Nevada Department of Wildlife

Duck Stamp Program

Fiscal Year 2016

June 2015

Photo by Matt Maples

Photo by Matt Maples

Photo by Tim Torell

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Relevant Duck Stamp Nevada Revised Statutes

NRS 502.310 Duck stamps: Deposit of fees; accounting records; reimbursement of administrative costs. All money received pursuant to NRS 502.300 must be deposited with the State Treasurer for credit to the Wildlife Obligated Reserve Account in the State General Fund. The Department shall maintain separate accounting records for the receipt and expenditure of that money. An amount not to exceed 10 percent of that money may be used to reimburse the Department for the cost of administering the state duck stamp programs. This amount is in addition to compensation allowed persons authorized to issue and sell licenses.

(Added to NRS by 1971, 940; A 1979, 300, 900; 1981, 539; 1985, 1708; 1993, 1668; 2001, 976; 2003, 1542, 2548)

NRS 502.322 Duck stamps: Use of money received pursuant to NRS 502.300.

1. Before the Department may undertake any project using money received pursuant to NRS 502.300, it shall analyze the project and provide the Commission with recommendations as to the need for the project and its feasibility.

2. Money received pursuant to NRS 502.300 must be used for projects approved by the Commission for the protection and propagation of migratory game birds, and for the acquisition, development and preservation of wetlands in Nevada.

(Added to NRS by 1979, 300; A 1981, 539; 1985, 1708; 1993, 1668; 2001, 976; 2003, 1542)

NRS 502.324 Duck stamps: Reports to Legislature regarding program. The Department shall, not later than the fifth calendar day of each regular session of the Legislature, submit to the Legislature a report summarizing any projects undertaken, receipt and expenditure of money, and public benefits achieved by the program for the sale of state duck stamps.

(Added to NRS by 1979, 300; A 1985, 1353; 1993, 1668; 2003, 1543)

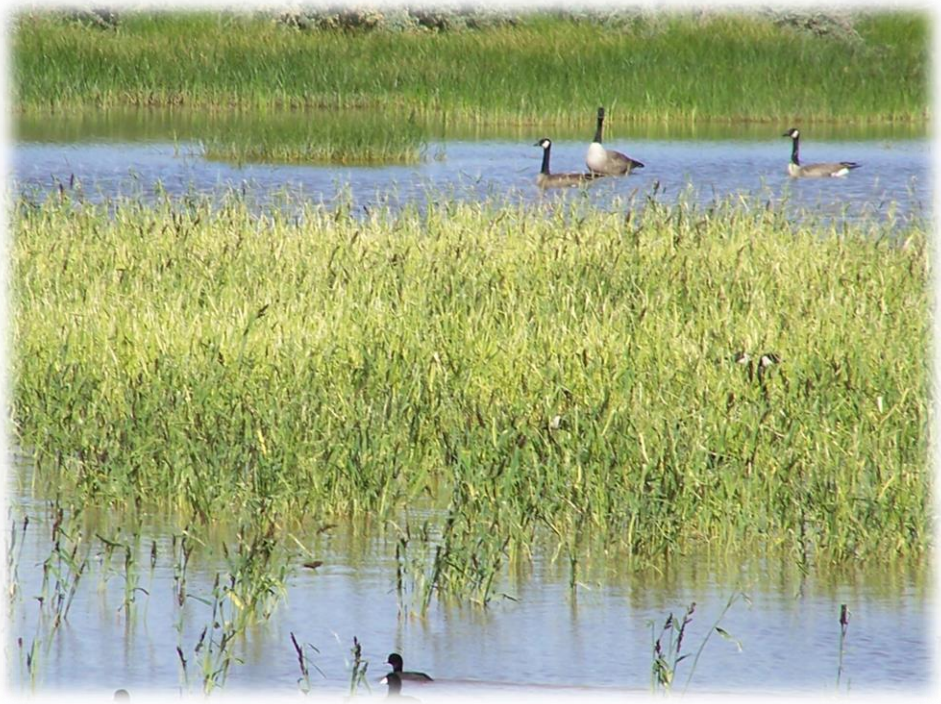
Progress Report on Duck Stamp Projects Funded in FY 2015

Overton WMA Farming

Approximately 50 acres were seeded this spring with barley, cereal rye, alfalfa and wheat. Ammonium sulfate fertilizer also was purchased to increase productivity of the fields. This project was completed by the Cooperator under the terms of the current farming and agricultural lease agreement. A total of $3,500 was spent on seed and fertilizer.

