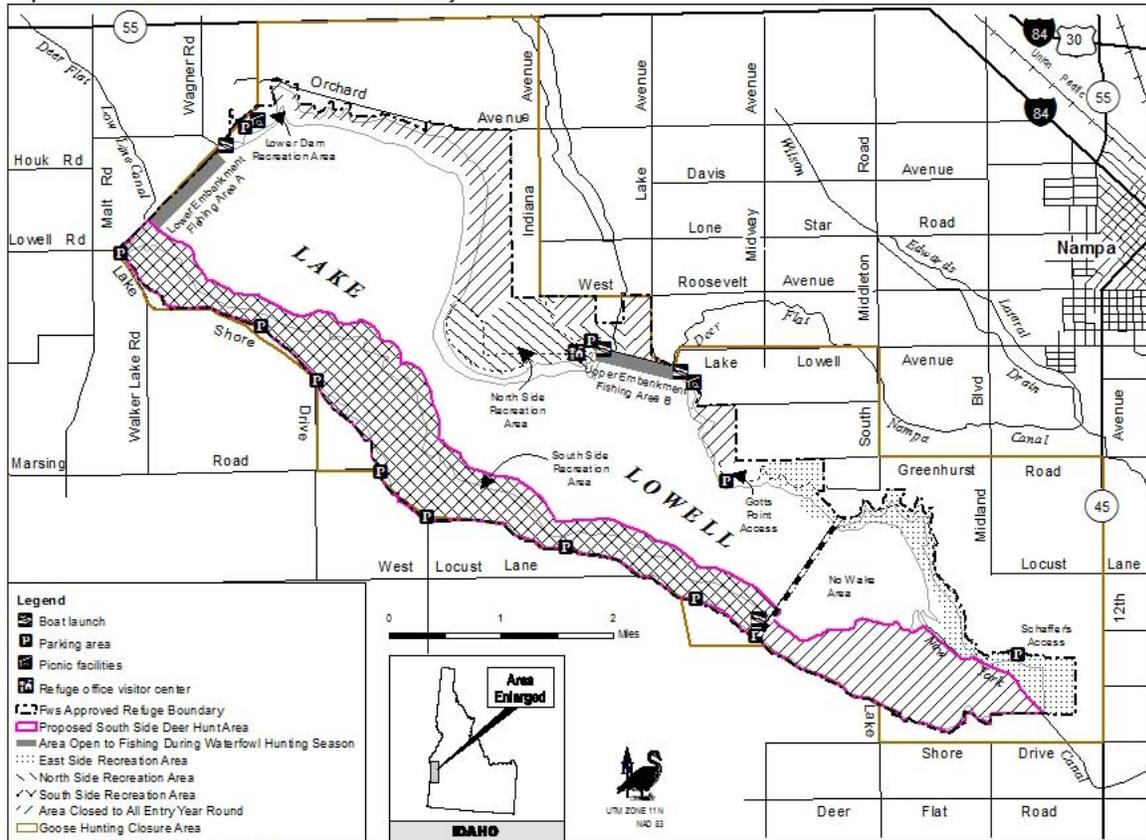
A. Areas of the Refuge that support populations of the target species

Deer currently range throughout the Refuge. Deer tend to concentrate along the south shore of Lake Lowell, often resting in Closed Areas avoiding public use areas and human disturbance during daylight hours. Deer find secure cover within the riparian woodlands situated between the south shore of Lake Lowell and the Refuge boundary.

B. Areas to be opened to the public

As proposed within this opening package, deer hunting will occur along the south shore of Lake Lowell between the shoreline and the Refuge boundary from Parking Lot 8 to the New York Canal. The expanse of this area is largely variable, ranging from 880-2200 acres, upon the depth of Lake Lowell and subsequent water encroachment into low laying terrain. Map 2 shows the location where deer hunting will be permitted.

Map2 Deer Flat NWR - Lake Lowell Unit and Vicinity



Data Sources: Data digitized from various sources by USFWS
 File: 12-0192
 11/30/11

C. Species to be taken and hunting periods

Controlled Mule Deer Season:

A set total of forty-five permits would be let for the Refuge controlled mule deer hunt season. The hunt would create a safe and quality recreational opportunity providing a reasonable opportunity to harvest game. Additionally, the hunt would be predominantly for antlerless mule deer with a goal of population reduction to reduce localized depredation complaints. Hunt seasons would be distributed into four antlerless controlled deer hunts with 10 permits each with each hunt spanning 20 days to distribute hunting pressure evenly over the entire season. Additionally an antlered deer controlled hunt would be allowed consisting of 5 permits. Table V.C. shows the allocation of permits and seasons. The controlled antlered hunt would provide a quality hunt opportunity for bucks during the rut, while additionally reducing localized depredations. IDFG would use its pre-existing hunting framework to manage the controlled hunt. Within the State framework, hunters are allowed to harvest an Extra Antlerless Deer. Extra Antlerless Deer allows hunters to apply for special permits, as an extra deer, even if they are putting in for other controlled hunts. Hunters are allowed two deer under this mechanism, but only one deer within this specific controlled hunt. This is a regularly used framework to help attract hunter to controlled hunts to reduce populations when there is the potential that a controlled hunt be under subscribed.

Special Depredation Season:

IDFG and Refuge personnel will work collaboratively to assess the success of the Refuge controlled deer hunt toward population reduction and to evaluate the need for additional Refuge depredation permits. Continuous collaboration on deer management will ensure that depredation hunt permits adequately address localized depredation issues while not extirpating the Refuge deer population. As warranted, depredation permits could be issued by IDFG to harvest deer within the Refuge hunt area under Idaho Administrative Rules (IDAPA 13.01.0800); as a prescription to address specific localized depredation issues. To maintain flexibility in the program and to promptly and efficiently address depredation issues, the seasonality and duration of the depredation hunting season would be individually prescribed to have a high probability to resolve valid depredation complaints through direct harvest of deer on Refuge. Typically depredation hunts would be set outside the normal mule deer hunting season because of a lack of hunters available to be directed to the problem area.

Table V.C.

Proposed Controlled Hunt Season for the Lowell Unit, Deer Flat NWR:			
Type of Hunt	Period	Permits Issued per Hunt	Duration
Antlerless Extra Deer	Oct 10 –Oct 29	10	20 days
Antlerless Extra Deer	Oct 30 – Nov 18	10	20 days
Antlerless Extra Deer	Nov 19- Dec 8	10	20 days
Antlerless Extra Deer	Dec 9 – Dec 28	10	20 days
Antlered Deer	Oct 10-Nov 24	5	46 days
Depredation Hunt – as set by IDFG/Refuge	Outside of Oct 10-Nov 24	As needed to adequately address localized depredation issues.	As needed to adequately address localized depredation issues.

Refuge would implement, as needed, spatial and /or temporal closure areas to protect sensitive non-target wildlife resources such as eagle nests or waterbird nesting colonies. Of specific concern are nesting eagles and herons that may occur after the controlled mule deer hunt season, often in early February to March. Upon detection, sensitive resources would be mapped and closure areas established to buffer the resource. Hunters issued depredation permits would be required to meet with Service personnel to attain a description of areas seasonally closed to hunting and other Refuge specific regulations. When complete, CCP/EIS will establish the size of buffers necessary and appropriate for sensitive wildlife resources.

Consistent with the hunting conditions on the surrounding GMU 38, hunting on Lake Lowell would be limited to short-ranged weapons. These weapons include muzzleloaders, archery equipment, crossbow, shotgun using slugs or shot of size #00 buck or larger, or a handgun using straight-walled cartridge not originally developed for rifles. This restriction is imperative due to the many interspersed tracts of private land, thus creating a safety issue for long-range weapons. The controlled mule deer hunt would require the use of hunter supplied temporary tree stands. By requiring hunting to take place in tree stands, the trajectory of weapons would be downward

and any errant shots would be directed toward the ground, preventing the potential for projectiles to carry over to adjacent properties. No permanent structures would be constructed on Service lands; therefore, only temporary portable tree stands would be authorized.

D. Justification for permit

By utilizing a permit process, a controlled quality limited entry deer hunt can be provided. An established number of permits will allow desired low hunter density within a limited hunt area footprint of 880-2200 acres. By reducing the deer hunter density the program will promote quality, safety and un-crowded conditions. Our objective is a quality hunt with no firearm related injuries. The low-density will allow the hunter to select a tree stand location based on signs of deer activity. The permit system also allows the hunting pressure to be distributed over a longer period of time. This will allow directly harvest deer from the refuge and potentially redistribute deer into surrounding hunted areas within GMU 38.

E. Procedures for consultation and coordination with IDFG

FWS staff will coordinate through an annual meeting with regional IDFG staff on the effectiveness of the controlled deer hunt. Additionally, the FWS and IDFG will consult regularly on the prescription of depredation hunts on the refuge. Consultation will address the issuance, number, and duration of refuge depredation permits, special closures for critical resources, and related resource concerns. IDFG will publish information on the refuge deer hunt annually in the Big Game regulations.

F. Methods of control and enforcement

The FWS anticipates having a Zone Law Enforcement Officer (LEO) stationed at Deer Flat by the 2012 controlled deer hunt season. Although, the FWS Zone LEO will be stationed at Deer Flat, their zone includes southeastern Oregon and southern Idaho. Therefore, effective management of the Deer Flat deer hunt will require State law enforcement assistance.

G. Funding and Staffing Requirements for the Hunt

The proposed mule deer hunt would not require any additional infrastructure. Hunter access to the proposed hunt area would be accommodated at existing parking areas #1 to #8. Permanent blinds, additional trails, and roadway pullouts will not be constructed to support the hunt program. Administration of the hunt program would add workload to existing staff, likely in lieu of other priorities. Many of the resource demands (financial and workforce) would occur in the first years of the program, as signage would need updating, existing media would need to be modified, a tear sheet/map would need to be developed, and the plan to authorize the mule deer hunt is developed. The administration of the program would add annual work load to the biological, management, and public use, and law enforcement staff. The Refuge would incur the annual expense of editing and producing media, monitoring the impacts of the hunt program, addressing public inquiries, interagency coordination, and additional law enforcement patrols. The approximate expenses for implementation and management of the hunt program are identified in Table V.G. By integrating the Lake Lowell Unit controlled hunt into the existing

short-range weapon deer hunt in GMU 38, administrative efficiencies will be realized. The existing framework for hunting already exists for applications, tags, permits, and other programmatic needs. By capitalizing on the existing framework for the surrounding GMU 38 costs associated with implementation will be reduced.

Table V.G - Estimated Initial and Annual Hunt Program Cost.

Position	Activity or Product	Initial	Reoccurring
Many Participants including Refuge and Regional Office Personnel	Preparation of Hunt Opening Package	\$20K	
Project Leader/Deputy Project Leader	Coordination with IDFG & Program Management		\$5K
Wildlife Biologist	Deer Monitoring, Resource Monitoring, Hunt Plan Updates, Coordination, Program Management		\$5K
Law Enforcement	Coordination with IDFG & Patrols		\$5K
Visitor Services Manager	Outreach, Production of Media, Program Management		\$5K
Visitor Services Manager	Modify existing outreach/regulatory materials (brochures, website, signage)	\$7K	
Maintenance Worker	Improve Signage	\$3K	
Total		\$30K	\$20K

VI. MEASURES TAKEN TO AVIOD CONFLICTS WITH OTHER MANAGEMENT OBJECTIVES

A. Biological Conflicts

1. Threatened and Endangered Species

The following federally listed or federal candidate species have been documented on the Refuge or its surrounding landscape — Columbia spotted frog (candidate), yellow-billed cuckoo (candidate), Greater sage-grouse (candidate), Snake River physa snail (endangered), and Slickspot peppergrass (threatened). In accordance with the FWS’s Endangered Species Management Policy (7 RM 2), an analysis was conducted of recreational hunting impacts.

a. Columbia spotted frogs (*Rana luteiventris*)

Lake Lowell is within historic range for Columbia spotted frogs. Spotted frogs live in spring seeps, meadows, marshes, ponds and streams, and other areas where there is abundant vegetation. They often migrate along riparian corridors between habitats used for spring breeding, summer foraging and winter hibernation. Despite potentially having

suitable wetlands and riparian habitat to support portions of their life history, they haven't been confirmed on Deer Flat NWR. Should Columbia spotted frogs be identified on refuge, there is minimal potential threat imposed by deer hunters. The controlled hunt season is in the fall when the frogs are dormant. Depredation hunts have the slight potential to overlap frog breeding and migration periods with a few depredation hunters on the landscape. The probability of conflict is minimal, as the hunters will largely be confined to tree stands, while the frogs will be moving in dense riparian cover or breeding in shallow wetland margins.

b. Yellow-billed cuckoos (*Coccyzus americanus*)

Lake Lowell is within historic summer and breeding range for cuckoos. Yellow-billed cuckoos were formerly a common nesting bird in the west utilizing dense riparian areas. Cuckoos are currently a very unusually vagrant species at Lake Lowell during the summer months. Should cuckoos be documented in the future, it would be anticipated to be in the summer months and outside of the controlled mule deer season. There could be seasonal overlap with depredation hunts that might include a few hunters over the landscape. The probability of conflict between a vagrant migratory bird and a depredation hunter is negligible

c. Greater sage-grouse (*Centrocercus urophasianus*)

Lake Lowell is within historic territory for sage grouse and offers limited expanses of preferred shrub-steppe habitat. Sage grouse are not currently known to the refuge or immediate area. The deer hunt area is generally riparian habitat, so the hunting is largely removed from potential sage grouse habitat. The only foreseeable potential impact would deer dispersed from hunting pressure might relocate to potential sage grouse habitat and reduce shrub-steppe conditions.

d. Snake River physa snail (*Physa natricina*)

Snake River physa snails are found in the middle Snake River of southern Idaho including Canyon County. It is believed to be confined to the Snake River, inhabiting areas of swift current on sand to boulder-sized substrate. Given the snail's affinity to swift water within the Snake River system, the snail isn't associated with the habitats present on Lake Lowell. Therefore, deer hunting will have no potential to impact Snake River physa snails or their preferred habitat.

d. Slickspot peppergrass (*Lepidium papilliferum*)

Slickspot peppergrass is endemic to the region. However, it is currently known only to a few remnant disjunct populations. Rangewide, Slickspot peppergrass is associated with sagebrush-steppe habitat. Slickspot peppergrass is not known to the limited shrub steppe habitat of the Lake Lowell Unit. Deer hunting is largely proposed within riparian habitat and limited to tree blinds. So, direct impacts to slickspot peppergrass are unlikely. Indirectly, deer dispersed from Lake Lowell riparian areas could relocate in shrub-steppe

habitat. However, impacts to peppergrass is highly improbable.

2. Other Wildlife and Habitats

a. Mule Deer

Annual hunting, if allowed in the same area each year, may cause deer to begin using the remaining no-shooting zones to a greater degree. No-shooting zones of the Refuge have historically received lesser deer use perhaps due to the relatively greater level of human disturbance associated with the recreation areas and Refuge facilities. This lesser deer use may additionally be related to the lack of adequate escape cover in the no-shooting zone. Currently, riparian and shrub-steppe habitat in these areas have shown little impact from deer.

Hunting represents a greater influence on deer behavior than many other public uses. Additionally, hunting promotes intensive cover use by deer (Skovlin 1982). Presumably, a direct impact of deer hunting will be that deer will likely begin to increase utilization of the no-shooting areas and its limited escape cover. Increased density of deer in the no-shooting areas may occur, increasing the intensity of deer browse in shrub-steppe and riparian areas in remaining sanctuary areas or non-hunted public use areas.

b. Wetland and riparian habitat and associated wildlife

Off-trail use associated with proposed hunting program would have minimal to no impact on wetland and riparian habitat. While hunting will occur within or adjacent to these communities, the hunt program involves a small number of widely dispersed individuals over a broad period of time. The controlled mule deer hunt is outside of the breeding and growing season for most species. Individually prescribed depredation hunts may occur in spring and summer but will be limited to a few hunters addressing a specific depredation complaint. Therefore, the duration and scope of these hunts will be minimal. Additionally, the refuge will issue specific area closure maps as necessary to buffer critical resources from depredation hunts. Shrub-steppe habitat or associated wildlife is because the hunting programs would involve a small number of widely dispersed individuals and occur outside of the breeding and growing seasons for most species.

B. Public Use Conflicts

Deer Flat NWR provides a variety of recreational opportunities and experiences with approximately 200,000 annual visitors. Until the Refuge's CCP is completed in 2012, the Refuge currently offers a mix of wildlife-dependent on-water uses (e.g., fishing) and non-wildlife-dependent on-water uses (e.g., jet skiing). The lake is open April 15 - September 30 with a no-wake zone imposed east of Parking Lot 1. Portions of Lake Lowell are open to fishing all year. During the boating season fishing is allowed on the lakebed. During the non-boating season from October 1 to April 14(excluding the waterfowl season), fishing is permitted from the bank or by human powered boats in specific fishing areas, Fishing Areas A and B, in the

vicinities of Upper and Lower Dams. During the waterfowl hunt season, fish is only allowed from human powered boats in Fishing Areas A and B.

Hunting on the Lake Lowell Unit is limited to the East Side and South Side Recreation Areas. Hunting at the Lake Lowell Unit is restricted to upland game birds, mourning doves, ducks, and coots. Lake Lowell receives over 6000 annual hunt visits. All duck and coot hunting must take place within 200 yards of the water's edge. Duck and coot hunting in the East Side Recreation Area is walk-in only. Duck and coot hunters in the South Side Recreation Area may use float tubes, non-motorized boats, or boats with electric motors within 200 yard of the shoreline. Waterfowlers may also access the shoreline for hunting by foot.

The Refuge offers a network of trails and roads in the North Side, East Side, and South Side Recreation Areas for wildlife observation, photography, jogging, bicycling, on-leash dog walking, and horseback riding. The Refuge additionally has a visitor center with a viewshed of a variety of habitats including uplands, riparian, and Lake Lowell. The visitor center attracts over 18,000 annual visitors. Wildlife observation is further supported by driving tour along the 29.5-mile Lake Lowell Unit Bird Tour. Additionally, the refuge has offers environmental education programs to over 11,000 youth, annually

The area of the Refuge for deer hunting has been selected to focus hunting pressure in the area with the highest depredation complaints. The proposed deer hunting area will physically overlay the entire South Side Recreation Area. Additionally, the seasons for the controlled mule deer hunt from October 10th to December 28th will coincide with duck/coot seasons and upland game bird seasons. Therefore, there is the potential for conflict between hunting groups. It is anticipated that duck/coot hunters will somewhat spatially separate from deer hunters by utilizing the area within 200 yards of water's edge while deer hunters will be concealed within the interior of the riparian forest. However at high water there may be significant overlap between riparian and shoreline, increasing the odds that these duck/coot hunters may share space with deer hunters. Certainly their use areas will temporarily overlap as duck/coot hunters travel through riparian areas to access the shoreline. There is greater potential for hunter conflict in the South Side Recreation Area where the deer hunting area will overlap hunters in the pursuit of upland game birds. In some instances, the presence of multiple hunting groups may be beneficial by moving game species into range. But deer hunters confined to a set location in a tree stand may be frustrated by upland game bird hunters walking past on any regular basis. These issues will be unique to areas west of Parking Lot 1 where the hunt programs overlap. Between Parking Lot 1 and the New York Canal will be reserved specifically to deer hunting. Additionally, the East Side Recreational Area will be reserved for upland game, mourning dove, duck, and coot hunting.

During the deer hunting season the North Side and East Recreation Area will be open for recreation. This includes the Visitor Center, self-guided nature trail, and Centennial Trail. Additionally, Fishing Area A & B will be open for fishing during the deer hunt season. These facilities are segregated from the deer hunting area by significant distance. Currently, non-hunting visitors may use the South Side Recreation Area but are limited to parking areas and developed trails and roads. This affords some separation between non-hunting users and deer hunters. The use of short-ranged weapons from tree stands will additionally safeguard the deer

hunting program by insuring that intended game is in close proximity and that the trajectory of ammunition is downward into the ground. The CCP/EIS will further examine opportunities to spatially or temporally segregate public uses in the South Side Recreation area that are presently concurrent.

C. Administrative Conflicts

Existing staff (management, administrative, biological, law enforcement, and visitor services) and funding available to administer the proposed hunt is limited but sufficient. Outreach about the new hunting programs will require additional resources or reprogramming of existing resources or priorities.

The hunt program has the potential to conflict with some of the normal management, maintenance and biological monitoring activities that will continue despite the hunting activity that might be occurring in the same vicinity. Refuge management activities within the deer hunt area are generally avoidable during the controlled mule deer season, however, the plasticity of the depredation hunt complicates the scheduling of management and biological activities. Safety briefings for staff working in hunt areas will make them aware of hunting times and locations. Hunters will be warned of predictable refuge activities that might be occurring in the hunt units. These measures will ensure the safety of refuge staff and Service authorized agents and allows the completion of refuge management activities as well as other refuge uses. As such there will be no administrative conflicts.

Some of the activities that might occur concurrently with the hunts include:

Wetland/Riparian Restoration Activities

Wetland and riparian restoration activities may be occurring concurrent with hunting seasons. Fall and winter months often provide the best conditions for wetland restoration work.

Habitat and Wildlife Monitoring

Wildlife and habitat surveys, water level monitoring, condition assessments, and roost surveys, and searches for early nesting activity (especially eagles) may occur during hunting seasons.

Research Activities

Research activities on the refuge seldom extend into the fall hunting season and those that do will be separated them from the hunting areas when possible. Any researcher using the Refuge during the hunting season will be directed to use alternate areas, if possible. Any researcher working in the hunt area will be informed of the hunt program in progress.

Maintenance Activities

Fall maintenance activities include maintaining fences, gates, signs, water control structures, debris removal, and roads and clearing downed trees from roads or fences.

VII. CONDUCT OF THE HUNTING PROGRAM

There will be a one page brochure/flyer with map and explanation of Refuge specific hunting

regulations for the Lake Lowell Unit deer hunt. National Wildlife Refuge hunting program regulations and Special Regulations specific to the Lake Lowell Unit of the Deer Flat Refuge will be posted in 50 CFR. National Wildlife Refuge hunting program regulations are described in 50CFR 32.3. Hunters should familiarize themselves with the appropriate Code of Federal Regulations. Hunters should also be familiar with regulations as listed in the State Big Game Regulations and State Waterfowl Regulations pamphlets put out by IDFG.

A. Refuge Specific Hunting Regulations

In addition to annually published state regulations, the following are refuge-specific regulations for the deer hunts on the Refuge:

1. Regulations Common to All Species

- Each hunter will secure and possess the required State licenses, tags, stamps, or permits.
- Each person will comply with the applicable provisions of state and federal laws as well as hunting regulations of the Idaho State.
- Only those firearms identified for that particular hunting season are allowed.
- Camping, overnight use, and fires are prohibited.
- Vehicles must use designated parking areas to access hunting sites. No ATVs are allowed within the hunting units.
- No overnight parking is allowed.
- No trapping is allowed.
- It is unlawful to use or possess alcoholic beverages or drugs while hunting.
- It is prohibited to shoot or discharge any firearm from, across, or along a public highway, designated route of travel, road, road shoulder, road embankment or designated parking area.
- Individuals may possess, carry and transport concealed, loaded and operable firearms on the refuge in accordance with all provisions of state and local law.
- Persons may only use (discharge) firearms in accordance with refuge regulations (50 CFR 27.42 and specific refuge regulations in 50 CFR Part 32).
- Target shooting and sighting-in weapons are not permitted.
- Nontoxic shot is required for all waterfowl and upland game bird hunting that is 0.20 inches in diameter (T size) or smaller.

2. Deer Hunting Regulations Specific to Lake Lowell Unit of Deer Flat NWR

- Motorized vehicles will be limited to designated parking areas.
- Deer hunters may enter the Refuge no earlier than two hours before shooting time and must leave the Refuge within 2 hours after shooting time. Unless retrieving a deer, retrieval times extend 5 hours past shooting time.
- Refuge deer hunting hours will coincide with the State's hunting hours for big game, currently ½ hour before sunrise to ½ hour after sunset.

- Retrieval policy for wounded deer that have made it out of the Lake Lowell Deer Hunting Area and into a Closed Area of the Refuge must be accompanied by a Refuge employee or State Game Warden to retrieve a wounded deer from a Closed Area.
- No dogs allowed for deer hunting activities.
- Shooting into any Closed Area is prohibited.
- Hunting permitted from within designated hunting areas only, see Map 2, generally defined as the areas between the shoreline of Lake Lowell on the north, the New York Canal on the east, the refuge's southern boundary, and Parking Lot 8 on the west.
- Access will be walk-in from existing Parking Lots 1-8.
- Deer hunting will be limited to short-ranged weapons. These weapons include muzzleloaders, archery equipment, crossbow, shotgun using slugs or shot of size #00 buck or larger, or a handgun using straight-walled cartridge not originally developed for rifles.
- All hunting will be from temporary tree stands.
- Tree stands will be non-damaging to trees and free of screw-in/nail-in hangers, attachments, or steps.
- Tree stands shall be placed a minimum of 12 feet above the base of the tree.
- All hunters must use a Fall-Arrest System (FAS)/Full Body Harness meeting Treestand Manufacture's Association (TMA) Standards while utilizing a tree stand. It shall be unlawful to use a treestand without permission of the owner.
- Terrestrial based stalking and/or still hunting is not permitted at any time.
- Shooting (firearm or bow) from the ground is not permitted, except to dispatch wounded deer.
- A hunt permit holder may install a tree stand on the first day of their hunting season and must remove the stand by the last day of their season.
- No permanent structures will be constructed on Service lands.

Environmental Assessment for a Controlled Mule Deer Hunt on the Lake Lowell Unit of the Deer Flat National Wildlife Refuge

CANYON COUNTY, IDAHO

Environmental Assessment for a Controlled Mule Deer Hunt on Lake Lowell Unit of the Deer Flat National Wildlife Refuge

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Deer Flat National Wildlife Refuge (Refuge) is situated in the Middle Snake subbasin. The Middle Snake subbasin is an area that lies in the Snake River Plain and is surrounded by several mountain ranges: Jarbidge and Owyhee mountains to the southwest, Boulder Mountains and the Sawtooth Range in the northeast, and the Seven Devils and Wallowa mountains surrounding the northwestern areas of the subbasin (Ecovista and IDFG 2004). Nestled in the high desert landscape in southwest Idaho, the Refuge provides important breeding area for birds and mammals, as well as other wildlife.

The Refuge has two management Units, the Snake River Islands and Lake Lowell. The Snake River Islands Unit contains about 800 acres on 101 islands. These islands are distributed along 113 river miles from the Canyon-Ada County Line in Idaho to Farewell Bend in Oregon. This plan is specific to the Lake Lowell Unit approximately 20 miles outside of Boise, Idaho. Lake Lowell is adjacent to Nampa, Idaho, the second largest city in the state. The Lake Lowell Unit is situated on a plateau between the Snake River and Boise River (IDEQ 2010). The Unit encompasses over 10,500 acres, including the almost 9,000-acre Lake Lowell. Lake Lowell is approximately 14.5 square miles in surface area with 28 miles of shoreline. Much of the lake is fringed with riparian habitat and mudflats that are pronounced at low-pool elevation levels (IDEQ 2010). The private lands surrounding the Lake Lowell Unit are a mix of rural irrigated agricultural lands and urban residential housing.

Before settlement, the area that was to become Deer Flat National Wildlife Refuge was a low-lying grassland nourished by many springs. In winter, herds of deer and elk were attracted to the spring fed grassland and marshes. Early settlers dubbed the area as 'Deer Flat' based upon the abundance of wintering animals. With settlement within Southwest Idaho came the desire to irrigate cropland to sustain the populous. The challenge of irrigating the arid west largely fell to the newly established Bureau of Reclamation. By 1906 local landowners, including James H. Lowell, had lobbied the Bureau of Reclamation to construct an irrigation reservoir at Deer Flat. Upon completion of the reservoir, President Theodore Roosevelt realized the value a nearly 9,000 acre lake in an arid ecosystem would have to wildlife. In 1909 Roosevelt established Deer Flat National Bird Reservation as a "... preserves and breeding grounds for native birds' by Executive Order. In 1937 President Franklin D. Roosevelt by Executive Order reaffirmed the Deer Flat Migratory Waterfowl Refuge with the purpose of "a refuge and breeding grounds for migratory birds and other wildlife".

In 2010 The U.S. Fish and Wildlife Service embarked upon a comprehensive planning process for the Deer Flat National Wildlife Refuge. Upon completion, this Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) will provide guidance for the management of refuge habitats and wildlife and the administration of public uses on refuge lands and waters for 15 years. While the Draft CCP/EIS is still in preparation, preliminary CCP/EIS goals

received public comment prior to the release of the Draft CCP/EIS. Currently, the preliminary CCP/EIS goals for the Refuge are:

Wildlife and Habitat Goals

- Enhance, maintain and protect mudflat, emergent bed and open water habitats of Lake Lowell to benefit migratory birds and other wildlife.
- Enhance, maintain, and protect riparian forest to benefit migratory birds and other riparian dependent species.
- Enhance, maintain, and protect non-lake wetland habitats to benefit migratory birds and other wildlife.
- Enhance, maintain, and protect shrub-steppe habitats characteristic of the historic Columbia Basin.
- Provide agricultural crops to support migrating waterfowl as well as resident wildlife.
- Gather sufficient scientific information to guide responsible adaptive management decisions for Refuge's trust resources.

Public Use and Cultural Resources Goals

- With minimal impact, Refuge visitors experience abundant native wildlife and increase their understanding of the Refuge as wildlife habitat.
- Hunters enjoy a family-friendly, safe, undisturbed, quality hunt that minimally impacts Refuge habitats and wildlife and increases their understanding of the Refuge as wildlife habitat.
- Anglers enjoy a peaceful, family-friendly, quality fishing opportunity that minimally impacts Refuge habitats and wildlife and increases their understanding of the Refuge as wildlife habitat.
- Students, teachers and visitors understand the biology and management of the Refuge, the mission of the National Wildlife Refuge System and how to help conserve the Refuge and other wildlife habitats.
- Visitors feel safe during their visit and understand Refuge regulations and how they help protect wildlife, wildlife habitat and other visitors.
- Develop cooperative opportunities to build support for the Refuge and instill an understanding of the Refuge as wildlife habitat.
- Protect and manage Refuge cultural resources.

Until the CCP/EIS is finalized and approved, the aforementioned goals are subject to change. Additionally until the CCP/EIS is approved and implemented, the Refuge will maintain current management of the Refuge's wildlife and habitat programs. Refuge management will continue to have an emphasis on the Lake Lowell Unit focused on invasive species control with opportunistic restoration projects. The Refuge will continue to provide unique local habitat amidst surrounding agricultural and suburban landscapes. The emergent vegetation along the shorelines of Lake Lowell being among the distinctive Refuge environments supporting nesting grebes, foraging waterfowl and wading birds, and numerous fisheries within the lake.

1.2 PROPOSED ACTION

Initially in the CCP/EIS planning process and during public scoping mule deer management, deer hunting opportunities, and agricultural depredation, were identified as important issues to both the Idaho Department of Fish and Game (IDFG) and select community members. While CCPs generally address these types of topics, the significance of these issues has prompted the U.S. Fish and Wildlife Service (Service) to address mule deer management and deer hunting at the refuge in a different and more expeditious format.

The Service) is proposing to initiate an annual, safe, high quality, walk-in controlled mule deer hunting program beginning in the Fall of 2012 on portions of the Lake Lowell Unit of Deer Flat NWR. The hunt will create a safe and quality recreational opportunity providing a reasonable opportunity to harvest game. Additionally, proposed is a depredation hunt intended to alleviate local agricultural depredation to lands surrounding the Refuge. Furthermore, unfilled permits during the controlled mule deer hunt may be reallocated to support a depredation hunt program.

1.3 PURPOSE AND NEED

Nighttime spotlight surveys have estimated a minimum localized population of 125 deer residing on or near the refuge during spring and early summer. The refuge provides hiding and resting cover for mule deer. The foraging requirements for local mule are often obtained off the refuge on adjacent private lands. Many adjoining private lands are under production for crops, providing seasonally important and enticing feed for deer, particularly when much of the natural vegetation on refuge is inundated with water in the spring.

The Refuge is surrounded by IDFG's Game Management Unit (GMU) 38. Deer management in the adjoining GMU 38 allows for high doe harvest to control the population and reduce depredation. The Refuge is a small part of the overall deer population in GMU 38, but contributes significantly to the local depredation issues. This proposed controlled hunt will be reviewed annually to measure its success in creating a quality and safe recreational experiences, alleviating depredation complaints, and reducing the local deer population. Additionally, this proposal will annually evaluate impacts to deer management, other resources, and programs; and the necessary measures to negate these impacts.

Hunting is identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act)(Public Law 105-57) as a priority use for refuges when it is compatible with the refuge purpose and mission of the Refuge System. Hunting programs operations that are consistent and compatible with the refuge's purposes and goals, can provide a quality experience for the public. These programs contribute to the continuation of America's traditions and heritage in wildlife conservation and outdoor recreation.

Mule deer are Idaho's most abundant and widely-distributed big game animal. Individual mule deer in Idaho may also be migratory commonly traveling 20-100 miles between summer range and winter range. The 'Deer Flat' had long history of supporting wintering mule deer. Mule deer are largely dependent upon the fat stored during the spring, summer, and fall to survive

winter. In the best winter range, deer lose weight throughout the winter. A main strategy for winter survival is securing habitat with adequate thermal cover to conserve energy by becoming sedentary. To support this strategy, energy loss would be minimized by sufficient food resources in close proximity to cover habitat (IDFG 2010). The Refuge provides hiding and resting cover for a variety of wildlife, including deer. The juxtaposition of agricultural crops, especially row-crops and fruit/nursery trees, readily afford the resident mule deer feeding opportunities on nearby private property. Seasonally, private lands are under production for crops, providing important and enticing feed for deer. There has been a long history of depredation complaints in the agricultural area surrounding Lake Lowell. Complaints include direct browsing or rubbing on orchard and nursery stock, grazing on alfalfa stands or carrots planted for seed production. Recent depredations to carrot seed crops near Lake Lowell may amount to \$10,000 lost in annual seed production to a single producer. Idaho Code 36-1108 identifies appropriate actions IDFG must take to address depredation situations. Conditionally, IDFG may additionally be required to compensate for crop damages caused by deer. The biological purpose of this proposed action is to reduce the mule deer population to alleviate local agricultural depredation to lands neighboring the Refuge.

1.4 OTHER NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTS

The Service is currently developing a separate NEPA compliant document to provide guidance for the management of refuge habitats and wildlife and the administration of public uses on refuge lands and waters for 15 years. This CCP/EIS is scheduled to be available in draft form to the public in the spring of 2012. Preplanning and public scoping for the CCP/EIS identified deer hunting opportunities, mule deer management, and agricultural depredation, as an important topics for both the IDFG and community members. Consistent with NEPA, its implementing regulations and Service NEPA procedures, The Environmental Assessment for a Controlled Mule Deer Hunt on the Lake Lowell Unit) has been prepared to evaluate the effects on the human environment of opening portions of the Refuge to deer hunting.

1.5 DECISION TO BE MADE

Based on the analysis documented in this Environmental Assessment and supporting documents, the Regional Chief of Refuges for the U.S. Fish and Wildlife Service Pacific Region will determine whether or not to initiate controlled mule deer hunt and depredation hunt seasons on the Lake Lowell Unit of the Deer Flat National Wildlife Refuge, and whether or not preparation of an Environmental Impact Statement (EIS) is necessary. If the Regional Chief determines that the hunting programs should be initiated and that an EIS is not necessary, a Finding of No Significant Impact (FONSI) would be prepared, which would highlight the alternative selected for implementation. Following the signing of the FONSI, the preferred alternative in this Environmental Assessment would be implemented.

1.6 ISSUES

The issues that have been identified by the Service to be important in the decision making process to implement a controlled and depredation deer hunts are biological, social and economic in nature. No impacts would be expected on physical resources such as soil, water and air. The

issues include impacts on; mule deer; shrub steppe, riparian, and wetland habitats and their associated wildlife species; federally-listed threatened species; and human concerns about cultural resources, impacts to private land, recreation, and economics.

1.6.1 BIOLOGICAL ISSUES

1.6.1.1 IMPACTS ON MULE DEER

The primary issues regarding impacts to mule deer are direct effects associated with hunter harvest both on and off the Refuge and disturbance to deer that could potentially change the distribution of deer with regards to non-hunter areas.

1.6.1.2 IMPACTS ON SHRUB STEPPE, RIPARIAN, AND WETLAND HABITAT AND ASSOCIATED WILDLIFE

The primary issues concerning the effects of alternatives on shrub steppe and riparian habitats is alteration to vegetative communities, introduction of invasive species, and any impacts associated with the unintended redistribution of wildlife.

1.6.1.3 IMPACTS ON FEDERALLY LISTED THREATENED SPECIES

The primary issues concerning the effects of alternatives on federally-listed threatened species.