Overton WMA Water Delivery Pipe Project

A total of $40,000 was spent on water supply pipe and valves extending from the C-4 field to Wilson pond. Approximately 1,200 feet of 18 inch diameter PVC pipe, thirty five 12″ irrigation valves and necessary fittings were purchased to replace deteriorated concrete ditches. This allows better management of our delivery system and conserves valuable water resources. The pipe is currently being installed by Wildlife Management Area (WMA) personnel and should be finished in early FY16.



Overton WMA Water Outlet Structure Replacement

A total of $4,000 was spent on pipe materials and water control structures. This improves our ability to effectively control water levels to improve habitat conditions in

moist-soil units and fields which benefit waterfowl and marsh birds. Installation of the materials is expected to be completed this spring or early summer by WMA staff.

Geolocators for Waterfowl Dispersal Patterns Project

NDOW has provided funds for two years of purchasing geolocators. Geolocators are a cheap alternative for following movements of individual ducks by recording daily light curves. In concert with a clock, geolocators can be used like a sailor's sextant by using midday and midnight times, along with daylight length to calculate longitude and latitude. The stored data has to be physically downloaded. A total of 64 geolocators were purchased in 2013; 16 for mallards and 48 for wood ducks. A total of 150 geolocators were purchased in 2014: 50 for mallards, 50 for canvasbacks, and 50 for wood ducks. The primary use of these geolocators is to monitor what proportion of the annual cycle these three species spend in Nevada for purposes of informing habitat managers. A secondary benefit of geolocators is they take advantage of the behavior of wood ducks to nest in dark cavities, either a natural cavity in a tree or human installed nesting boxes, which allows the geolocator to record breeding activity.

Mallards-Sixteen geolocators were attached to mallards (4 young male, 4 young female, 4 adult male, and 4 adult female) prior to waterfowl season in 2013 and 50 (13 on young males, 13 on young females, 12 on adult males, and 12 on adult females)prior to waterfowl season in 2014 by using a ziptie to attach to a PVC legband. A total of 8 geolocatored mallards have been shot, reported, and downloaded as direct recoveries (i.e., shot the same year as banded and thus, not providing much movement information). An additional two were shot and reported but hunters would not respond to inquiries to download, and another was rumored to have been shot but was not reported. The eight which were reported were also returned to us to be used again and seven of them (one was damaged from a shotgun pellet) were reapplied to other mallards and therefore a total of 75 mallards have been fitted. Seven geolocatored mallards were shot in the waterfowl season following release in Nevada and showed no movements from western Nevada. The eighth was shot in the Modesto, CA area in late December 2014 and showed a quick (2 day) movement from Lahontan Valley, NV to the San Joaquin Valley, CA in early December prior to being shot 5 days later. At this point, no mallard geolocator has been downloaded with more than 6 months of data, and thus, no broad scale movements have been obtained. More data will come in the 2015 pre-season duck banding effort as there is potential to recapture marked mallards and also with the 2015/16 waterfowl season in which an increased number of recoveries from the 2014 release should be obtained.

Wood ducks- With the first releases in 2013, a total of 48 geolocators were fitted to female wood ducks by May 15, 2014; 16 were applied to young birds with no nesting history,

16 were applied to adults with no nesting history; and 16 to adults with known nesting history. Of these, 8 have not been seen since, 9 were shot by Nevada hunters and downloaded (8 of these were put back on an additional 8 wood ducks; 1 was shot late in the 2014/15 hunting season and not put back out due to battery life), 17

have been seen but not recaptured for downloading yet, and 24 have been recaptured and downloaded for a total of 29 individuals downloaded. The downloads varied from as short as one month (due to being shot) to 21 months (battery life of 20 months). Only one download showed a movement out of Lahontan Valley and was a bird which moved to western Montana for the summer of 2014. Of the 29 downloads, 16 provided data during the nesting season, including the Montana bird, and 100% of these showed nesting activity of which all showed ~34 day dark period which is long enough to suggest 100% nesting success. For the 2nd cohort of geolocators for wood ducks, 50 geolocators were purchased. Twenty-five were deployed in March 2015 prior to nest initiation on wood ducks trapped away from nesting boxes. The remaining 25 were to be placed on hens in nesting boxes. As of May 11, 2015 only seven of these 25 remain to be attached and are expected to be on birds by May 20. The batteries on these should last 24 months and should provide movement and nesting data through May 2017.

Canvasbacks–A total of 50 canvasbacks were released with geolocators. However, one was missing from a recaptured bird days after initial release. Ten adult females, 27 adult males, 6 juvenile females, and 6 juvenile males were fitted; half were fitted with geolocators under nasal saddles and half were fitted with the geolocator mounted on a legband. We are waiting for hunting season recoveries to obtain data. Based on summer survival of 0.9 and a recovery rate of 0.1, we are hoping for 4-5 recoveries during the 2015/16 hunting season and hopefully maybe 8 returns total in the five years following initial release.

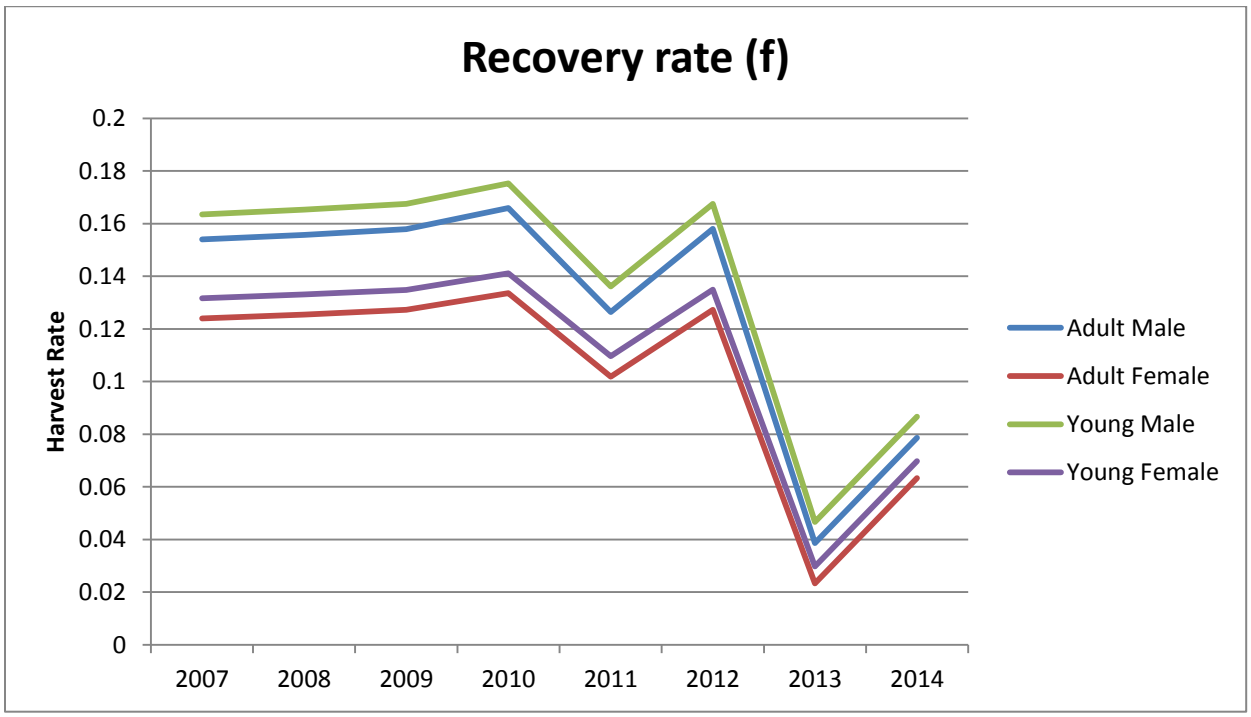
Acknowledgments – The Fallon Wood Duck Project contributed the following: purchased 12 of the 150 geolocators in late 2014, spent ~$250 on the plastic bands and nasal saddles for attaching the geolocators on all of the birds, and the expenses for capturing and recapturing the wood ducks with geolocators. The wood duck effort was undertaken by Ben Sedinger, Walker Price, Catrina Terry, and Bill Henry. Nevada Waterfowl