1.6.2 SOCIAL AND ECONOMIC ISSUES

1.6.2.1 CULTURAL RESOURCES

Cultural resources on the Refuge take the form of archaeological artifacts associated with seasonal Native American encampments and food processing sites, historic homesteads and dump sites, and examples of historic construction and agriculture techniques such as drainage ditches or water control structures. Actions associated with implementing a hunt that may adversely affect these resources unless mitigated include vandalism and theft associated with increased visitation in the hunting units. Additionally, human activities which destroy artifacts or relocate their relative position, thereby, destroying information on their historic context. Cultural resource protection is required on all refuges. Project proposals must be reviewed for compliance. Protection involves survey of the project areas, avoidance of cultural sites or mitigation. Mitigation can involve more detailed survey and study of resources prior to implementing actions that will impact them. The risk of theft and vandalism may increase through the course of the hunting season as more areas of the Refuge are open to visitors.

1.6.2.2 IMPACTS ON ADJACENT LANDS

Depredation by deer on nursery/fruit trees and agricultural crops is the primary issue concerning impacts on private lands. While hunting activities on the Refuge should have a positive impact on those adjacent lands currently experiencing deer depredations, these activities could inadvertently shift depredation patterns to new locations, as result of increasing disturbance

within current sanctuary areas and increased hunting pressure. Another primary issue is the impacts of a Refuge deer hunt program on adjoining private residences along the south boundary of the Lake Lowell Unit.

1.6.2.3 IMPACTS TO OTHER RECREATIONAL OPPORTUNITIES

The primary issues concerning other recreational pursuits on the Refuge are the effects the mule deer hunts would have on the quality of the experience of the participants. The indicators used to evaluate effects of the proposed action on the key issue of recreation were based on the opportunities for several classes of public uses including nature/wildlife observation and bird watching, compatible non-motorized trail activities, and conflicts with other recreational groups.

Hunting could have an effect on these activities by either decreasing or increasing the abundance of wildlife through disturbance by hunters causing a variety of animals to move away from the hunted zones, safety conflicts between hunters and non-hunters, or diminishing the aesthetic value of the experience by the occasional sound of shots and perhaps even the knowledge that hunters are on the Refuge as evidenced by parked vehicles in lots and the sight of hunters transporting their harvested animals.

1.6.3.4 IMPACTS TO ECONOMICS

The economic issues associated with hunting on Deer Flat NWR are associated with the contributions that hunters would make to the local and regional economies as a result of expenditures for both activity-related equipment purchases and travel-related goods and services.

2.0 ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

2.1 INTRODUCTION

This section outlines three alternatives to manage mule deer populations on the Refuge. The action alternatives (Alternatives B and C) both serve to annually reduce the localized population of mule deer by establishing a mule deer hunt program along the southern Refuge boundary of the Lake Lowell Unit of Deer Flat NWR. The deer population has the potential to increase either through immigration or by reproduction. The herd is unlikely to decrease through emigration since deer experience increasing disturbance from human activities on private land neighboring the Refuge especially hunting. Deer would primarily use the relatively disturbance free portions of the Refuge leaving opportunistically to browse on adjoining agricultural lands. Initiating a mule deer hunt on the Refuge would provide a compatible recreational hunting opportunity to the public not previously available and is expected to reduce the impact of mule deer on neighboring lands. A mule deer hunt would serve to distribute deer from the Refuge's closed area which may be used disproportionately to other parts of their range on the Refuge.

2.2 ALTERNATIVES

2.2.1 ALTERNATIVE A - NO ACTION

Under the No Action Alternative, the deer population has the potential to increase either through

immigration or by reproduction. The herd is unlikely to decrease through emigration since deer experience increasing disturbance from human activities on private land surrounding the Refuge especially hunting. Additionally with local trends toward urbanization, deer have little incentive to emigrate from secure undeveloped habitat to areas with a higher population density, greater disturbance, and increased number of hazards. Deer would primarily continue to use the relatively disturbance free portions of the Refuge leaving opportunistically to feed on adjoining agricultural lands. GMU 38 would continue a short-range weapon general deer seasons with liberalized harvest of antlerless deer to reduce populations. Consistent with Idaho Code 36-1108, IDFG would continue to be addressed confirmed depredation complaints utilizing integrated strategies including hazing, permanent fencing, depredation hunts, kill permits, and perpetual easements on private lands. Conditionally, IDFG may be required to compensate for crop damages caused by deer in the immediate vicinity.

2.2.2 ALTERNATIVE B – CONTROLLED MULE DEER HUNT WITH OPTIONAL DEPREDATION HUNT ON REFUGE (PREFERRED ALTERNATIVE)

Beginning in the Fall of 2012, the Refuge proposes to implement a controlled and depredation deer hunt seasons on portions of the Lake Lowell Unit consistent with the IDFG's seasons, bag limits, and special conditions for GMU 38, which surrounds Lake Lowell. Annually, a set total of forty-five controlled hunt permits would be let for the Refuge controlled deer seasons. IDFG and Refuge personnel will work collaboratively to assess the success of the Refuge controlled deer hunt season and to evaluate the need for additional Refuge depredation permits. Additional deer depredation hunt permits may be allocated to address verified, localized deer depredations.

Controlled Mule Deer Season:

A set total of forty-five permits would be let for the Refuge controlled mule deer hunt season. The hunt would create a safe and quality recreational opportunity providing a reasonable opportunity to harvest game. Additionally, the hunt would be predominantly for antlerless mule deer with a goal of population reduction to reduce localized depredation complaints. Hunt seasons would be distributed into four antlerless controlled deer hunts with 10 permits each with each hunt spanning 20 days to distribute hunting pressure evenly over the entire season. Additionally an antlered deer controlled hunt would be allowed consisting of 5 permits. Table 2.2.2 shows the allocation of permits and seasons for the Preferred Alternative. The controlled antlered hunt would provide a quality hunt opportunity for bucks during the rut, while additionally reducing localized depredations. IDFG would use its pre-existing hunting framework to manage the controlled hunt. Within the State framework, hunters are allowed to harvest an Extra Antlerless Deer. Extra Antlerless Deer allows hunters to apply for special permits, as an extra deer, even if they are putting in for other controlled hunts. Hunters are allowed two deer under this mechanism, but only one deer within this specific controlled hunt. This is a regularly used framework to help attract hunter to controlled hunts to reduce populations when there is the potential that a controlled hunt be under subscribed.

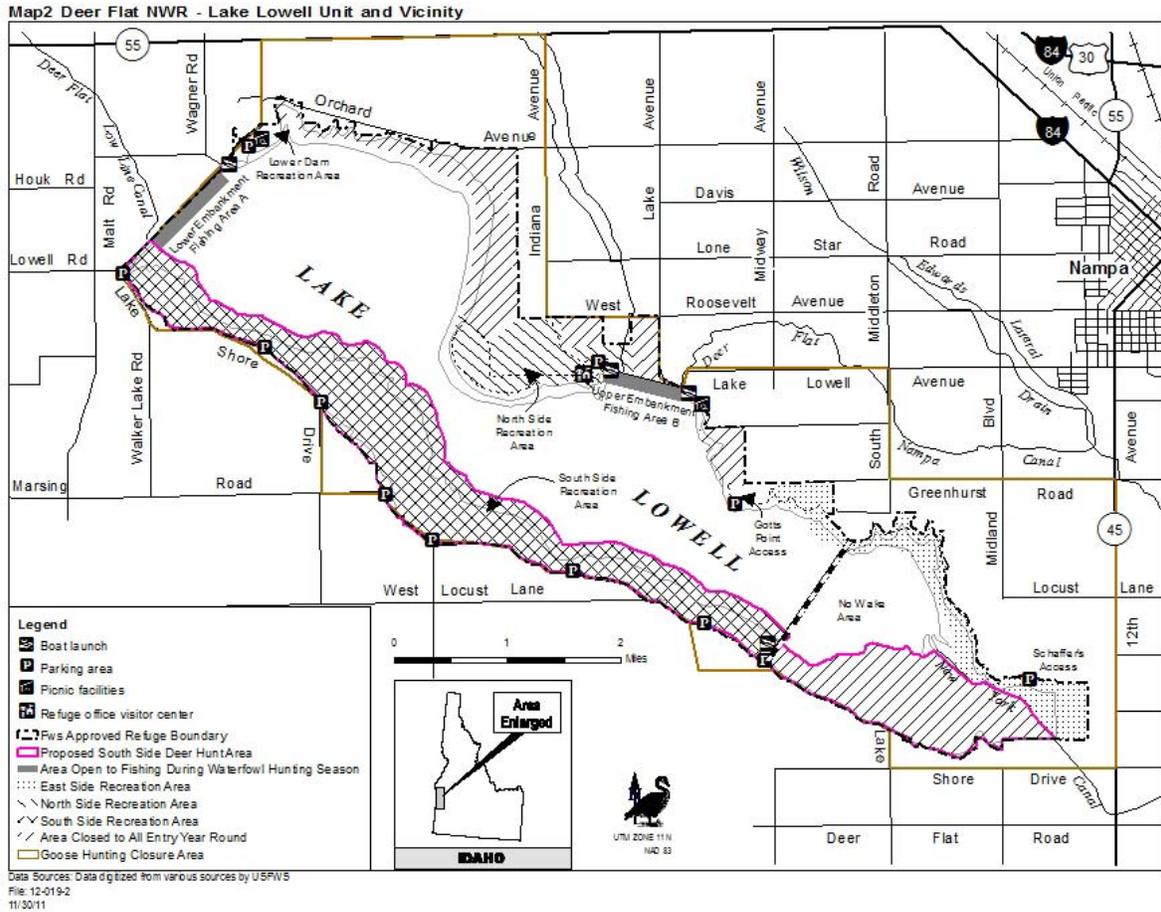
Special Depredation Season:

IDFG and Refuge personnel will work collaboratively to assess the success of the Refuge controlled deer hunt toward population reduction and to evaluate the need for additional Refuge depredation permits. Continuous collaboration on deer management will ensure that depredation hunt permits adequately address localized depredation issues while not extirpating the Refuge deer population. As warranted, depredation permits could be issued by IDFG to harvest deer within the Refuge hunt area under Idaho Administrative Rules (IDAPA 13.01.0800); as a prescription to address specific localized depredation issues. To maintain flexibility in the program and to promptly and efficiently address depredation issues, the seasonality and duration of the depredation hunting season would be individually prescribed to have a high probability to resolve valid depredation complaints through direct harvest of deer on Refuge. Typically depredation hunts would be set outside the normal mule deer hunting season because of a lack of hunters available to be directed to the problem area.

Table 2.2
Proposed Controlled Hunt Season for the Lowell Unit, Deer Flat NWR:

Type of Hunt	Period	Permits Issued per Hunt	Duration
Antlerless Extra Deer	Oct 10 –Oct 29	10	20 days
Antlerless Extra Deer	Oct 30 – Nov 18	10	20 days
Antlerless Extra Deer	Nov 19- Dec 8	10	20 days
Antlerless Extra Deer	Dec 9 – Dec 28	10	20 days
Antlered Deer	Oct 10-Nov 24	5	46 days
Depredation Hunt – as set by IDFG/Refuge	Outside of Oct 10-Nov 24	As needed to adequately address localized depredation issues.	As needed to adequately address localized depredation issues.

The hunts would occur in designated areas on Service-owned lands, generally described as the south shoreline of Lake Lowell between Parking Lot 8 to the New York Canal. This area is between 880 to 2200 acres comprised depending upon the level of Lake Lowell comprised of mostly of riparian forest and wetland shoreline. Map 2 illustrates the areas to be opened for mule deer hunting.



Refuge would implement, as needed, spatial and /or temporal closure areas to protect sensitive non-target wildlife resources such as eagle nests or waterbird nesting colonies. Of specific concern are nesting eagles and herons that may occur after the controlled mule deer hunt season, often in early February to March. Upon detection, sensitive resources would be mapped and closure areas established to buffer the resource. Hunters issued depredation permits would be required to meet with Service personnel to attain a description of areas seasonally closed to hunting and other Refuge specific regulations. When complete, CCP/EIS will establish the size of buffers necessary and appropriate for sensitive wildlife resources.

Consistent with the hunting conditions on the surrounding GMU 38, hunting on Lake Lowell would be limited to short-ranged weapons. These weapons include muzzleloaders, archery equipment, crossbow, shotgun using slugs or shot of size #00 buck or larger, or a handgun using straight-walled cartridge not originally developed for rifles. This restriction is imperative due to the many interspersed tracts of private land, thus creating a safety issue for long-range weapons. The controlled mule deer hunt would require the use of hunter supplied temporary tree stands. By requiring hunting to take place in tree stands, the trajectory of weapons would be downward and any errant shots would be directed toward the ground, preventing the potential for projectiles to carry over to adjacent properties. No permanent structures would be constructed on Service lands; therefore, only temporary portable tree stands would be authorized.

2.2.3 ALTERNATIVE C – MULE DEER DEPREDATION HUNT ONLY ON REFUGE

Beginning in the Fall of 2012, the Refuge would implement a depredation hunt season on portions of the Lake Lowell Unit. IDFG and Refuge personnel will work collaboratively throughout the year to evaluate the number of Refuge depredation permits to adequately address localized depredation issues while not extirpating the Refuge deer population. The actual amount of depredation permits issued in a given season would be directly related with the number of valid local depredation complaints associated with deer residing on the Refuge.

The Refuge would permit depredation hunts on Service lands to address specific agricultural depredation complaints. As established in Idaho Code 36-1108, IDFG would continue to receive and address depredation complaints where appropriate. Upon receipt of a depredation complaint, a delegate of IDFG would contact the landowner to determine the validity and seriousness of the complaint. The delegate of IDFG would inform the landowner of prevention options. These prevention options may include hazing, permanent fencing, depredation hunts, kill permits, and continued use agreements and perpetual easements. Under Idaho Administrative Rules (IDAPA 13.01.0800) depredation hunts may be prescribed to address depredation issues. If depredation hunts are prescribed, the request for the depredation hunt is forwarded to the IDFG Regional Supervisor for approval. The Regional Supervisor would evaluate the potential for crop loss, number of animals involved, anticipated effectiveness of the hunt to minimize damage, opportunity to harvest offending animals, and potential safety issues. Upon mutual IDFG and Refuge approval, permits would be issued to hunters to harvest of mule deer from the Refuge. To maintain flexibility in the program and to promptly and efficiently address depredation issues, the seasonality and duration of the depredation hunting season would individually be prescribed to have a high probability to resolve valid depredation complaints through direct harvest of deer on Refuge. Typically depredation hunts would be set outside the normal mule deer hunting season because of a lack of hunters available to be directed to the problem area.

In contrast to Alternative B, no controlled deer hunt permits would be issued to hunt the Refuge during the regular deer hunting season. Permits for mule deer harvest would be issued specifically on the basis of confirmed and valid depredation complaints. Comparable to Alternative B, the Refuge would annually produce a map of sensitive resources and seasonal closures on Service-owned lands and hunters issued depredation permits would be required to meet with Service personnel to attain a description of seasonal closures and other Refuge specific regulations. Additionally, consistent with the hunting conditions on the surrounding GMU 38, hunting on Lake Lowell would be limited to short-ranged weapons. This restriction is imperative due to the many interspersed tracts of private land, thus creating a safety issue for long-range weapons. Depredation hunts would be achieved from hunter supplied temporary tree stands, comparable to Alternative B. No permanent structures would be constructed on Service lands, therefore, only temporary portable tree stands would be authorized.

3.0 AFFECTED ENVIRONMENT

3.1 GENERAL OVERVIEW OF THE REFUGE ENVIRONMENT

The Deer Flat NWR planning area is situated in a dry climate region characterized by hot and dry summer months and cold and wet mild winters (IDEQ 2010). Climate in Idaho is largely governed by two influences: the Continental Divide and the Pacific Ocean. Although Deer Flat NWR is located more than 300 miles from the Pacific Ocean, its climate is nevertheless affected by the air that is borne eastward on the prevailing westerly winds from the coast (WRCC 2011a). The primary source of moisture for precipitation in Idaho is the Pacific Ocean (WRCC 2011a). By the time the weather patterns from the Pacific Ocean arrive at Deer Flat NWR, relatively little precipitation remains. In portions of the Boise, Payette, and Weiser river drainages, less than 30 percent of the annual precipitation falls between the months of April and September (WRCC 2011a). The dry season in southern Idaho tends to end by October (IDEQ 2010).

It is rare that Idaho experiences periods of extreme heat or cold that last more than a week at a time, because the normal ongoing progression of weather systems moving across the state usually results in weather changes at rather frequent intervals (WRCC 2011a). The highest temperatures for the refuge area tend to occur in July and August and the lowest temperatures in December and January (WRCC 2011b).

The Lake Lowell Unit of Deer Flat NWR is situated on a plateau between the Snake River and Boise River (IDEQ 2010). The lake was formed by three earth-fill embankments and one dike that hold water in a natural topographic depression in the Lower Boise River Valley: Deer Flat Upper Dam, Deer Flat Middle Dam, Deer Flat Lower Dam, and Deer Flat East Dike (BOR 2011; Ferrari 1995; IDEQ 2010; Simonds 1997). The Lake Lowell watershed covers approximately 63.5 square miles of the Lower Boise River Subbasin within Ada and Canyon counties (IDEQ 2010). Lake Lowell is primarily filled by water diverted at the Boise River Diversion Dam and conveyed to the lake via the 40-mile-long New York Canal, which discharges into the eastern (upper) end of the lake (BOR 2011). Ridenbaugh Canal is also diverted off the Boise River and flows through the densely populated areas of Boise, Meridian, and southeast Nampa before joining the New York Canal just before it flows into Lake Lowell (IDEQ 2010). Other water inputs to the lake via the New York Canal include stormwater from surrounding population centers and agricultural runoff from lands in southern Ada and Canyon counties. Lake Lowell's shoreline sits at 2,531 feet above MSL at full pool, 300 feet lower in elevation than the origin of the New York Canal (IDEQ 2010). The highest upland areas within the refuge boundary at Lake Lowell sit at approximately 2,640 feet above MSL.

Lake Lowell is 14.5 square miles in surface area, has 28 miles of shoreline, and covers approximately 9,000 surface acres at full pool (IDEQ 2010). Lake Lowell is managed first for irrigation purposes. The water stored in the lake irrigates 302,264 acres of land in the Snake and Boise river basins throughout the summer (IDEQ 2010). Water storage in the lake declines rapidly from late June through August as the irrigation releases exceed inflow from the New York Canal (IDEQ 2010). The lowest water levels are generally reached in late August or early September, exposing mudflats around the shallower portions of the lake; levels rise again in the fall as irrigation demands subside and the New York Canal continues to flow (IDEQ 2010). Figure 3.1 provides a graph of the annual average water levels by month. Much of the lake is fringed with riparian habitat including willow and cottonwood transitioning into shrub steppe vegetation in the higher arid terraces.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 MULE DEER

Mule deer (*Odocoileus hemionus*) are Idaho's most abundant and widely distributed big game animal providing more recreational opportunity than any other big game species (IDFG 2010). Mule deer densities are highest in Idaho south of the Salmon River. Conversely, north of the Salmon River mule deer are scattered in suitable habitat with white-tailed deer (*Odocoileus virginianus*) being the dominant deer species (IDFG 2010). Much of Idaho's historic mule deer winter range has been developed and is now occupied by man. Ranches, agriculture, subdivisions, and industry in the lower elevation and foothills have eliminated winter range. Mule deer are known to range from 20-100 miles between summer and winter range (IDFG 2010). Transportation corridors, fencing, and urbanization within mule deer range may disrupt or even eliminate migrations, encouraging residency in secure habitat and forcing deer into marginal habitat that may increase mortality. When mule deer range is interspersed with agriculture, deer commonly damage standing and stored crops. Depredation by mule deer is common to hay, ornamental plants, nursery trees, orchards, and row crops. Population surveys are not conducted within GMU 38 due to logistical challenges that make such surveys costly and complex. The mule deer population within Southwest Region of Idaho is generally robust and healthy (IDFG pers. comm.). The three GMUs adjacent to GMU 38 (GMUs 32, 39, and 40) have an estimated mule deer population of over 55,000 animals, as projected after the annual hunt season. Initial deer surveys conducted on the Refuge and adjacent agricultural lands have estimated a minimum count of 125 deer proximal to the Refuge. The bulk of the local deer population has been observed along the south shore of Lake Lowell both on and off refuge property. The deer are seemingly using the riparian areas between the refuge boundary and shoreline of Lake Lowell, an area that ranges from 880-2200 acres depending upon the elevation of water held in the lake. Regionally, riparian vegetation is somewhat uncommon and occupies a small proportion of the land area. However, it has an extremely important function in providing for the year-round habitat requirements of mule deer. These linear habitat features provide mature trees for thermal and screening cover and drainage patterns promote pooling of water, growth of forbs, and a greater diversity of important shrubs. Mule deer are primarily browsers, with a majority of their diet comprised of forbs (weeds) and browse (leaves and twigs of woody shrubs). Deer digestive tracts have a small rumen in relation to their body size and so they generally must be more selective in their feeding. Instead of eating large quantities of low-quality feed like grass, deer select the most nutritious plants and parts of plants. Because of this, deer have more specific forage requirements than larger ruminants (Cox et al. 2009). These foraging requirements are being filled through consumption of riparian vegetation on refuge and crops off refuge.

The effects of harvest mortality are highly variable in mule deer. In Idaho most annual mortality is not hunter-harvest related. Factors such as predation, malnourishment over winter, accidents, and disease are responsible for most deaths in mule deer population. Therefore, population response tends to be independent of harvest. An exception includes antlerless opportunities designed to stabilize or reduce populations. Additionally, buck harvest during periods when bucks are vulnerable (rut, winter range), can reduce the proportion of bucks and particularly older bucks in the population (IDFG 2010). Table 3.2.1 shows a decade of deer harvest data

from the GMU 38 that surrounds Lake Lowell. Over the decade more than 2300 deer have been harvested with approximately 54% of the harvest on antlerless deer. The Preferred Alternative intends to apply hunting pressure over the duration of the hunting season to disperse deer from the Refuge and into the surrounding GMU 38. Additionally the Preferred Alternative intends to influence local deer numbers through focused antlerless harvest. The Preferred Alternative would offer a limited number of permits to capitalize on buck harvest during the rutting season while providing an expanded local hunting opportunity.

Table 3.2.1 GMU 38 General Deer Harvest Statistics (Short-Range Weapon)

Year	Hunters*	Harvest	Success%	Days	Antlered	Antlerless	%4+Pts	%5+Pts	%Whitetail
2010	858	260	30	3381	103	157	15	6	1
2009	980	240	25	4279	119	121	21	11	1
2008	1023	230	23	4351	74	151	19	3	1
2007	855	268	31	3154	84	182	22	6	9
2006	710	206	29		84	116	19	4	5
2005	745	224	30	2904	109	115	12	5	2
2004	706	171	24	2463	79	92	20	9	1
2003	2350	244	10	9326	131	109	20	6	1
2002	1023	206	20	5399	117	89	24	6	1
2001	963	294	31	3162	155	139	21	7	3

Source: <http://fishandgame.idaho.gov>

3.2.1 SHRUB STEPPE, RIPARIAN, AND WETLAND HABITAT AND ASSOCIATED WILDLIFE

Shrub Steppe and Associated Wildlife:

Currently the Lake Lowell Unit has approximately 920 acres of this upland or shrub steppe habitat. These uplands typically consist of patches of sagebrush with a cheatgrass understory between agricultural fields, fences, roads, and irrigation dikes. Intact shrub steppe habitat would be characterized by unfragmented habitat blocks with native shrubs including sagebrush, bitterbrush, saltbush, and rabbitbrush with a native understory of native perennial forbs/bunchgrasses (bluebunch wheatgrass, Great Basin wildrye, Idaho fescue) and exposed areas of bare ground. Even though the current condition may be degraded, these areas provide nesting and foraging habitat for ground-nesting birds, resting and feeding areas for flocks of geese, foraging space for raptors, and habitat for small mammals and other wildlife. The area near the Visitor Center has the largest contiguous piece of sagebrush habitat on the Refuge at approximately 553 acres. The construction of Lake Lowell directly reduced the area of shrub steppe habitat, as sagelands were among those habitats inundated by the lakebed.

Wildlife that depend on sagebrush habitats are thought to be among the most imperiled in North America (Mac et al. 1998; Knick et al. 2003; Dobkin & Sauder 2004). Populations of shrubland and grassland birds, which represent an important component of the biodiversity in the western United States, are declining more rapidly than other groups of bird species in North America (Dobkin 1994; Saab & Rich 1997; Vickery & Herkert 2002). Most of this decline can be attributed to the once greater than 60 million ha of the intermountain west shrub steppe habitat being degraded, fragmented, converted to agriculture, or changed to vegetative states dominated by exotic annual grasses (West 1996; Miller & Eddleman 2001; Wisdom et al. 2005a). These disturbance regimes have accelerated the loss of sagebrush ecosystems (West & Young 2000;

Bunting et al. 2003) to a point where the ecological integrity has been pushed beyond a threshold from which they can recover (Allen 1988; Belnap & Lange 2001). Conservation and restoration of sagebrush lands are becoming high priorities for natural-resource agencies because of changing attitudes about the intrinsic value of sagebrush ecosystems, and the threat of petitions to list species under the Endangered Species Act (Bureau of Land Management 2002a). Less than 3% of the area dominated by sagebrush lies within areas that receive permanent legal protection (Wright et al. 2001). An estimated 99% of historical sagebrush habitats in the Snake River Plain now are used for cropland (Hironaka et al. 1983).

Many species are considered sagebrush obligate species, meaning that they require sagebrush to complete part of their life cycles (i.e., breeding, nesting, successful reproduction). Many other species rely on sagebrush as part of their diet or for nesting, resting, or hiding cover. Some species, such as western sage grouse, (*Centrocercus urophasianus*), once a flourishing game bird, is now a federal candidate species for listing as threatened, relegated to very restrictive hunting seasons. Non-game species, such as loggerhead shrike (*Lanius ludovicianus*), sage sparrow (*Amphispiza belli*), and sage trashers (*Oreoscoptes montanus*), have fallen victim to habitat conversion and degradation. Although not specifically sage-obligate species, horned larks (*Eremophila alpestris*) and meadowlarks (*Sturnella neglecta*) are frequent nesting birds in sagebrush/bunchgrass habitats.

Riparian and Associated Wildlife:

The Lake Lowell Unit contains approximately 2,116 acres of riparian and/or floodplain forest habitat in various seral stages. Before the construction of the reservoir, Deer Flat consisted of typical sagebrush steppe habitat that included springs and small riparian oases associated with these springs. The flooding of the reservoir eliminated the original habitats but over time riparian habitat re-established on the perimeter of the lake. Currently the majority of shoreline around Lake Lowell is a riparian zone dominated by eastern cottonwood, Russian olive, coyote and peach leaf willows, and false indigo bush. Most of this habitat on the refuge is in a degraded condition due to invasive plants, past grazing practices, alteration of hydrologic regimes, and potentially poor native plant recruitment/recovery. Optimally, the riparian community would be a mosaic of early, mid, and late successional riparian forests comprised of canopy and sub-canopy woody species (e.g., great plains cottonwood, peachleaf willow) and native a mix of native shrubs (e.g., willows, golden currant, wild rose, elderberry).

Numerous bird species occasionally use riparian areas, while others are fully dependent on those areas- common species include American robin (*Turdus migratorius*), song sparrows (*Melospiza melodia*), and dark-eyed juncos (*Junco hyemalis*). Upland gamebirds that use this habitat include ring-necked pheasant (*phasianus colchicus*) and California quail (*Callipepla californica*). Cottonwood forests are used by herons and egrets for communal nesting colonies. Snags are used by many raptors for perching, woodpeckers for foraging and wood ducks and owls for nesting. Intact riparian areas, which support a higher diversity of breeding birds than do all other western habitats combined, are important to the conservation of Idaho's neotropical migrant birds (Anderson and Ohmart 1977, Johnson et al 1977, Johnson and Haight 1985). Over 60% of western neotropical birds use riparian areas during the breeding season or as a stopover for migration (Krueper 1993). One study has shown that some riparian areas harbor up to 10 times

the number of neotropical migrants than neighboring non-riparian habitats (Stevens et al. 1977).

Wetlands and Associated Wildlife:

Deer Flat NWR was established to provide a refuge and breeding grounds for migratory birds and other wildlife. The refuge is within the Pacific Flyway and serves as an important resting and breeding location for neotropical migrants, migratory waterfowl, and shorebirds in an otherwise arid landscape. Deer Flat NWR has been identified as a notable waterbird site (The Intermountain West Waterbird Conservation Plan, Ivey and Herziger 2006), an “important site for aquatic birds in Idaho (Manning and Hartley 2006), and as an Globally Important Bird Area (American Bird Conservancy, IDFG and Audubon). Nineteen species of birds that utilize the refuge’s emergent beds, open waters and mudflats are listed by The Idaho Comprehensive Wildlife Conservation Need Strategy as species of greatest conservation need. These species include Western and Clark’s grebes, northern pintail, great egret, and hooded merganser.

Several distinct wetland habitats are represented within the Lake Lowell lakebed. Seasonally flooded areas produce emergent plant beds (i.e., plants that grow in the water but pierce the water surface) on Lake Lowell benefiting aquatic migratory birds (e.g., Western and Clark’s grebes, mallards, etc) and other fish and wildlife. Emergent plant beds are exemplified by desirable moist-soil plants (e.g., smartweeds, spikerushes, salt grass) interspersed with taller emergent plants (e.g., bulrush, burreed, and cattail). Approximately 77 species in Idaho utilize marshes and lakes and 55 species depend on lakes and emergent beds as their primary habitat (Idaho Partners Flight 2000). Emergent beds typically occur along the entire south and east shoreline of Lake Lowell as well as pockets along the north shoreline. Lake Lowell’s approximately 1,200 acres of emergent plant beds are comprised predominantly of water smartweed, (*Polygonum coccineum*).

Lake Lowell also seasonally offers mudflat habitat important for a diversity of shorebirds. Mudflats are most common after July and August when water levels are at or below 2518 feet (MSL). Mudflats are characterized by sparse to no emergent or woody vegetation. Macro-invertebrates (e.g. chironomids) within the mudflats are a primary food resource for migratory shorebirds. Shorebirds depend upon wetland stopover sites like this to replenish depleted fat reserves used in their migratory flight (Trost et al. 1989, Hunter et al. 1991). The Intermountain West Regional Shorebird Plan identified Lake Lowell as one of only 2 sites in Idaho with greater than 5,000 shorebirds in more than half the years surveyed. The peak was just under 12,000 shorebirds in 1990 (Taylor et al. 1992). Shorebirds present in late summer and fall include: yellowlegs (*Tringa spp.*), sandpipers (*Calidris spp.*), marbled godwits (*Limosa fedoa*), long-billed dowitchers (*Limnodromus spp.*), and several plover species, as well as the black-necked stilt (*Himantopus mexicanus*) and American Avocet (*Recurvirostra americana*).

Open water is a prominent feature of Lake Lowell. Open water is maintained where water depths exceed approximately 2 feet in depth. Over this depth, emergent vegetation is unable to root in the lakebed and grow to emerge from the surface. Open water may host floating or submergent plants where light penetration would support such vegetation. Open water sites such as Lake Lowell support large waterfowl concentrations during spring and fall staging, migration and wintering (Idaho Partners in Flight). The open water habitat provided by Lake

Lowell is important for feeding and roosting to many species of birds at different times of the year, including common loons (*Gavia immer*), western and Clark's grebes (*Aechmophorus spp.*), American white pelican (*Pelecanus erythrorhynchos*), tundra swan (*Cygnus columbianus*), large numbers of dabbling and diving ducks, Franklin's and California gulls (*Larus spp.*), and Forster's (*Sterna forsteri*) and black terns (*Chlidonias niger*). Many waterbirds share time between emergent vegetation and open water depending upon the season. Waterfowl and grebes utilize emergent vegetation to conceal nests and brooding birds, eventually moving to open water for feeding and roosting as their offspring mature.

3.2.2 FEDERALLY LISTED THREATENED SPECIES

Columbia spotted frogs (*Rana luteiventris*) (candidate) are found from Alaska and most of British Columbia to Washington east of the Cascades, Idaho, and portions of Wyoming, Nevada, and Utah. The Great Basin population range includes eastern Oregon, southwestern Idaho, and the northern drainages of Nevada. In Idaho, it occurs in the mid-elevations of the Owyhee uplands and in southern Twin Falls County. Spotted frogs live in spring seeps, meadows, marshes, ponds and streams, and other areas where there is abundant vegetation. They often migrate along riparian corridors between habitats used for spring breeding, summer foraging and winter hibernation. Lake Lowell is within former range for Columbia spotted frogs and may have wetlands and riparian to support portions of their life history, they haven't been confirmed on Deer Flat NWR.

The historic summer and nesting range for yellow-billed cuckoo (*Coccyzus americanus*) (candidate) includes dense riparian and thickets throughout the West. Over time, the range has reduced with rare observations of cuckoos remaining in their historic western range. Cuckoos are a very unusually vagrant species that have been observed in the riparian forests surrounding Lake Lowell during the summer months. The presence of dense riparian habitat would be attractive to vagrant cuckoos and formerly would have been conducive to breeding pairs when cuckoo breeding range included Idaho.

Greater sage-grouse (*Centrocercus urophasianus*) (candidate) are the largest grouse in North America. Males often weigh in excess of 4-5 pounds and hens weigh in at 2-3 pounds. While Lake Lowell is within historic range for sage-grouse, the Refuge lacks sufficient expanses of intact shrub-steppe to support sage grouse.

Snake River physa snail (*Physa natricina*) (endangered) is a freshwater mollusk found in the middle Snake River of southern Idaho including Canyon County. It has an ovoid shell that is amber to brown in color, and has 3 to 3.5 whorls (curls or turns in the shell). The physa can reach a maximum length of about 6.5 millimeters. While much information exists on the family Physidae, very little is known about the biology or ecology of this species. It is believed to be confined to the Snake River, inhabiting areas of swift current on sand to boulder-sized substrate. Given the snail's affinity to swift water within the Snake River system, the snail isn't associated with the habitats present on Lake Lowell.

Slickspot peppergrass (*Lepidium papilliferum*) (threatened) is endemic to this region, known only from the Snake River Plain and its adjacent northern foothills (an area approximately 90 by 25 miles, or 2,250 square miles, with a smaller, disjunct population on the Owyhee Plateau (an

area of approximately 11by 12 mi), or 132 square miles. Rangewide, Slickspot peppergrass is associated with slickspots that cover a relatively small cumulative area within the larger sagebrush-steppe ecosystem. Slickspot peppergrass is not known to the limited shrub steppe habitat of the Lake Lowell Unit.

3.3 SOCIAL AND ECONOMIC ENVIRONMENT

3.3.1 CULTURAL RESOURCES

Prehistoric Resources

In general, the archaeological integrity of the site is not intact. Starting in 1906, massive amounts of gravel, dirt, and lava rock were quarried for the reservoir's construction. In its day, Lake Lowell was the largest off-stream reservoir on earth held in by earth filled dams. The dams required to hold the reservoir totaled 2 ½ miles in length. The compacted fill required for the project being borrowed from the nearby terrain. Archaeological sites within the footprint of Lake Lowell were largely disturbed by the nature of building the reservoir and associated dams. Undisturbed sites would be indefinitely submerged under Lake Lowell. Only the scrub steppe uplands have the potential of retaining prehistoric evidence.

Historic Resources

Upon approval of the Deer Flat Reservoir, the federal government started to acquire lands for the project. Lands acquired by purchase and condemnation were eventually covered by the waters of Lake Lowell, destroying early farms and ranches in the basin. The feat of constructing the Deer Flat reservoir has earned the Upper and Lower Embankments a place on the National Register of Historic Places. Other early canals and infrastructure have historic value representing the early 1900s. During the New Deal work-relief programs, the Works Progress Administration and Civilian Conservation Corps, placed 1800 workers at Lake Lowell. These crews were responsible for the construction of roads, buildings, observation towers, rip-rap, and stone walls. Many of these projects are still evident on the Refuge.

3.3.2 ADJACENT LANDS

The Lake Lowell Unit of Deer Flat NWR sits just outside the southwestern boundary of the Nampa comprehensive planning boundary (City of Nampa 2004) and just south of the Caldwell comprehensive planning boundary (City of Caldwell 2010). The remainder of the Unit is surrounded by the Canyon County comprehensive planning area (Canyon County 2005, 2011a). The Refuge is currently surrounded by both developed and agricultural lands.

The current Nampa comprehensive plan recognizes there are conflicts associated with the agricultural/urban interface in the region: slow-moving farm equipment disrupts travel routes, and long hours of equipment operation during the harvest season create noise and dust throughout the day and evening (City of Nampa 2004). The plan also acknowledges that the Lake Lowell Unit of the Refuge does not have adequate lands to support the existing diverse wildlife population and that the existing agricultural areas surrounding the Refuge provide food

and cover for wildlife as well as protection for wetlands and watersheds (City of Nampa 2004). The current City of Nampa Comprehensive Plan (2004) maps existing land uses north of the east pool as mostly agricultural land with a mix of rural residential (less than 1.45 dwelling units per acre) and low density residential (1.46-4.00 dwelling units per acre). The plan's future land use map indicates a conversion of the agricultural lands bordering the Refuge to rural and low-density residential to support population growth forecasts and future housing need projections (City of Nampa 2004).