Association provided the corn for trapping of canvasbacks. Alex Portillo, Lyn Warman, Ed Warman, Daryl Harwell, Grace Nicolai, and Emily Nicolai helped many times in trapping canvasbacks. NDOW allowed fitting of geolocators on mallard during their pre-season duck banding effort.

Fallon Wood Duck Project

Field work occurred continuously from July 1, 2014 through the present, including winter banding (hunting season) for the fifth, and last, time. A total of 555 Wood Ducks were banded for the first time in 2014/15 (320 in 2013/14, 300 in 2012/13 and 768 in 2011/12), 87 of which occurred during the winter (compared to 74 in 2013/14, 13 in 2012/13 and 204 in 2011/12). A total of 473 (compared to 261 in 2014/15, 322 in 2013/14 775 in 2011/12) previously marked Wood Ducks were recaptured as part of the banding program. As this project also uses individually coded tarsal bands which are readable up to 100 yards with a spotting scope, an additional 974 (compared to 648 in 2013/14, 511 in 2012/13 and 716 in 2011/12) marked individuals were encountered. From this information it is quite clear that numbers were greatly increased from the previous field seasons and remains unclear why. The extremely prolonged cold winter weather of both 2012/13 and 2013/14 clearly played a role in the numbers encountered during the past and perhaps the drought in late 2014 made the wood ducks more vulnerable to our trapping efforts. The first nest checks were initiated during the 3rd week of March, 2015. Nest initiation will end in early July, but as May 11, 2014, 48 nests have been located (compared to 65 at end of May 2014, 56 at end of May 2013, and 63 at the end of May 2012) in which 12 nests have hatched (compared to 28 at end of May 2014, 14 at end of May 2013, and 24 at end of May 2012), 5 have abandoned, and 19 are still active. Therefore, the nesting effort in 2014 seems like a decrease increase from 2014, 2013, and 2012 which had been in decline from 2009 to 2012. The irrigation water just got turned on May 9, which may be delaying or causing birds to forego nest initiation this year. Seventy eight banded wood ducks were shot and reported in the 2014/15 waterfowl hunting season (compared to 60 in 2013/14, 149 in 2012/13, 114 in 2011/12, and 156 in 2010/11), including 59 shot in Nevada (40 in 2013/14, 114 in 2012/13, and 89 in 2011/12). California hunters shot and reported 15 bands (15 in 2013/14 and 29 in 2012/13), suggesting harvest was reduced in the west possibly due to dry conditions. The 2014/15 hunting season marked the final of the four experimental harvest years for the harvest experiment. To recap, the 2011/12 and 2013/14 waterfowl hunting seasons were restrictive years in which the daily bag limit was dropped to 1 wood duck per day in Churchill County, and 2012/13 and 2014/15 were years in which the bag limit returned to 7 wood ducks/day and we encouraged higher harvest. Refer to the figure below for estimates of harvest rate since 2007. Harvest rates were high from 2007-2010 and again in 2012. We believe the high rates obtained in 2007-2010 were a result of the novelty of a large number of bands and a large effort from local hunters to harvest banded ducks.

The declines in harvest in 2011 and 2013 are likely a result of the decrease in daily bag limits with great success for the 2013 hunting season in reducing the harvest. In 2012 and 2014, harvest rates increased (data presented below for the harvest rate in 2014 is likely very low as this analysis was conducted prior to the close of the 2014/15 hunting season and band reports are still arriving). In summary, we believe that harvest rates were already high prior to the initiation of this study, and appears that even with incentives, it appears that harvest rate cannot exceed 17% in this population. Ben Sedinger is still collecting data for this harvest experiment and is expecting to defend his PhD in December 2016. Ben Sedinger was supported as a PhD student at the University of Nevada, Reno from July 1, 2011 through the present. A technician, Catrina Terry, is supported from February 1, 2015 through June 30, 2015. Bill Henry (retired FWS) volunteers greatly on this project.