The vast majority of the land surrounding the Lake Lowell Unit is unincorporated Canyon County and is zoned for agriculture (Canyon County 2011b). In addition to acknowledging Lake Lowell as an important natural resource in the county, the Canyon County 2010 Comprehensive Plan (2005) recognizes the importance of Deer Flat NWR as a special area in the county and encourages land use patterns around the Refuge that promote the integrity and purpose of the Refuge. The 2010 plan is being updated, and the proposed 2020 Canyon County Comprehensive Plan (2011c) continues to recognize the importance of the Refuge. The proposed plan also acknowledges that the county needs to preserve its natural resources while allowing for the expansion of cities and growth of the unincorporated areas (Canyon County 2011c). Although the Canyon County Proposed Land Use (2011a) draft map appears to re-categorize the county lands south of Lake Lowell as rural residential, potentially adding population density and reducing agricultural lands south of the Refuge.

3.3.3 OTHER RECREATIONAL OPPORTUNITIES

Deer Flat NWR provides a variety of recreational opportunities and experiences with an estimated 200,000 annual visitors. The Refuge currently offers a mix of wildlife-dependent on-water uses (e.g., fishing) and non-wildlife-dependent on-water uses (e.g., jet skiing). The lake is open April 15 - September 30 with a no-wake zone imposed east of Parking Lot 1.

Lake Lowell is open to fishing all year, however during the non-boating season from October 1 to April 14 (excluding the waterfowl season), fishing is permitted from the bank or by human powered boats in Fishing Areas A and B, 200 yards in front of the Upper and Lower Dams. In all, Lake Lowell receives approximately 48,000 annual fishing visits. Fishing is only allowed from human powered boats in Fishing Areas A and B, 200 yards in from the Upper and Lower Dams during the waterfowl season.

Hunting on the Lake Lowell Unit is limited to the East Side and South Side Recreation Areas. Hunting at the Lake Lowell Unit is currently restricted to upland game birds, mourning doves, ducks, and coots. Lake Lowell receives over 6000 annual hunt visits. All duck and coot hunting must take place within 200 yards of the water's edge. Duck and coot hunting in the East Side Recreation Area is walk-in only. Duck and coot hunters in the South Side Recreation Area may use float tubes, non-motorized boats, or boats with electric motors only.

According to the Idaho Outdoor Recreation Demand Assessment (2002), Idahoans participate much more in wildlife activities than the rest of the nation, especially when it comes to hunting. Big game hunting is four times as popular as it is relative to the national average. Based on population, it is extrapolated that 418,000 Idahoans participate in big game hunting. Hunting to

regulate deer depredation would likely be appreciated as a management tool to local agricultural and hunt communities. However, some people are opposed to hunting in general and others may be opposed to hunting deer on a national wildlife refuge.

The Refuge offers a network of trails and roads in the North Side, East Side, and South Side Recreation Areas for wildlife observation, photography, jogging, bicycling, on-leash dog walking, and horseback riding. The Refuge additionally has a visitor center with a viewshed of a variety of habitats including uplands, riparian, and Lake Lowell. The visitor center attracts over 18,000 annual visitors. Wildlife observation is additionally supported by driving tour along the 29.5-mile Lake Lowell Unit Bird Tour. Additionally, the Refuge has offers environmental education programs to over 11,000 youth, annually.

3.3.4 ECONOMIC

Deer Flat NWR is located southwest of Boise Idaho. The area population increased by 34.5 percent from 1995 to 2005, compared with a 21.4 percent increase for the state of Idaho and a 11.4 percent increase for the U.S. as a whole. Area employment increased by 37 percent from 1995 to 2005, with the state of Idaho showing a 29.3 percent increase and the U.S. a 17.0 percent increase. Per capita income in the area increased by 8 percent over the 1995-2005 period, while the state of Idaho and the U.S. increased by 11.1 and 13.2 percent, respectively (Carver and Caudill 2007).

In 2007 the USFWS produced a report, *Banking on Nature*, that focused on select refuges and assessed: how recreational visitors impact local income and employment. Travel to participate in non-consumptive uses of the natural environment has been called “ecotourism.” It has been promoted as a way to derive economic benefits from the preservation of wildlife and habitat. Many refuges were established to protect wildlife resources; ecotourism broadens the scope of this mandate. Banking on Nature derived a net economic values for hunting, fishing, and non-consumptive recreation use (on a per-day basis) by estimated refuge visitor days for that activity. This figure is combined with the estimate of total expenditures and divided by the refuge budget for 2006. At Deer Flat \$10.29 of total economic effects are associated with every \$1 of budget expenditures. This ratio is provided only for the purpose of broadly comparing the magnitude of economic effects resulting from refuge visitation to budget expenditures and should not be interpreted as a benefit-cost ratio (Carver and Caudill 2007).

The economic impact of a individual hunting program is hard to assess. Hunting as a whole has an economic benefit to the economy. A survey of outdoor activities by the U.S. Fish and Wildlife Service (USFWS) in 2001 showed that over 4 million people hunted in the 18 western states. In 2001 alone, those hunters were afield for almost 50 million days and spent over \$7 billion.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter analyzes and compares the effects anticipated under each alternative. Effects are considered in four main topic areas: species and habitats, social, economic, and cultural

4.2 EFFECTS OF ALTERNATIVES

4.2.1 BIOLOGICAL ENVIRONMENT

4.2.1.1 MULE DEER

Effects from Deer Hunt

Under Alternative A, deer would continue to occupy security zones along the south boundary of Lake Lowell due to low levels of disturbance. The existing agricultural areas surrounding the Refuge would continue to provide food for deer resulting in continued depredation issues and financial losses to local farmers. Off-refuge deer harvest would remain a constant with deer continuing to seeking sanctuary in Refuge woodlands, particularly during hunting seasons. The local deer population would presumably remain constant with deer mortality occurring from direct harvests on surrounding private and State lands. Over time land use adjoining the Refuge is anticipated to shift from agriculture to rural and low-density residential to support population growth. Deer impacts to remaining agricultural lands may be exacerbated due to reduced food resource abundance due to urbanization. Additional homes in the surrounding areas would represent no-shooting sanctuary areas with deer securing food resources in the form of ornamental shrubs, gardens, and landscaped plants. Eventually deer mortality due to hunting may reduce due to the juxtaposition of homes within a rural setting. However, mortality would probably be realized in compensatory forms directly related to urbanization such as starvation, predation, illness, and car strikes.

Alternative B would increase the opportunity for off-refuge deer harvest, as more of the Refuge security zone is open to hunting during the controlled deer hunt season. This increase in the intensity of disturbance to deer would serve to distribute deer from the Refuge into surrounding hunted lands during the hunting season. Additionally, deer would be subject to direct mortality at the Refuge, thereby, reducing the local deer population. Depredation hunts could be prescribed to address valid individual depredation complaints. Collaboratively the Refuge and IDFG would establish the scope and duration of depredation to adequately address specific depredation issues; however, these hunts would generally be set outside the normal mule deer hunting season because of hunter availability. These hunts would additionally contribute to direct harvest of mule deer and potentially redistribute deer from refuge security areas throughout the year. Collaboration between the Refuge and IDFG on deer management would ensure a sustained mule deer population on the Refuge.

Under Alternative B, the controlled mule deer hunt would issue 45 refuge permits for the Refuge. Over the past decade GMU 38 has averaged a 25% harvest success rate with the general season deer hunt, so the refuge controlled deer hunt would be expected to directly harvest at least 11 deer annually; though this success rate may be understated for the first few years, as Refuge deer may be initially unaccustomed to the deer hunting program. The Refuge and IDFG would collaborate on the need and allocation of depredation hunt permits to address localized

depredation issues. Given the explicit intent to harvest the depredating animal, the success rate on prescribed depredation hunts is anticipated to be high. Therefore, the deer harvest due to depredation hunts would be proportional to the number of depredation permits issued.

IDFG has suggested an initial reduction of 20-30% of the local population via the controlled mule deer season may be required to address depredation (pers. comm.). Assuming a population of 120 animals, the controlled mule deer hunt would have to harvest 24-36 animals to address depredation. Achieving this annual harvest might be difficult, but the option of prescribing a depredation hunt may ultimately realize this reduction. In subsequent annual seasons, as population reductions are realized and reproductive does are removed from the local population, it is assumed that the controlled mule deer hunt may achieve desired reduction depredation complaints. Under this scenario, a reduction in depredation complaints would correspond to fewer depredation permits issued for the Refuge. Cumulatively, Alternative B has the greatest immediate potential impact towards reducing the local population through direct harvest of deer off the refuge and redistributing deer to the surrounding GMU 38 during hunting season.

The depredation hunt established by Alternative C would reduce the local mule deer population through the harvest of deer proportionate to the annual number of permits issued. However since depredation hunts typically would not coincide with the general deer hunt within GMU 38; Alternative C would not contribute to deer harvest off refuge through redistribution of animals during a hunting period. Alternative C additionally has some potential to exacerbate depredation issues with refuge hunting pressure redistributing deer to non-hunted areas. Since the hunt is outside the general deer hunt season, all surrounding private lands would represent non-hunted areas. While Alternative C would directly reduce the population via hunting, adjoining agricultural lands may see seasonal increases in deer use coinciding with the refuge depredation season. Seasonal damage prevention may be achieved by non-lethal measures. However, non-lethal visual and auditory frightening devices are temporary and largely ineffective in deterring deer (Belant et al. 1996, Belant et al. 1998, Curtis et al. 1997, Gilsdorf et al. 2003, Gilsdorf et al. 2004a, Koehler et al. 1990, Roper and Hill 1985). Confounding the issue is a recent prohibition of cracker shells and similar exploding pyrotechnics.

Since disturbance associated with hunting has a greater influence on animal behavior than other public uses, deer would likely increase utilization of no shooting areas under Alternative B and C normally avoided because of non-hunting related human disturbance. These areas on the Refuge are represented by portions of the Refuge north of Lake Lowell including Public Use Areas and Closed Areas. The number of no shooting areas is reduced by half under Alternative B & C with the deer hunt proposed between Parking Lot 1 and the New York Canal, a former Closed Area. Under both Alternatives B and C, increased deer density may seasonally occur in both no-shooting areas and adjoining agricultural lands due to deer disturbance induced by the Refuge hunt program.

Direct impacts to deer at the local scale are expected because of alteration of their distribution and anticipated reduction of the population size and population structure. These impacts are not expected however, to put the mule deer population at risk or to interfere with IDFG's management objectives for mule deer. There would be no significant effects on the health of the mule deer population resulting from implementation of alternatives B and C at the local or

regional scale. The GMUs that comprise the local population are expected to maintain a population of over 55,000 animals and mule deer would continue to be abundant throughout their range.

4.2.1.2 SHRUB STEPPE, RIPARIAN, AND WETLAND HABITAT AND ASSOCIATED WILDLIFE

Effects from Deer Hunt to Shrub Steppe and Associated Wildlife

The Lake Lowell Unit has approximately 920 acres of upland shrub steppe habitat. The largest contiguous piece of sagebrush habitat on the Refuge at approximately 553 acres is outside the hunt area proposed under Alternatives B & C. The proposed hunt areas contain segments of marginal shrub steppe habitat. Even in a degraded state shrub steppe may provide nesting and foraging habitat for ground-nesting birds, foraging space for raptors, and habitat for small mammals and other wildlife. Under Alternative A, the no-action alternative, waterfowl and upland game hunting would continue to occur between Parking Lots 1 & 8 within the South Side Recreation Area. Hunters would continue to access these areas by foot, imposing minor impacts to marginal shrub steppe habitats through wildlife disturbance and habitat trampling. This use would be anticipated to remain constant with approximately 6000 annual hunt visits dispersed over both the East and South Side Recreation Areas.

The impacts to steppe habitat and steppe associated species imposed by the hunting alternatives results from disturbance of wildlife associated with hunting and potential redistribution of deer and their browse impacts by hunting. The presence of hunters within steppe habitat may have impacts to shrub steppe obligate species. Numerous studies have found that bird abundance and species composition are affected by the presence of people on foot. In the mixed-grass prairie ecosystem in Colorado, Miller et al. (1998) found that specialist species (western meadowlark, vesper sparrow, and grasshopper sparrows) were less common near heavily used recreational trails. Generalist species such as the American robin, brown-headed cowbird, and black-billed magpie were less affected by trail use. They also found that birds were less likely to nest near trails within the grassland ecosystem and that nest predation was greater near trails. For the majority of species, they found impact was greatest within a 246-foot (75 meter) zone of influence.

Alternative B and C do not propose any new infrastructure or trails; however, there would be a minor increase in use at existing Parking Lots 1-8 within the South Side Recreation Area with the addition of deer hunting visits. Additionally, Alternatives B & C would expand the public use footprint by opening the area between Parking Lot 1 and the New York Canal to deer hunting, this area is currently managed as sanctuary. Between Parking Lot 1 and the New York Canal are scattered areas of steppe habitat. Human disturbance would be associated with foot traffic radiating from established parking lots to access tree blinds during the hunting season. Under Alternative B, controlled mule deer hunters would be limited to 15 permits at any given time dispersed over a hunt area of 880–2200 acres. Under Alternative B, these impacts would be expected to be minimal because the use occurs during the period of plant dormancy and deer hunter density would be very small resulting in a very low probability that any area within the hunt units would receive repeated and prolonged use. Deer hunting would additionally occur

from tree stands, rather than trails, minimizing the frequency and duration of trail use within the hunt area. The hunter density of Alternative C would be lower than Alternative B with depredation permits issued to address localized and specific depredation issues. Therefore, direct impacts to steppe habitat would be minimal and largely regulated by the number of individual depredation permits issued over a particular period of time. Since Alternative C exclusively addresses specific depredation complaints, the seasonality of Alternative C has a greater potential to include spring and summer depredation hunts. In this regard, Alternative C has greater potential to coincide with growing seasons for shrub steppe plant communities and nesting seasons for steppe obligate species. Both Alternatives B & C would slightly increase wildlife disturbance due to gunfire above the current baseline of Alternative A. There would be a few more individual shots or shot clusters associated with the harvest of deer. This occurrence would be minor related to the harvest of upland game and waterfowl which require substantially more shots per harvested animal. Additionally Alternative B & C represent a minimal increase in the overall hunter days above the current baseline of 6000 hunter visits (Alternative A) with only 45 controlled deer hunt permits and a minimal number of deer depredation permits prescribed annually.

Both Alternatives B and C have the potential to redistribute deer from security areas into steppe habitat within non-hunting areas, especially those areas north of Lake Lowell. Increased deer densities could further degrade steppe plant communities through trampling and direct herbivory. These indirect impacts are anticipated to be minimal with deer potentially being redistributed over a large area and a mix of habitat types. Within shrub steppe habitats there would be no effect to listed species from the implementation of either Alternatives B & C.

4.2.1.3 RIPARIAN HABITAT AND ASSOCIATED SPECIES

Effects from Deer Hunt to Riparian and Associated Wildlife

The Lake Lowell Unit contains approximately 2,116 acres of riparian and/or floodplain forest habitat in various seral stages. This riparian habitat occurs in a band around the Lake's shoreline with the largest portions of this plant community on the south shoreline. Under Alternative A, the no-action alternative, waterfowl and upland game hunting would continue to occur between Parking Lots 1 & 8 within the South Side Recreation Area. Hunters would continue to access these areas by foot, imposing minor impacts to riparian habitat through wildlife disturbance and habitat trampling. This use would be anticipated to remain at or near 6000 annual hunt visits dispersed over both the East and South Side Recreation Areas. Resident songbirds, upland game birds and roosting eagles are the primary species groups potentially affected by public use activities in riparian zones under Alternative A. The current hunting programs (upland game and waterfowl) terminate in the end of January, thereby avoiding the nesting season for most riparian obligate species. However, site selection for bald eagle nests and heron colonies may initiate in late January implying that the existing hunt programs could influence nest site locations or the timing of nesting activity for these species. Lake Lowell additionally offers wintering eagles a food resource in the form of waterfowl concentrations, fish, and carrion. As a result of hunting disturbance, perches within closed areas may see a higher frequency of eagle use during the hunt season.

Alternative B and C do not propose any new infrastructure or trails; however, there would be a minor increase in use at existing Parking Lots 1-8 within the South Side Recreation Area with the addition of deer hunting visits. Additionally, Alternatives B & C would expand the public use footprint by opening the area between Parking Lot 1 and the New York Canal to deer hunting, 800 acres, containing scattered riparian habitat. Disturbance would increase between Parking Lot 8 and the New York Canal associated with foot traffic between established parking lots and temporary tree stands during the hunting season. Under Alternative B, controlled mule deer hunters would be limited to 15 permits at any given time dispersed over a hunt area of 880–2200 acres. These impacts would be expected to be minimal because the use occurs during the period of plant dormancy and deer hunter density would be very small resulting in a very low impact threshold. Deer hunters additionally only utilize trails to access their tree stands; thus having a lesser impacts than terrestrial based hunting, stalking and roaming. As discussed earlier, both Alternatives B & C would increase wildlife disturbance through a minor increase in gunfire associated with deer harvest. Alternatives B & C propose restrictions on the type and design of tree stands to eliminate damage to mature trees within the riparian community.

The anticipated hunter density of Alternative C is expected to be lower than Alternative B with specific depredation permits let to address local depredation issues. The direct impacts to riparian habitat under Alternative C would be directly proportional to the number and timing of permits issued. As previously discussed, the seasonality of Alternative C has a greater potential to coincide with the growing season for riparian communities and nesting season for riparian obligate species, as depredation hunts are typically outside of the controlled deer hunt season (October 10 – December 28). The presence of a regulated number of depredation hunters during the nesting season dispersed over the hunting area producing a few shots per depredation permit is not likely to have major impacts to riparian obligate species. Should impacts be anticipated (e.g. nesting eagles or heron colonies), the framework of the depredation hunting program would allow the Refuge to selectively close areas within the hunt area to buffer sensitive wildlife resources. Resource buffers would be employed utilizing current research to sufficiently safeguard nests or colonies from abandonment.

Since disturbance associated with hunting has a greater influence on deer behavior than other public uses, deer tend to habituate to non-hunting related human disturbance in no-shooting areas. Under all Alternatives (A, B, & C), hunting disturbance has the potential to redistribute deer from the south shore of Lake Lowell into other non-hunted areas, both on and off refuge. Hunting disturbance within Alternative A is presumably relocating deer during the waterfowl and upland game bird season from the South Side Recreation Area into the sanctuary between Parking Lot 1 and the New York Canal. This increased deer density may be having a minor, but undocumented, impact to the riparian community in the current sanctuary area near the New York Canal. Alternatives B & C have the greatest potential to disperse deer since the hunting pressure is exerted on deer and the riparian forest near the New York Canal is open to hunting. Given this scenario, deer hunting could indirectly impact riparian communities north of Lake Lowell with deer relocating to the security of no-shooting areas, or at minimum areas with only waterfowl and upland game hunting. Higher densities of deer within riparian communities could serve to reduce habitat characteristics through trampling and browse. Of specific concern would be deer browse that would reduce the density of shrub and subcanopy vegetative cover. Additionally, browse and trampling that would reduce the recruitment of young trees into

riparian area which overtime could shift the age structure of the forest. These impacts would be greatest if induced hunting pressure doesn't additionally achieve a reduction in the local deer population.

4.2.1.4 WETLAND HABITAT AND ASSOCIATED SPECIES

Effects from Deer Hunt to Wetlands and Associated Wildlife

The proposed Lake Lowell hunt area is between 880-2200 acres. This variability is based upon the depth of Lake Lowell and the degree to which the adjoining shoreline and forested areas is inundated with water. When the lake level is greatest, water would expand over the landscape and into the adjoining riparian areas. In this scenario, the deer hunting area may be in juxtaposition with the wetland area. The presence of hunters near the water would have the greatest impacts to waterfowl that utilize shallow wetland margins in search of food including geese, swans, mallards, pintails, teal, and wigeon. Additionally, non-waterfowl wildlife would be disturbed with species including coots, herons, and grebes.

Deer hunting could impose physical alterations to wetland plant communities through trampling of aquatic vegetation and disturbance to saturated soils while traveling to the tree stand. Additionally, hunters increase the potential of invasive species introductions with clothing and equipment serving as a transportation vector between various hunting locations. With the very low density of deer hunters in Alternative B & C and the fact the activity would take place outside the growing season for most plants, impacts associated with either trampling or disturbance would likely be inconsequential. Restrictions on the use of motorized equipment under both hunting alternatives would greatly diminish the potential for soil disturbance and introduction of propagules of exotic species. Some potential for invasive species introductions may exist at the parking areas where hunters are concentrated in set locations and clothing and equipment are readied for hunting. These defined areas would be closely monitored for new introductions. Any new infestations would be quickly controlled.

Under Alternatives B & C, active deer hunting would occur from a single point in the tree canopy. The deer hunt program has a limited number of permits spread over the landscape. Over the span of a season, deer hunters may fire a single shot, perhaps a few shots, in the pursuit of a single animal. The disturbance to wetland obligate wildlife would be negligible beyond the baseline disturbance from the waterfowl hunting program that offers non-point free range hunting that is concentrated near waterfowl habitat, along the shoreline. Additionally, waterfowl hunting attracts a larger number of participants that may fire many shots, often in rapid succession, throughout the day in pursuit of a bag limit of many birds. Alternatives B & C both open existing sanctuary areas between Parking Lot 1 and New York Canal to hunting. This has the potential to add disturbance to new wetland areas redistributing waterfowl and wetland obligate species elsewhere on the lake. The probability that a hunter would spend significant time within wetlands or in adjacent shorelines is low, as deer would be seeking thermal cover in the forested areas above the waterline. Therefore no significant impacts to wetland habitat and associated species are expected to occur from deer hunting on the Refuge.

4.2.1.5 FEDERALLY LISTED THREATENED SPECIES

Effects from Deer Hunt to Federally Listed Threatened Species

The Lake Lowell Unit of Deer Flat NWR represents historic range for Columbia spotted frogs (*Rana luteiventris*) (candidate). Hunting on Lake Lowell would not have any effect spotted frogs as they have not been identified on the refuge.

Greater sage-grouse (*Centrocercus urophasianus*) (candidate) are known to Southwest Idaho. Hunting on the Lake Lowell Unit would not impact greater sage grouse as currently sage grouse are not known to the refuge. Further, grouse are not hunted on the refuge.

Yellow-billed cuckoo (*Coccyzus americanus*) (candidate) have been documented on the Lake Lowell Unit as a rare summer vagrant species. The Refuge represents former range when cuckoos were a common breeding species in the west. Now, as a rare non-breeding summer visitor, deer hunting has little probability of jeopardizing vagrant cuckoos.

The range for Snake River physa snail (*Physa natricina*) (endangered) includes the middle Snake River of southern Idaho including Canyon County. It is believed to be confined to the Snake River, inhabiting areas of swift current on sand to boulder-sized substrate. Given the snail's affinity to swift water within the Snake River system, the snail isn't associated with the habitats present on Lake Lowell. If present, deer hunting would not overlap the species typical habitat association.

Slickspot peppergrass (*Lepidium papilliferum*) (threatened) is endemic to this region, known to relatively small cumulative area within the larger sagebrush-steppe ecosystem. Slickspot peppergrass is not known to the limited shrub steppe habitat of the Lake Lowell Unit.

In summary, The Lake Lowell Unit of Deer Flat NWR has no known federally listed species, therefore, no adverse effects are anticipated by establishing a hunt program

4.3 EFFECTS OF ALTERNATIVES

4.3.1 SOCIAL AND ECONOMIC ENVIRONMENT

4.3.1.1 CULTURAL RESOURCES

Effects from Deer Hunt to Prehistoric and Historic Resources

The Alternatives addressed in the document do not require facilities construction, additional infrastructure, or ground disturbance activities that can have negative impacts to archeological and historical sites. Additionally, there are known cultural resource sites within the proposed hunt areas.

Cultural resource protection procedures, which are required by National Historic Preservation Act for each project at the site specific level, are designed to reduce impacts from human activities. The potential to impact cultural resources and the workload for a cultural resource

professional to implement cultural resource protection procedures would be no greater under any Alternative.

Vandalism or surface collection is always a threat to cultural resources especially in areas open to the public. The risk of vandalism of cultural sites would increase proportionate to an expected increase in use of the Refuge. Under Alternatives B & C there would be a slight increase in risk related to vandalism to cultural resources because of a slight increase hunting visits and greater amount of the refuge open to hunting.

4.3.1.2 ADJACENT LANDS

Effects from Deer Hunt to Adjacent Lands

Under either Alternative B or C which include deer hunting on the Refuge, there would be at least in the short term a potential for increasing use of deer on private land as deer react to increased human disturbance on the Refuge. Under Alternative B the controlled deer hunt on the refuge would coincide with the hunting season for the surrounding GMU 38 resulting in increased harvest of deer in the Refuge vicinity. This could result in a reduction in the localized population. Additionally, depredation hunts proposed within Alternatives B & C would further serve to reduce depredation, financial loss to local agricultural interests, and expenditures by the State related to depredation management.

Increased refuge hunting pressure, proposed under Alternatives B & C, may additionally redistribute deer to other nearby off refuge no-hunting zones. Currently, these locations include low density residential and mixed rural areas where hunting is precluded due to safety. It is evident that urban interface would increase in areas adjoining the refuge, increasing the abundance of urbanized no-hunting zones. These areas may see increased numbers of deer and subsequent impacts to gardens, ornamental plants, and landscaping. These areas may additionally experience compensatory forms of deer mortality relating to starvation, predation, and car strikes. These impacts would be greatest if refuge induced hunting pressure doesn't additionally correspond with a reduction in the local deer population.

4.3.1.3 OTHER RECREATIONAL OPPORTUNITIES

Effects from Deer Hunt to Other Recreational Opportunities

Hunting (especially gunshot noise) has the potential to disturb Refuge visitors engaged in other wildlife-dependent public uses. Under Alternatives B & C, these impacts may be minimized by the location of the designated deer hunt on the south shore of Lake Lowell. The footprint of Alternatives B & C largely coincides with the current waterfowl and upland game hunting season within the South Side Recreation Area. Additionally, Alternatives B & C would open a previously closed area between Parking Lot 1 and the New York Canal, approximately 800 acres. This proposed hunt area uses public use areas that are currently principally used by hunters and spatially separated from the Public Use Areas at the North Side Recreation Area, Lower Dam Recreation Area, Fishing Area A, and Fishing Area B. The controlled mule deer hunt proposed in Alternative B would additionally be temporally removed from the general boating season on Lake Lowell which ends September 30th.

The South Side Recreation Area is used year-round for multiple recreational pursuits. Seasonally, the South Side Recreation Area sees infrequent use by non-hunters. The CCP/EIS would address opportunities to seasonally separate activities within the South Side Recreation Area to increase public safety and quality of experience for recreationalists. Adherence to the short-range weapon and tree stand requirements of Alternatives B & C are important safety provisions where hunting activities overlap within the South Side Recreation Area. The use of tree stands would bring deer hunters in close proximity to game, increasing public safety between hunting groups. Coupled with the use of tree stands the trajectory of weapons used for deer hunting would be downward, thereby, terminating errant shots into the ground adjacent to the intended target. These same provisions should additionally negate any potential for projectiles from straying into sensitive areas, private property, or other non-hunted areas.

There is a possibility that the non-hunting public would still observe hunters as they drive county roads bordering the Refuge. Some members of this group may be offended by seeing hunters with weapons and/or recently harvested animals. The addition of hunters to the Refuge would also slightly add to the number of gunshots heard by the visiting public. The proposed deer hunting area is on the opposite shore of Lake Lowell more than 1 ½-mile from the Visitor Center reducing the sound of gunshots at one of the refuge's primary public use destinations.

Under Alternatives B & C, a reduction in the local population of mule deer is anticipated. This reduction may result in less opportunity for the public to view mule deer from public use areas. Hunting pressure may serve to redistribute deer from the hunting area to non-hunted public use areas having a slight compensatory effect to mule deer viewing opportunities.

4.3.1.4 ECONOMIC

Economic Effects of Deer Hunt

According to the Idaho Outdoor Recreation Demand Assessment (2002), Idahoans participate much more in wildlife activities than the rest of the nation, especially when it comes to hunting. Big game hunting is four times as popular as it is relative to the national average. Cooper and Unsworth (2000) estimated mule deer hunting in 2006 to result in direct expenditures of \$42 million in trip related expenses, not including equipment purchases. Using a typical multiplier of 2.5 (Gordon and Mulkey 1978) the total estimated economic impact of mule deer hunting in Idaho exceeds \$100 million annually. At this time it is not possible to determine the allocation of refuge permits to residents or non-residents. This would be a prime factor in determining the economic benefit associated with a hunt program. It is assumed that antlerless tags and depredation hunts would be most appealing to local residents seeking additional annual deer hunting and harvest opportunities. Generally, non-residents are drawn to antlered hunts with a greater probability of harvesting large or trophy bucks. Therefore, the refuge hunt is likely to attract resident hunters from the surrounding area having a lesser economic benefit.

A survey of outdoor activities by the U.S. Fish and Wildlife Service (USFWS) in 2001 showed each hunter spent an average of \$1,581 in local communities across the West on lodging, gas, licenses, and hunting-related equipment. This financial figure is probably exaggerated relative to establishing a deer hunt at Deer Flat, as it reflects an average of hunting expenses across the

spectrum of hunting including non-resident hunting with significant travel and licensing expenses. However, the simple fact remains that there the Preferred Alternative would increase the number of hunter days in the local area. These hunters would use consumable items such as fuel and ammunition. Additionally, durable sporting goods (e.g., tree stands, guns, and ammunition) would be utilized and may experience an accelerated replacement schedule do to increased utilization. The Refuge hunt may additionally precipitate economic activity with the initial purchase of short-ranged weaponry, ammunition, and tree stands. Hunts requiring this type of equipment is not common to deer hunting in Idaho. The implementation of the Preferred Alternative would be a benefit to local agricultural interests by reducing financial losses associated with mule deer depredation and lost productivity. The Preferred Alternative would additionally reduce expenditures by the State related to depredation management; however, in the context of the local economy, the aforementioned benefits do not represent a significant beneficial impact

4.4 CUMULATIVE IMPACTS ANALYSIS

4.4.1 MULE DEER

Regional Analysis

Idaho Code 36-103 establishes statewide policy for wildlife, and can be paraphrased as all wildlife would be preserved, protected, perpetuated, and managed to provide continuous supplies for hunting, fishing, and trapping. The Idaho Fish and Game Commission (Commission or IFGC) is charged with administering state wildlife policy through supervision and management of IDFG. Idaho Code 67-1903 requires state agencies to develop strategic plans expressing how they would meet core mission requirements. Plans must identify outcome based goals and performance measures. The current IDFG strategic plan, entitled “The Compass,” was implemented in 2005. The Compass, adopted broadly describes objectives for four major goals: 1) sustain Idaho’s fish and wildlife and the habitats upon which they depend, 2) meet the demand for fish and wildlife recreation, 3) improve public understanding of and involvement in fish and wildlife management, and 4) enhance the capability of Fish and Game to manage fish and wildlife and serve the public. The Compass calls for the development of “action plans” that describe programs, projects, and activities necessary to meet strategic plan goals (IDFG 2005). The 2008 Mule Deer Management Plan (Plan) tiers off of the IDFG strategic plan, functioning as the action plan for mule deer management in the state. Major issues affecting mule deer management are identified, setting overall direction for mule deer management during the next 10 years and providing performance targets and management strategies for management actions. Although the plan is not regulatory (e.g., statute or rule), it does incorporate IFGC policy and provide management direction to IDFG. This plan would guide IDFG in annual work plan development and program priority, and provide guidance on development of regulatory recommendations (IDFG 2008).

The Plan identifies the following major mule deer management goals for IDFG to achieve over the next 10 years:

- Provide mule deer hunting opportunities that reflect the preferences and desires of hunters.

- Maintain healthy and productive mule deer populations.
- Establish short-term and long-term population objectives that represent maintenance of, or increase in, current mule deer population levels.
- Maintain annual hunting opportunity.
- Increase the opportunity for mature buck hunting, equitably distributed throughout the state.
- Implement predator management actions when and where appropriate to aid in achieving management objectives.
- Encourage recruitment of new hunters and retention of existing hunters.
- Use antlerless harvest judiciously and conservatively to achieve management objectives.
- Develop simple and easily understood regulations that encourage participation in deer hunting.
- Fully implement the Mule Deer Initiative Action Plan.
- Improve and protect over 10,000 acres of habitat annually.
- Encourage land management agencies to incorporate mule deer habitat needs in agency decisions.
- Manage mule deer populations proportionate to habitat capabilities.
- Evaluate a cost-effective and reliable habitat monitoring program.
- Reduce illegal harvest, especially of mature mule deer bucks; and reduce commercialization of mule deer parts.
- Improve population monitoring programs.
- Work with landowners and sportsmen to minimize and mitigate for depredations.
- Improve management coordination with other agencies and organizations.
- Implement special investigations to improve population and habitat management capabilities.
- Provide information and improve public understanding of mule deer management in Idaho.
- Ensure continued citizen involvement in mule deer management.

To expand upon the goal “Work with landowners and sportsmen to minimize and mitigate for depredations”; the Plan acknowledges that mule deer can create depredation concerns when foraging on agricultural crops or rangeland vegetation. These situations are associated with overabundant deer populations, drought conditions, or in areas where cropland is adjacent to deer habitat. Idaho Code 36-1108 identifies statutory requirements that must be met and appropriate actions IDFG must take to address depredation situations. IDFG has Landowner/Sportsmen Coordinators to assist with addressing depredations. They work with partners to alleviate, and where possible, eliminate damages caused by deer. Hazing, permanent fencing, depredation hunts, kill permits, and perpetual easements are just some of the tools incorporated into depredation management strategies. The Plan sets a statewide mule deer management direction to reduce and minimize mule deer depredations with a performance target of reducing damage claims to below the 2002-2007 average. Among the strategies to achieve this performance measure is to use targeted antlerless harvest to remove deer causing depredation problems. The Plan recognizes the harvest of antlerless mule deer as an important management tool to decrease population density and to address depredation issues on private lands.

The Plan also establishes population goals for distinct Population Management Units (PMUs) which are a grouping of GMUs. PMUs are based on mule deer movements, similar habitats, and similar management objectives. The GMUs 38, 52A, 53, 63, 63A, 68A are all consolidated into the Snake River PMU. The 10,160 square mile PMU has a mule deer population goal of maintaining the population status. No actual population estimate has been projected within the

PMU. Harvest statistics from the 2010 season in the PMU indicate that 928 deer were harvested with a 36% harvest rate of antlerless animals. A total of 3787 hunters hunted within the PMU with a 25% success rate in 2010.

Local Analysis

Initial deer surveys conducted on the Refuge and adjacent agricultural lands have estimated a minimum count of 125 deer on and adjacent to the Lake Lowell Unit of Deer Flat NWR. These deer are managed as a subset of the larger population managed within GMU 38 which surrounds the refuge. Due to logistical challenges the population of GMU 38 is not estimated. In general, the mule deer population within Southwest Region of Idaho is generally robust and healthy. Estimates do exist for the three GMUs adjacent to GMU 38 (GMUs 32, 39, and 40) which collectively have an estimated mule deer population of over 55,000 animals, as projected after the annual hunt season. Collectively, GMUs 32, 39, and 40 harvested over 5000 mule deer during the 2010 hunting season (pers. comm.). Hunter harvest of deer in GMU 38 has been relatively stable over the past few years with approximately 240 deer harvested annually.

Conclusion

The Refuge has coordinated closely with the state in developing a deer hunt that falls within the frameworks of the depredation hunts and the general deer hunt within GMU 38. Alternatives A & B would assist IDFG to support the goals and objectives of the 2008 Mule Deer Management Plan, specifically as it applies to alleviating depredation to agricultural croplands. The hunt plan offers additional local mechanisms for IDFG to fulfill its statutory requirements within Idaho Code 36-1108 to take appropriate actions to address depredation situations.

Under Alternative B, up to 45 refuge permits would be made available to harvest deer via the controlled mule deer hunt and a minimum number of depredation hunt permits may be issued to achieve reductions in depredation complaints. Under Alternative C, only depredation hunts would be used to reduce depredation complaints and would be estimated to be at least 45 permits. It is anticipated that no matter how many controlled or depredation hunt permits are issued, harvest success rates will not approach 100%. IDFG has suggested an initial reduction of 20-30% of the local population may be required by the controlled deer hunt to address depredation (pers. comm.). Alternative B has the greatest potential to achieve this initial reduction with refuge hunting coinciding with hunting within GMU 38, culminating in greater hunting pressure over a greater area during the controlled mule deer season. While initially greater numbers of depredation permits may be warranted to address depredation complaints, subsequent hunt seasons may issue fewer depredation permits as the controlled hunt reduces the local population and a depredation threshold is realized.

With regional deer populations exceeding 55,000 animals, the proposed hunts in either Alternative B or C, would not result in significant cumulative impacts to either GMU 38 or the Snake River PMU. Locally an increase in harvest would actually help maintain the population at levels that are socially acceptable through the reduction of car strikes, direct financial losses, and wildlife conflicts in an urbanizing area.

The Refuge hunt program would be designed to provide a quality hunt, safe experience, with a reasonable opportunity to harvest game species. By implementing the deer hunt program, no habitat degradation would be anticipated; disturbance to birds and other wildlife, if any, would be temporary and localized; and ample amounts of additional quality habitat for these wildlife species exists on the Refuge. Thus, it is anticipated that wildlife populations would find sufficient food resources and resting places such that their abundance and use of the Refuge and local area would not be measurably lessened from hunting activities. The number of individuals expected to be removed from the deer populations due to hunting would not impair the physiological condition and production of hunted species and their behavior and normal activity patterns would not be altered dramatically.