North American Waterfowl Management Plan Implementation Support

A total of $10,000 was donated to Ducks Unlimited to help them implement the migratory bird projects that were developed as a result of the North American Waterfowl Management Plan. The projects primarily consist of wetland restoration, forage establishment and production, and the purchase of conservation easements in the prairie potholes regions of Saskatchewan and Alberta. Band return data shows that these two Canadian provinces serve as the sources for a significant number of waterfowl that pass through Nevada each year.

Mason Valley WMA Cattail Control

A total of $4,000 was spent on herbicides to control cattail and hardstem bulrush in and around various ponds on the WMA. The herbicide will be applied aerially to approximately 170 acres by a private contractor in the fall of 2015.

Mason Valley WMA Redhead Pump Station

A total of $5,500 from the Duck Stamp account was used to help pay the electrical power bill for the Redhead Pump Station. With the use of this station and its associated well, approximately 700 ac-ft of water from the Mason Valley State Fish Hatchery was moved to specified points in the eastern ponds of the WMA. The water from this well was used to create over 350 acres of suitable waterfowl habitat.

Mason Valley WMA Joggles Pump Station

A total of $5,800 was expended on electrical costs for pumping at the Joggles well. This pump was used from September 15th-October 15th, 2014. This enabled WMA staff to enhance roughly 500 acres of wetlands for the fall migration.

Carson Lake and Pasture Vegetation Control

A total of $4,000 was spent on herbicides and aerial application by private contractor during the fall of 2014 at Carson Lake and Pasture. Approximately 250-300 acres of cattail and hardstem bulrush were treated at various ponds and drains on the property to improve waterfowl habitat and hunter access.

Mason Valley WMA Prescribed Burns

Funding in the amount of $6,000 was used for NDF Conservation Crews to assist with a prescribed fire at Bass Pond, Honker Lake, Crappie Pond and North Pond within the Mason Valley WMA. This allowed WMA staff to improve approximately 180 acres of habitat for waterfowl.

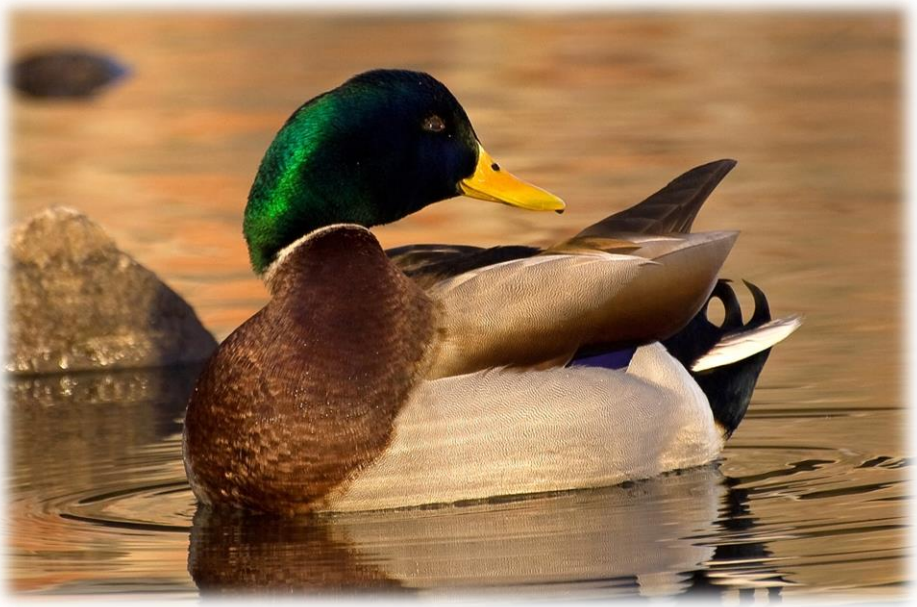
Overton WMA Pintail and Wilson Pond Project