A controlled mule deer hunt and depredation hunt offering a limited number of permits on the Deer Flat Refuge would have minimal impacts on the refuge environment, overall population of mule deer, non-target species, other wildlife-dependent recreational uses, and nearby residents. The refuge environment includes wildlife, soils, vegetation, air quality, and water quality. Some disturbance to the refuge environment is anticipated but impacts would be minor due to the dispersed nature of the activity entailing a limited number of participants over the duration of the hunt season. State and Federal regulations and refuge-specific special conditions would help reduce or eliminate any unwanted impacts of the use to non-target species. The Refuge would implement, as needed, spatial and /or temporal sanctuary areas to protect sensitive non-target wildlife resources such as eagle nests or waterbird nesting colonies. The proposed hunt is not anticipated to have any impact on threatened or endangered species, as none are known to occur in the hunting area.

Specific refuge regulations help safeguard refuge habitat and adjoining private property. Disturbance to other wildlife would occur, but this disturbance is generally short-term with sufficient habitat in adjacent areas. Apart from the Refuge's deliberate efforts to reduce the localized deer population, this harvest would not significantly affect the regional population of mule deer. In addition, the proposed hunt is anticipated to have a positive benefit to adjoining agricultural lands by alleviating localized depredation impacts.

In summary, the hunt on the refuge would not have any significant impacts to hunted species, to the regional populations of these species, to the refuge environment, to adjacent lands, or to nearby residents.

5.0 COORDINATION, CONSULTATION, AND COMPLIANCE

5.0.1 NATIONAL ENVIRONMENTAL POLICY ACT (1969)

As a Federal agency, the Service must comply with provisions of the National Environmental Policy Act (NEPA). An environmental assessment is required under NEPA to evaluate reasonable alternatives that would meet stated objectives and to assess the possible impacts to the human environment. The environmental assessment serves as the basis for determining whether implementation of the proposed action would constitute a major Federal action significantly affecting the quality of the human environment.

The planning process has been conducted in accordance with National Environmental Policy Act Implementing Procedures, Department of Interior and Service procedures, and has been performed in coordination with the affected public. A 30-day public review and comment period for the Draft Environmental Assessment for a Controlled Mule Deer Hunt on the Lake Lowell Unit of the Deer Flat National Wildlife Refuge opened on December 6, 2011. Press releases announcing the availability of the plan were sent to local media outlets. The EA was also posted on the Refuge's website for the duration of the public comment period. Paper copies were made available at the Refuge's Visitor Center during the public comment period. Notice of the availability of the plan was mailed to land owners bordering the south boundary of the Refuge.

5.0.2 NATIONAL HISTORIC PRESERVATION ACT

The implementation of this plan should not affect cultural resources. The Service will comply with the National Historic Preservation Act if any management actions have the potential to affect any historic properties which may be present.

5.0.3 EXECUTIVE ORDER 13175. CONSULTATION and COORDINATION WITH INDIAN TRIBAL GOVERNMENTS

As required under Secretary of the Interior Order 3206 American Indian Tribal Rights, Federal Tribal Responsibilities, and the Endangered Species Act, the Service consulted and coordinated with the Shoshone-Bannock, Shoshone-Paiute, and Nez Perce Tribes regarding the proposed action (See 5.1.3).

5.0.4 EXECUTIVE ORDER 12898. FEDERAL ACTIONS to ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY AND LOW-INCOME POPULATIONS.

All Federal actions must address and identify, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations, low income populations, and Indian Tribes in the United States. This plan was evaluated and no adverse human health or environmental effects were identified for minority of low-income population, Indian Tribes, or anyone else.

5.0.5 NATIONAL WILDLIFE ADMINISTRATION ACT OF 1966, as amended by THE NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT OF 1997 (16 U.S.C. 668dd-668ee).

A Compatibility Determination has been prepared for deer hunting on Deer Flat National Wildlife Refuge.

5.0.6 ENDANGERED SPECIES ACT

Implementation of this plan is not expected to impact listed species. A Biological Assessment (Section 7) for the proposed hunt program is under development and review.

5.1 COORDINATION

5.1.1 STATE AGENCIES

Idaho Department of Fish and Game staff met with refuge staff on October 11, 2011 to discuss the Lake Lowell hunting program. The Service and IDFG shared correspondences relating to deer management during the development of the plan. IDFG also provided comments and suggestions to a preliminary draft plan.

5.1.2 INTERAGENCY COORDINATION

Upon release, letters will be sent to federal legislators (Senator Michael Crapo, Senator James Risch, Congressman Raul Labrador, and Congressman Michael Simpson) informing their staff of the hunt plan and public comment period. On November 30, 2011 members of the CCP's Interagency Coordinating Team (ICT) received an emailed Monthly Update announcing the release of the planning documents and clarifying the difference between this plan and the CCP. Members of the ICT will be sent links to the plan upon release. Members of the ITC include members of state, federal, county, and federal government.

5.1.3 TRIBES

Letters were sent to Tribal contacts from the Shoshone-Bannock, Shoshone-Paiute, and Nez Perce Tribes by the Service informing them of the hunt plan and public comment period.

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Compatibility Determination for a Controlled Mule Deer Hunt on Lake Lowell Unit of the Deer Flat National Wildlife Refuge

CANYON COUNTY, IDAHO

Compatibility Determination for a Controlled Mule Deer Hunt on Lake Lowell Unit of the Deer Flat National Wildlife Refuge

Introduction

This compatibility determination discusses a proposed deer hunt, which is identified as the preferred alternative/proposed action (Alternative B) in the Environmental Assessment for a Controlled Mule Deer Hunt on Deer Flat National Wildlife Refuge. All refuge uses must be compatible with the mission of the National Wildlife Refuge System and the purposes of the Refuge. For purposes of this document, refuge uses are defined as ‘a recreational use (including refuge actions associated with a recreational use or other general public use), refuge management economic activity, or other use of a national wildlife refuge by the public or other non-National Wildlife Refuge System entity’ (603 FW 2.6Q). The term compatibility was first used in 1918 in regulations developed by the precursor of the Fish and Wildlife Service, the Bureau of Biological Survey. A compatibility standard has been used by refuges since 1937 and was reaffirmed through the 1997 amendments to the National Wildlife Refuge Administration Act of (Administration Act) Current compatibility policy is contained within 603 FW 2.

The Administration Act stipulates that the needs of wildlife must come first and defines a compatible use as a use that “...in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the [NWRS] or the purpose of the refuge.” Sound professional judgment is defined as “...a finding, determination, or decision, that is consistent with principles of sound fish and wildlife management and administration, available science and resources...” Compatibility for priority wildlife-dependent uses may depend on the level or extent of use. If determined to be compatible, wildlife-dependent recreational uses, which are defined as hunting, fishing, wildlife observation and photography, and environmental education and interpretation, receive priority consideration over other refuge uses.

Use

Deer Hunting

Refuge Name

Deer Flat National Wildlife Refuge, Canyon County, near Nampa, Idaho

Establishing and Acquisition Authorities

- Executive Order 7655, dated July 12, 1937)
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

Refuge Purpose(s)

- “...as a refuge and breeding ground for migratory birds and other wildlife...” (Executive Order 7655, dated July 12, 1937)
- “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” (16 U.S.C. 715d Migratory Bird Conservation Act)
- “...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1) and “...the Secretary...may accept and use...real... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors...” (16 U.S.C. 460k-2 and Refuge Recreation Act 16 U.S.C. 460k-460k-4, as amended).
- “...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” (16 U.S.C. 742f(a)(4)) “...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” (16 U.S.C. 742f(b)(1) Fish and Wildlife Act of 1956).

National Wildlife Refuge System Mission

The mission of the National Wildlife 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 Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

Description of Use

Beginning in the Fall of 2012, the Refuge proposes to implement a controlled and depredation deer hunt seasons on portions of the Lake Lowell Unit consistent with the Idaho Department of Fish and Game’s (IDFG) seasons, bag limits, and special conditions for Game Management Unit (GMU) 38, which surrounds Lake Lowell. Annually, a set total of forty-five controlled hunt permits would be let for the Refuge controlled deer seasons. IDFG and Refuge personnel will work collaboratively to assess the success of the Refuge controlled deer hunt season and to evaluate the need for additional Refuge depredation permits. Additional deer depredation hunt permits may be allocated to address verified, localized deer depredations.

Controlled Mule Deer Season:

A set total of forty-five permits would be let for the Refuge controlled mule deer hunt season. The hunt would create a safe and quality recreational opportunity providing a reasonable opportunity to harvest game. Additionally, the hunt would be predominantly for antlerless mule deer with a goal of population reduction to reduce localized depredation complaints. Hunt seasons would be distributed into four antlerless controlled deer hunts with 10 permits each with each hunt spanning 20 days to distribute hunting pressure evenly over the entire season. Additionally an antlered deer controlled hunt would be allowed consisting of 5 permits. Table 2.2.2 shows the allocation of permits and seasons for the Preferred Alternative. The controlled antlered hunt would provide a quality hunt opportunity for bucks during the rut, while

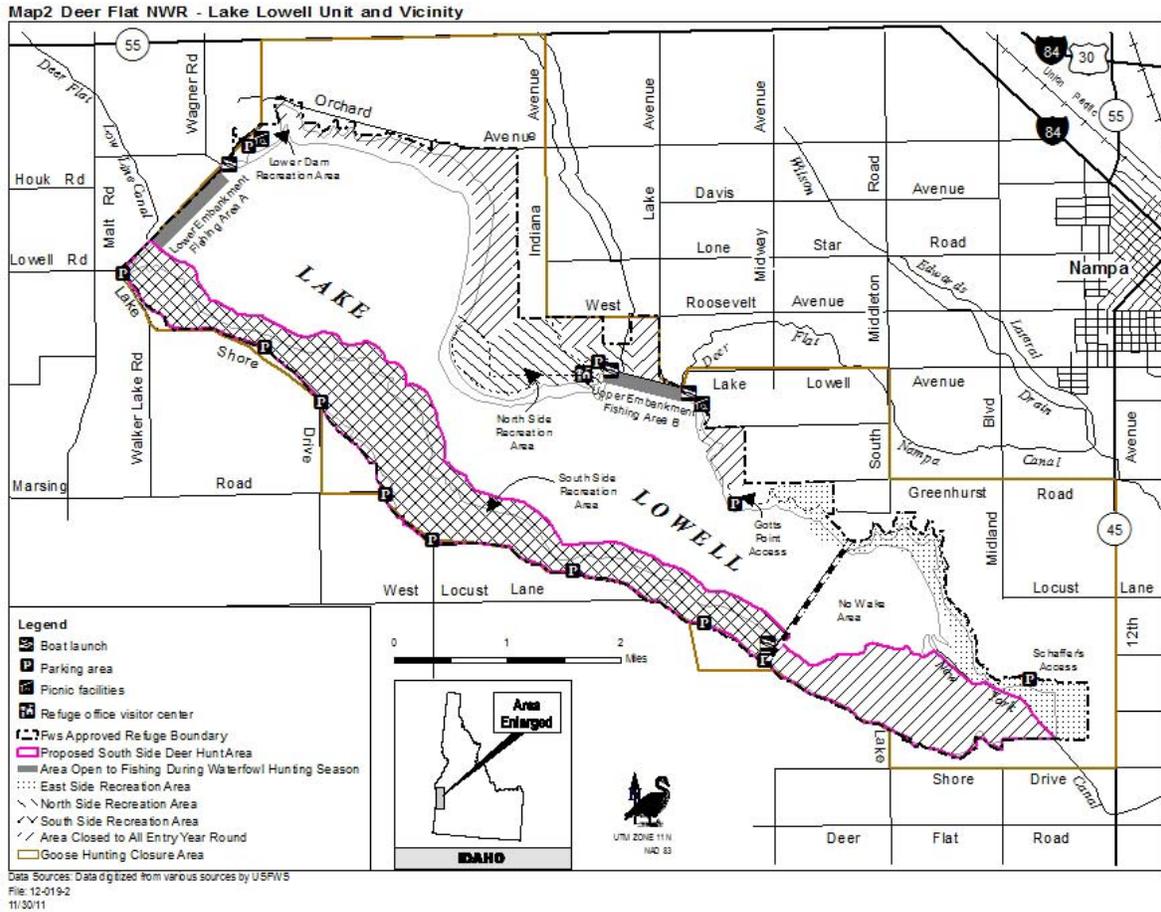
additionally reducing localized depredations. IDFG would use its pre-existing hunting framework to manage the controlled hunt. Within the State framework, hunters are allowed to harvest an Extra Antlerless Deer. Extra Antlerless Deer allows hunters to apply for special permits, as an extra deer, even if they are putting in for other controlled hunts. Hunters are allowed two deer under this mechanism, but only one deer within this specific controlled hunt. This is a regularly used framework to help attract hunter to controlled hunts to reduce populations when there is the potential that a controlled hunt be under subscribed.

Special Depredation Season:

IDFG and Refuge personnel will work collaboratively to assess the success of the Refuge controlled deer hunt toward population reduction and to evaluate the need for additional Refuge depredation permits. Continuous collaboration on deer management will ensure that depredation hunt permits adequately address localized depredation issues while not extirpating the Refuge deer population. As warranted, depredation permits could be issued by IDFG to harvest deer within the Refuge hunt area under Idaho Administrative Rules (IDAPA 13.01.0800); as a prescription to address specific localized depredation issues. To maintain flexibility in the program and to promptly and efficiently address depredation issues, the seasonality and duration of the depredation hunting season would be individually prescribed to have a high probability to resolve valid depredation complaints through direct harvest of deer on Refuge. Typically depredation hunts would be set outside the normal mule deer hunting season because of a lack of hunters available to be directed to the problem area.

Proposed Controlled Hunt Season for the Lowell Unit, Deer Flat NWR:			
Type of Hunt	Period	Permits Issued per Hunt	Duration
Antlerless Extra Deer	Oct 10 –Oct 29	10	20 days
Antlerless Extra Deer	Oct 30 – Nov 18	10	20 days
Antlerless Extra Deer	Nov 19- Dec 8	10	20 days
Antlerless Extra Deer	Dec 9 – Dec 28	10	20 days
Antlered Deer	Oct 10-Nov 24	5	46 days
Depredation Hunt – as set by IDFG/Refuge	Outside of Oct 10-Nov 24	As needed to adequately address localized depredation issues.	As needed to adequately address localized depredation issues.

The hunts would occur in designated areas on Service-owned lands, generally described as the south shoreline of Lake Lowell between Parking Lot 8 to the New York Canal. This area is between 880 to 2200 acres comprised depending upon the level of Lake Lowell comprised of mostly of riparian forest and wetland shoreline. Map 2 illustrates the areas to be opened for mule deer hunting.



Refuge would implement, as needed, spatial and /or temporal closure areas to protect sensitive non-target wildlife resources such as eagle nests or waterbird nesting colonies. Of specific concern are nesting eagles and herons that may occur after the controlled mule deer hunt season, often in early February to March. Upon detection, sensitive resources would be mapped and closure areas established to buffer the resource. Hunters issued depredation permits would be required to meet with Service personnel to attain a description of areas seasonally closed to hunting and other Refuge specific regulations. When complete, CCP/EIS will establish the size of buffers necessary and appropriate for sensitive wildlife resources.

Consistent with the hunting conditions on the surrounding GMU 38, hunting on Lake Lowell would be limited to short-ranged weapons. These weapons include muzzleloaders, archery equipment, crossbow, shotgun using slugs or shot of size #00 buck or larger, or a handgun using straight-walled cartridge not originally developed for rifles. This restriction is imperative due to the many interspersed tracts of private land, thus creating a safety issue for long-range weapons. The controlled mule deer hunt would require the use of hunter supplied temporary tree stands. By requiring hunting to take place in tree stands, the trajectory of weapons would be downward and any errant shots would be directed toward the ground, preventing the potential for projectiles to carry over to adjacent properties. No permanent structures would be constructed on Service lands; therefore, only temporary portable tree stands would be authorized.

Why is This Use Being Proposed

Hunting is one of the six priority public uses as defined by the 1997 amendments to National Wildlife Administration Act of 1966. If compatible, hunting is to receive enhanced consideration of other general public uses in refuge planning and management. Hunting can also be a valuable management tool to help regulate wildlife populations. Hunting has given many people a deeper appreciation of wildlife and a better understanding of the importance of wildlife and habitat conservation, which ultimately contributes to the Refuge System mission.

The proposed hunts are intended to offer a quality and unique hunt opportunity for deer in Idaho. Hunt programs structured around tree stand and short-range weapons are uncommon. These hunts will offer a unique hunting experience with a reasonable opportunity to harvest deer. Additionally the controlled mule deer hunt and depredation hunt, will help alleviate localized depredation issues on nearby agricultural lands by reducing the mule deer population. Idaho's Mule Deer Plan states, 'Mule deer can create depredation concerns when foraging on agricultural crops or rangeland vegetation. These situations occur due to overabundant deer populations, drought conditions, or in areas where crop land is adjacent to deer habitat.' There has been a long history of depredation complaints in the agricultural area surrounding Lake Lowell. Complaints include direct browsing or rubbing on orchard and nursery stock, grazing on alfalfa stands and on carrots planted for seed production. Recent depredations to carrot seed crop near Lake Lowell may amount to \$10,000 lost in annual seed production. IDFG's 15-year strategic plan, *The Compass*, has a strategy to address depredation, 'alleviate wildlife damage to agriculture and compensate landowners for unavoidable losses as provided by law.' Idaho Code 36-1108 identifies statutory requirements that must be met and appropriate actions IDFG must take to address depredation situations. IDFG utilizes integrated strategies to address depredation management including hazing, permanent fencing, depredation hunts, kill permits, and perpetual easements. Conditionally, IDFG may additionally be required to compensate for crop damages caused by antelope, elk, deer or moose.

Availability of Resources

The proposed mule deer hunt would not require any additional infrastructure. Hunter access to the proposed hunt area would be accommodated at existing Parking Lots #1 to #8. Permanent blinds, additional trails, and roadway pullouts will not be constructed to support the hunt program. Hunter access will be restricted to pedestrian access only, ATVs and pack animals are not permitted.

Administration of the hunt program would add workload to existing staff. Maps, websites, signage, and printed media would need to be updated to reflect the new hunting program. The majority of this expense would occur in the first year, as existing media and signage would need to be initially modified and seasonal closure maps (if applicable) would need to be designed. Thereafter, the Refuge would incur the annual expense of editing and producing media related to the new deer hunting opportunity. Monitoring efforts would need to be increased to determine the program's impacts to refuge deer populations and other refuge resources. The simple administration of the program would add annual work load to the biological, management, and public use staff. It is expected that the Service and IDFG law enforcement personnel will assist

with any enforcement related problems. The Refuge has adequate staff and base funding to cover the additional work load and costs.