Funding was provided to Ducks Unlimited to conduct survey work and prepare a topographic base map that will be used in the future leveling of Pintail and Wilson ponds. The design will be a cut and fill balance that will result in more uniform pond bottoms that eliminate overly deep areas and spread water to areas that in the present state do not support shallow ponded conditions. The design will also improve water

delivery and drainage and thus improving the ability of WMA staff to manage waterfowl habitat at the WMA. These improvements will also allow NDOW to increase production of preferred waterfowl food plants. Besides the habitat improvements, with deeper areas within the two ponds filled, less water will be required to manage the units and provide optimal habitats for both waterfowl and hunters. Approximately $13,613 was expended on this project for the survey and project design.

Carson Lake and Pasture Sprig Pond Improvements

Funding is being provided to Ducks Unlimited to conduct survey work and prepare an engineering design as well as fund the construction efforts on the Cabin Drain. The design included cleaning approximately 5,000 feet of the Cabin Drain water conveyance canal, improving the flow line, rebuilding deteriorated canal banks, and installing one new water control structure. Companion funding for this project in the amount of $15,400 was obtained by Ducks Unlimited through the National Fish and Wildlife Foundation (NFWF). By the end of Nevada's Fiscal Year 2015, it is ancticipated that Ducks Unlimited will complete project survey and initial design work using the NFWF funding, with Duck Stamp funding held in reserve for final engineering and related coordination with NDOW and the Bureau of Reclamation, plus project construction related costs, with construction anticipated to occur during the summer of 2015. Approximately $53,500 will be expended on this project for the survey, project design and construction costs.



Key Pittman WMA Wetland Enhancement Project

Funding for this project was used to hire Ducks Unlimited to perform survey and design work that would facilitate an improvement project on the north ponds at the Key Pittman WMA. This project funded Phase I of a wetland enhancement plan intended to provide better habitat conditions for waterfowl, better hunting opportunities for area users and would alleviate the situation under which the neighbor's pasture gets flooded. Approximately $16,985 was expended on this project for the survey and project design.

Carson Lake and Pasture Prescribed Burns

Funding in the amount of $1,000 was used for NDF Conservation Crews to assist with a prescribed fire in the Rice Unit within the Carson Lake and Pasture area. This allowed WMA staff to improve approximately 1,100 acres of habitat for waterfowl.

Key Pittman WMA Wildlife Food Plots and Habitat Enhancement

Approximately 60 acres were planted in October with wheat, oats, cereal rye, barley, and hairy vetch as a winter cover crop. An additional 40 acres were planted in November with ryegrass, tall fescue, sand dropseed, and Sandberg bluegrass to enhance desirable vegetation in areas where the removal of noxious weeds and fuel break construction left areas that were lightly vegetated or bare ground. During February, 60 acres were seeded with spring wheat, oats, barley, alsike clover, native annual sunflower, small burnett, and rocky mountain bee plant. Selected areas along the shoreline of the upper ponds will be hand seeded in June, 2015 with millet and native sunflower to increase forage production in feeding areas on the WMA and to enhance hunting opportunities. This project was completed by WMA personnel and a total of $6,070 was spent on seed.

Eastern Region WMA Weed Control

A total of $3,750 was spent on herbicide treatments at the Bruneau River, Steptoe Valley, Wayne E. Kirch, Key Pittman and Franklin Lake WMA's. Canada thistle, Scotch thistle, hoary cress, perennial pepperweed, Russian knapweed and leafy spurge were treated on state-owned lands to clean up important waterfowl habitat. This effort will reduce further weed encroachment at the sites and diminish transportation of noxious weed seeds to other areas. In addition some funds were utilized to purchase herbicides for South Fork State Park near Elko. NDOW has participated in weed abatement work in this area for the last several years.

Proposed FY 2016 Duck Stamp Projects

Title of Project	Project Manager	Funding Requested
Carson Lake and Pasture Vegetation Management	Isaac Metcalf	$8,000
Kirch WMA Food Plots	Marcus Jones	$1,800
Key Pittman WMA Food Plots	Ron Mills	$2,600
Mason Valley WMA Vegetation Control	Isaac Metcalf	$4,500
Mason Valley WMA Joggles Pump Station	Isaac Metcalf	$5,800
Mason Valley WMA Prescribed Burns	Isaac Metcalf	$6,000
Mason Valley WMA Redhead Pump Station	Isaac Metcalf	$5,600
North American Waterfowl Management Plan Implementation Support	Mike Zahradka	$10,000
Overton and Key Pittman WMAs Wetland Enhancement (Phase 2)	Mike Zahradka	$30,000
Overton WMA Farming	Tim Wood	$3,500
Overton WMA Irrigation System Repair	Tim Wood	$16,000
Overton WMA Water Outlet and Pipe Replacement	Tim Wood	$5,000
Overton WMA Weed Control	Tim Wood	$4,500
Fallon Wood Duck Project	Russell Woolstenhulme	$30,000
Geolocators for Waterfowl Dispersal Patterns Project	Russell Woolstenhulme	$22,500
Eastern Region WMAs Weed Control	Steve Foree	$3,750
Total		**$159,550**

Duck Stamp Account Budget Status

(as of 5-27-15)

Balance in the Account at Start of FY 2015	$ 482,147
Estimated Revenue Accrued During FY 2015	$ 89,285
Estimated Total FY 2015 Expenditures	$ 233,123
Estimated Administrative Costs (10% of Revenue)	$ 8,929
Estimated Balance at End of FY 2015 / Start of FY 2016	$ 329,380
Estimated Revenue to be Accrued During FY 2016	$ 98,346
Estimated Administrative Costs (10% of Revenue)	$ 9,835
Proposed New Project FY 2016 Expenditures	$ 159,550
Estimated Balance at End of FY 2016	$ 258,341

Note: The budget information in this table is preliminary and subject to change.

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Carson Lake and Pasture Vegetation Management*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Isaac Metcalf

PM Phone Number and Email Address: (775) 463-2741; imetcalf@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $8,000

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $8,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:

The purpose of the Carson Lake and Pasture project is to reduce emergent vegetation stands that provide little to no usable habitat for waterfowl and other wildlife, and to reduce encroachment of emergent vegetation into areas where lake levels have receded. Overgrown stands of emergent vegetation prevent utilization of the Carson Lake and Pasture areas by consumptive and non-consumptive users. Prescribed burns will increase accesses to these areas and promote the growth of early successional plant species viable to the function of the wetlands.

Goals of the Carson Lake and Pasture Vegetation Management Project are:

1. Increase productive and favorable wetlands for waterfowl and shore birds that are found at Carson Lake.
2. Promote the growth of annual plants.
3. Increase hunting and viewing opportunities for Carson Lake users.
4. Reduce encroachment of emergent vegetation into new areas surrounding Carson Lake.

II. Project Location (include a map if available):

The Carson Lake and Pasture is near Fallon, NV.

III. Project Approach Including Tasks to be Accomplished:

This project would fund the purchase of herbicides and fund Nevada Department of Forestry staff for 5 days to conduct prescribed burns. Prescribed burns will be conducted in the spring on Carson Lake units that have been treated with herbicides the previous year and areas where water has receded leaving overgrown stands of vegetation unusable to waterfowl. NDF will compile a burn plan with the help of Mason Valley Wildlife Management Area staff. Nevada Department of Wildlife staff will construct fire breaks and assist in herbicide applications and follow up treatments. The combination of herbicide and prescribed burns will promote the growth of annual plants desirable for migrating waterfowl.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Prescribed burning at Carson Lake will reduce emergent vegetation in inaccessible and unusable wetlands by waterfowl and shorebirds. Prescribed burning will promote wet soil vegetation germination and the growth of annual grasses at Carson Lake. Consumptive and non-consumptive users benefit by increased wildlife utilization to the burned areas and adding more opportunities for hunting and viewing. Hunting surveys will be collected post burn and compared with pre burn surveys to identify any trends following the prescribed burn.

V. Project Schedule:

This project will take place in the fall and/or spring of FY 16. The actual dates will be dependent of burn boss and NDF availability.