Position	Activity or Product	Initial	Reoccurring
Many Participants including Refuge and Regional Office Personnel	Preparation of Hunt Opening Package	\$20K	
Project Leader/Deputy Project Leader	Coordination with IDFG & Program Management		\$5K
Wildlife Biologist	Deer Monitoring, Resource Monitoring, Hunt Plan Updates, Coordination, Program Management		\$5K
Law Enforcement	Coordination with IDFG & Patrols		\$5K
Visitor Services Manager	Outreach, Production of Media, Program Management		\$5K
Visitor Services Manager	Modify existing outreach/regulatory materials (brochures, website, signage)	\$7K	
Maintenance Worker	Improve Signage	\$3K	
Total		\$30K	\$20K

Anticipated Impacts of the Use

Harvest of Deer:

Hunting by its nature, results in the direct take of individual animals, as well as wounding and disturbance (DeLong 2002). In all cases, the Refuge would seek to minimize needless deer mortality; while providing a quality hunt experience and supporting objectives of reducing deer populations and reducing localized depredation issues. The Refuge has coordinated closely with the state in developing a deer hunt that falls within the frameworks of the depredation hunts and the general deer hunt within GMU 38. The Preferred Alternative would assist IDFG to support the goals and objectives of the 2008 Mule Deer Management Plan, specifically as it applies to alleviating depredation to agricultural croplands. The Preferred Alternative additionally offers local mechanisms for IDFG to fulfill its statutory requirements within Idaho Code 36-1108 to take appropriate actions to address depredation situations.

With regional deer populations exceeding 55,000 animals (pers. comm.), the Proposed Alternative would not result in significant cumulative impacts to deer populations in either GMU

38 or any larger context. Locally an increase in harvest would actually help maintain the population at levels that are socially acceptable through the reduction of car strikes, direct financial losses, and wildlife conflicts in an urbanizing area. Under the Preferred Alternative, up to 45 refuge permits would be made available to harvest deer via the controlled mule deer hunt and a minimum number of depredation hunt permits may be issued to achieve reductions in depredation complaints. It is anticipated that no matter how many controlled or depredation hunt permits are issued, harvest success rates will not approach 100%. IDFG has identified an initial reduction of 20-30% of the local population as an initial threshold required by the controlled deer hunt to address depredation (pers. comm.). Assuming a population of 120 animals, the controlled mule deer hunt would have to harvest 24-36 animals to address depredation. Achieving this annual harvest might be difficult, but the option of prescribing a depredation hunt may ultimately realize this reduction. In subsequent annual seasons, as population reductions are realized and reproductive does are removed from the local population, it is assumed that the controlled mule deer hunt may achieve desired reduction depredation complaints. Under this scenario, a reduction in depredation complaints would correspond to fewer depredation permits issued for the Refuge. The long-term stability of the local population is dependent upon a myriad of factors including, immigration/emigration, births/deaths, and population dynamics. The Refuge and IDFG will work collaboratively to annually prescribe the scope and duration of depredation hunt to adequately address specific depredation issues; while sustaining a mule deer population on the Refuge.

Deer hunting can have indirect impacts to habitat by reducing populations or redistributing deer thereby changing densities of deer in a given area. Mule deer are largely dependent upon the fat stored during the spring, summer, and fall to survive winter. In the best winter range, deer lose weight throughout the winter. A main strategy for winter survival is securing habitat with adequate thermal cover to conserve energy by becoming sedentary. To support this strategy, energy loss would be minimized by sufficient food resources in close proximity to cover habitat (IDFG 2010). The Refuge provides winter hiding and resting cover juxtaposed to enticing and important browsing opportunities on nearby private agricultural properties. IDFG has managed the surrounding Idaho GMU 38 for high doe harvest to control the population and reduce depredation. Permit holders in GMU 38 harvest approximately 250 mule deer per year. This liberal harvest structure favors the harvest of antlerless deer, averaging 54% of the mule deer harvest within GMU 38([http:// fishandgame.idaho.gov](http://fishandgame.idaho.gov)). The clear intent is to reduce the population through harvest of both sexes and not to merely redistribute the deer population. Hunting may serve to redistribute deer on refuge habitats which could result in habitat damage. The main no-hunting zone on the Refuge would be the Public Use Areas north of the Lake Lowell. This portion of the Refuge has historically received lesser deer use as a result of the relatively greater level of human disturbance and further proximity from agricultural lands. Since disturbance associated with hunting has a greater influence on big game behavior than other public uses, deer may begin to habituate to the level of human disturbance in the no shooting areas. Increased density of deer in these areas may increase the intensity of grazing and browsing resulting in unforeseen habitat damage north of Lake Lowell.

Impacts to Habitats:

Foot travel associated with deer hunting could potentially result in trampling of vegetation and

minor impacts to subcanopy riparian cover. Since deer hunting would involve small numbers of spatially dispersed hunters, and primarily take place during the time of the year most understory plants are dormant, this activity would likely have little direct impact on any native plant species. Refuge specific rules for tree stands will additionally reduce vegetative trampling, as hunters will not be free roaming within the Unit. Tree stands will be non-damaging to trees and free of screw-in/nail-in hangers, attachments, or steps. Although impacts to habitats within the hunt area are expected to be minor, as noted above, other habitats could be impacted from increased grazing and browsing should deer move away from the hunt zone. The redistribution of deer from the hunting zone may increase deer density within other nearby suitable habitat areas. Through trampling and direct herbivory, habitat conditions could be reduced within riparian, shrub steppe, and agricultural areas. Higher densities over prolonged times can have impacts to habitat structure, as young plants are consumed suppressing the number of potential recruits into older age classes.

Impacts to Soil and Water

Minimal disturbance is anticipated to soils and water due to the dispersed nature of the activity. Additionally, the proposed hunt utilizes existing infrastructure for parking and pedestrian access. The impacts of a limited number of hunters hiking to/from hunting stands during a restricted season are anticipated to be negligible.

Impacts to Non-Target Species:

The activity of hunting deer on the Refuge could also disturb some wildlife species. Periodic firearm discharge in close proximity to wetlands can result in behavioral responses by waterfowl and other wetland birds. Portions of the Refuge proposed to be open to deer hunting would include shorelines adjacent to Lake Lowell along the southern shoreline. Use patterns of wintering waterfowl and waterbirds on Lake Lowell in close proximity to periodic shooting could temporarily disperse birds on the Lake. This disturbance will be limited in scope by the number of potential hunters at any given time, as a maximum of 15 hunters daily would be present when the controlled antlered and antlerless seasons coincide. These hunters would be dispersed throughout an 880-2200-acre hunt area. The rate of gunfire disturbance is expected to be infrequent and random based upon opportunistic individual shots or shot clusters at deer in range. The frequency of gunfire may be only a few shots per day causing temporary and short-term disturbance to wintering waterfowl and waterbirds.

The controlled mule deer hunt season may impose some short-term effects to wintering bald eagle use within the hunt units. Wintering populations of bald eagles have shown susceptibility to disturbance resulting in disrupted foraging behavior and changes in social dynamics between other species in the avian scavenger guild (Skagen 1991) and avoidance of areas with high disturbance (Stalmaster and Newman 1978). Stalmaster and Newman (1978) also found that recreational activities occurring within 250 meters of roosting and foraging areas resulted in changes in distribution patterns by displacement to areas of lower human activity. With regards to hunting, Stalmaster and Newman (1978) found that gunshots were the only noises that elicited overt escape behavior by eagles in their study. Edwards (1969) also found that gunshots could be used to flush eagles from their roost (cited in Stalmaster and Newman 1978). The proposed hunt

unit would incorporate riparian woodlands that could serve as eagle roosting habitat for wintering eagles. The proposed hunt area is also adjacent to Lake Lowell that is utilized by bald eagles for foraging, potentially placing hunters within 250 meters of roosting and foraging eagles. As a result of hunting disturbance, perches and foraging areas within closed areas may see a higher frequency of eagle use during the hunt season.

Site selection and nesting activity for bald eagle nests and heron colonies may initiate in late January, applying the depredation hunt season may introduce a regulated number of hunters to suitable habitat during this period. The depredation season is anticipated to have low hunter density producing only few shots per depredation permit. The impact to nesting eagles and herons is not likely to have major impact. The framework of the depredation hunt additionally allows the Refuge to selectively close areas, as detected, to protect sensitive wildlife resources within the hunt area with spatial buffers. Resource buffers will be employed utilizing current research to sufficiently safeguard nests or colonies from abandonment. As closures are implemented, the Refuge will supply hunt permit holders maps of closures to hunting activity.

Impacts to other wildlife-dependent recreational uses:

Hunting (especially gunshot noise) has the potential to disturb Refuge visitors engaged in other wildlife-dependent public uses. Under the Preferred Alternative, these impacts may be minimized by the location of the designated deer hunt on the south shore of Lake Lowell. The footprint of Alternatives B & C largely coincides with the current waterfowl and upland game hunting season within the South Side Recreation Area. Additionally, a previously closed area between Parking Lot 1 and the New York Canal would be opened. This proposed hunt area uses public use areas that are currently principally used by hunters and spatially separated from the Public Use Areas at the North Side Recreation Area, Lower Dam Recreation Area, Fishing Area A, and Fishing Area B. The controlled mule deer hunt proposed in Alternative B would additionally be temporally removed from the general boating season on Lake Lowell which ends September 30th.

The South Side Recreation Area is used year-round for multiple recreational pursuits. Adherence to the short-range weapon and tree stand requirements are important safety provisions where hunting activities overlap within the South Side Recreation Area. The use of tree stands will bring deer hunters in close proximity to game, increasing public safety between hunting groups. Coupled with the use of tree stands the trajectory of weapons used for deer hunting will be downward, thereby, terminating errant shots into the ground adjacent to the intended target. These same provisions should additionally negate any potential for projectiles from straying into sensitive areas, private property, or other non-hunted areas.

A reduction in the local population of mule deer is anticipated. This reduction may result in less opportunity for the public to view mule deer from public use areas. Hunting pressure may serve to redistribute deer from the hunting area to non-hunted public use areas having a slight compensatory effect to mule deer viewing opportunities.

Impacts to Adjacent Lands

The initiation of a deer hunting program on Deer Flat NWR will result in additional localized gunfire along the south shore of the Lake Lowell Unit. Hunting on the Refuge will occur simultaneously with the local off-refuge controlled mule deer hunt but will represent an increase in gunfire above the current baseline. In places, private property and residences border the proposed Refuge hunt area. Adherence to the short-range weapon restrictions imposed throughout GMU 38 is intended to increase public safety where hunting areas interface with no-hunting zones. The proposed hunt additionally will be limited to tree stand hunting. By requiring tree stands the trajectory of weapons will be downward toward the ground, thereby, reducing the potential of errant shots from carrying to private property. The Refuge will establish regulations to prohibit shooting (firearm or bow) from the ground eliminating horizontally discharged firearms with trajectory over the landscape. In conjunction with enforcement of existing State regulations that prohibit the discharge of firearms from or across public right of ways, the additional safeguards have been established to minimize impacts to adjacent private lands.

The proposed hunt will help reduce the localized mule deer population to alleviate agricultural depredation to lands surrounding the Refuge. There has been a long history of depredation complaints in the agricultural area surrounding Lake Lowell. Complaints include direct browsing or rubbing on orchard and nursery stock, grazing on alfalfa stands or carrots planted for seed production. Recent depredation to carrot seed crops near Lake Lowell may amount to \$10,000 lost in annual seed production. The mule deer hunt is anticipated to have a positive economic impact by reducing financial losses due to crop depredation. Additionally, there may be a minor economic gain through increased recreational activity in the local community.

Public Review and Comment

This compatibility determination is an appendix to the Environmental Assessment for a Controlled Mule Deer Hunt on Deer Flat National Wildlife Refuge. This document was available for 30-day public review and its availability was announced via press release to local and regional media sources. In addition, copies were provided to congressional staffers, organizations and individuals that have shown interest in Deer Flat planning deer hunting at Lake Lowell. Those wishing to comment had 30 days to submit written comments following the release of this document.

Determination

Use is Not Compatible
 Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility

In order to ensure that the mule deer hunt within the designated boundaries of the Lake Lowell Unit is compatible with refuge purposes, the refuge will need to issue specific hunting regulations. The following regulations are required in order for a safe and quality hunt to proceed:

- Hunters must comply with the applicable provisions of state and federal laws, as well as, hunting regulations of the State of Idaho.
- Hunting is permitted within designated hunting areas only, see Map 2. The hunt area is generally defined as the areas between the shoreline of Lake Lowell and the refuge's southern boundary, and extending from Parking Lot 8 southeasterly to the New York Canal.
- Access will be walk-in from existing Parking Lots 1-8.
- Prior to opening of a hunt, a complete Hunting Plan package (Sport Hunting Plan, NEPA documentation, state concurrence, Section 7 ESA consultation regulations, and Federal Register regulations) will be completed as required under Refuge System policy. Hunting will not be allowed until regulations allowing hunting have been published in the Federal Register.
- The Refuge will establish additional area closures to reduce impacts to non-target wildlife by providing spatial and /or temporal sanctuary from disturbance associated with deer hunting, as necessary.
- Consistent with the surrounding GMU 38, hunting will be limited to short-ranged weapons. These weapons include muzzleloaders, archery equipment, crossbow, shotgun using slugs or shot of size #00 buck or larger, or a handgun using straight-walled cartridge not originally developed for rifles.
- All hunting will be from temporary tree stands. Tree stands will be non-damaging to trees and free of screw-in/nail-in hangers, attachments, or steps.
- Tree stands shall be placed a minimum of 12 feet above the base of the tree.
- Terrestrial based stalking and/or still hunting is not permitted at any time.
- Shooting (firearm or bow) from the ground is not permitted, except to dispatch wounded deer.
- A hunt permit holder may install a tree stand on the first day of their hunting season and must remove the stand by the last day of their season.
- No permanent structures will be constructed on Service lands.

Justification

Hunting, when compatible, is defined as one of the priority public uses of the Refuge System by the National Wildlife Refuge System Improvement Act of 1997. The Refuge hunt program will be designed to provide a quality hunt, safe experience, with a reasonable opportunity to harvest game species. By implementing the deer hunt program, no habitat degradation would be anticipated; disturbance to birds and other wildlife, if any, would be temporary and localized; and ample amounts of additional quality habitat for these wildlife species exists on the Refuge. Thus, it is anticipated that wildlife populations would find sufficient food resources and resting places such that their abundance and use of the Refuge and local area would not be measurably lessened from hunting activities. The number of individuals expected to be removed from the deer populations due to hunting would not impair the physiological condition and production of hunted species and their behavior and normal activity patterns would not be altered dramatically.

A controlled mule deer hunt offering a limited number of permits on the Deer Flat Refuge would not have minimal impacts on the refuge environment, overall population of mule deer, non-target species, other wildlife-dependent recreational uses, and nearby residents. The refuge environment includes wildlife, soils, vegetation, air quality, and water quality. Some disturbance to the refuge environment is anticipated but impacts would be minor due to the dispersed nature of the activity entailing a limited number of participants over the duration of the hunt season.

State and Federal regulations and refuge-specific special conditions will help reduce or eliminate any unwanted impacts of the use to non-target species. Refuge will implement, as needed, spatial and /or temporal sanctuary areas to protect sensitive non-target wildlife resources such as eagle nests or waterbird nesting colonies. The proposed hunt is not anticipated to have any impact on threatened or endangered species, as none are known to occur in the hunting area.

Specific refuge regulations help safeguard refuge habitat and adjoining private property. Disturbance to other wildlife will occur, but this disturbance is generally short-term with sufficient habitat in adjacent areas. Apart for the refuge’s deliberate efforts to reduce the localized deer population, this harvest will not significantly affect the regional population of mule deer. For these reasons, public mule deer hunting will not prevent the refuge from fulfilling the purposes of the Fish and Wildlife Act, Executive Order 7655, the Migratory Bird Conservation Act, the Refuge Recreation Act; or the mission of the Refuge System for conserving, managing, restoring, and protecting wildlife resources. In addition, the proposed hunt is anticipated to have a positive benefit to adjoining agricultural lands by alleviating localized depredation impacts.

In summary, the hunt on the refuge would not have any significant impacts to hunted species, to the regional populations of these species, to the refuge environment, to adjacent lands, or to nearby residents. But permitting public hunting the refuge is fulfilling the mission of the Refuge System by administering refuge resources for the benefit of present and future generations. For these reasons, we have determined that mule deer hunting will not materially interfere with or detract from fulfilling refuge purposes and the mission of the Refuge System.

Mandatory 10- or 15-year Reevaluation Date: (provide month and year for ‘allowed’ uses)

- Mandatory 15-year re-evaluation date (for wildlife-dependent public uses)
- Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses)

Signatures

Signatures for Compatibility Determination for Mule Deer Hunting on Deer Flat National Wildlife Refuge; Lake Lowell Unit

Prepared by: _____
(Signature) (Date)

Approved by
Refuge Manager/
Project Leader: _____
(Signature) (Date)

Concurrence

Refuge Supervisor: _____
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System: _____
(Signature) (Date)

News Release

Deer Flat National Wildlife Refuge

13751 Upper Embankment Road, Nampa, ID 83686
208/467 9278 Fax: 208/467 1019 <http://deerflat.fws.gov>

Date: 6 December 2011

Contact: Eric_Anderson@fws.gov

FOR IMMEDIATE RELEASE

Lake Lowell Draft Mule Deer Hunt Plan available for public review and comments

The U.S. Fish and Wildlife Service (Service) is seeking public comments on a Draft Mule Deer Hunt Plan, Environmental Assessment (EA), and compatibility determination (CD) for Deer Flat National Wildlife Refuge's Lake Lowell Unit located in southwestern Idaho. The Service examined the impacts of opening both a controlled mule deer hunt season and a depredation hunt season on portions of the Lake Lowell Unit. Short range weapons would be used for both seasons.

The Idaho Department of Fish and Game and other stakeholders identified important mule deer issues, including managing the refuge's mule deer population, providing mule deer hunting opportunities, and controlling agricultural depredation by mule deer, during initial planning for the refuge's comprehensive conservation plan. In response, the Service examined these issues under a separate planning process to expedite development of the Draft Hunt Plan, EA, and CD.

The Draft Hunt Plan and associated documents are available for public review and comments on the refuge's Web site: <http://www.fws.gov/deerflat>. Printed copies of the documents may be viewed or obtained at the refuge's visitor center located at 13751 Upper Embankment Road, Nampa, ID. Public comments on the Draft Hunt Plan and associated documents are due: January 5, 2012. Send your comments by either of the following methods.

Email: Eric_anderson@fws.gov

Mail: US Fish and Wildlife Service
National Wildlife Refuge System
Attn: Eric Anderson, PVST
911 NE 11th Ave
Portland, Oregon 97232-4181

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.