VI. Relationship to NDOW Plans, Policies and Programs:

Annual vegetation control is identified in the MVWMA Conceptual Management Plan. Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's through 2009. (Comprehensive Strategic Plan-2004-2009 page –1).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

A breakdown of the project's costs is included in the attached table.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

Approximately $8,000 will be spent annually conducting prescribed burns and purchasing herbicides.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Project Cost Breakdown

Project Components	*Costs to be Paid by NDOW Special Reserve Account(s)**	*Costs to be Paid by Other Sources**
1. Land Acquisitions		
2. Personnel Costs		
A. NDOW Personnel		
B. NDF Conservation Crews	$ 4,000.00	
C. Total Personnel Costs	$ 4,000.00	$ -
3. Travel Costs		
A. Per Diem		
B. Mileage		
C. Total Travel Costs	$ -	$ -
4. Equipment		
A.		
B.		
C. Total Equipment Costs	$ -	$ -
5. Materials		
A. Herbicides	$ 4,000.00	
B.		
C.		
D. Total Materials Costs	$ 4,000.00	$ -
6. Miscellaneous		
A.		
B.		
C.		
D.		
F. Total Miscellaneous Costs	$ -	$ -
7. In-Kind Services		
A.		
B.		
C. Total In-Kind Services	$ -	$ -
Subtotals	$ 8,000.00	$ -
Total Project Costs	$	8,000.00

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Kirch WMA Food Plots*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Upland Game Bird Stamp and Duck Stamp

NDOW Project Manager (PM): Marcus Jones

PM Phone Number and Email Address: (775) 289-1690; mzjones@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $4,500 (Project costs will be split as follows to reflect the benefits to upland game birds relative to waterfowl: 60% or $2,700 from the Upland Game Bird Stamp account and 40% or $1,800 from the Duck Stamp account)

Total Cash to be Used from Other Funding Sources (please list by source): $1,800 - Duck Stamp

Total In-Kind Donations by Source (please list by source): None

Total Project Cost to be Funded by All Sources: $4,500

Project Proposal

I. Purpose of Project and Goals to be Achieved:

This project consists of purchasing seed to be used in the planting of 110 acres of wildlife food plots at the Kirch WMA. The purpose of this project is to enhance habitat for upland game birds, mourning dove, mule deer, and waterfowl. The upper 37 acres of the Dove Field will be planted in the spring of 2016 with a mix of cereal grains and sunflower intended to attract mourning dove, and upland game birds, the lower 33 acres of the Dove Field will be planted in the fall of 2015 to winter wheat and Austrian winter peas and is intended to enhance feeding and nesting cover for upland game and provide forage for mule deer. The 40 acre Old Place unit will be planted in the summer of 2016 with a mix of Japanese Millet and cereal grains. Agricultural production of farmland crops is beneficial to a wide variety of wildlife, particularly upland and migratory birds. Maximizing wildlife populations on the WMA increases sportsmen use and satisfaction.

II. Project Location (include a map if available):

This project is located at the Wayne E. Kirch WMA located in the White River Valley in northeastern Nye County. The Kirch WMA has three food plots that are planted annually: two Dove Fields are located near the KWMA headquarters and the Old Place unit is north of Adams-McGill Reservoir.

III. Project Approach Including Tasks to be Accomplished:

The lower 33 acres of the Dove Field will be planted with a mixture of winter wheat and Austrian winter peas in the fall of 2015.

The upper 37 acre section of the Dove Field will be planted in the spring of 2016 with a mixture of browntop millet, bird magnet sorghum, foxtail millet, sesame, and hybrid oil sunflowers.

Forty acres of the Old Place unit will be planted in June of 2016 with a mixture of Japanese millet, browntop millet, Bengal rice, buckwheat, sorghum, smartweed, and barnyard grass.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

The Kirch WMA Food Plot program is an ongoing, yearly habitat management activity. The results of food plots planted in FY16 will be evaluated for their effectiveness and benefit to wildlife and sportsmen. The results of this evaluation will determine what species will be planted in subsequent years

V. Project Schedule:

The project's schedule is included in Section III above.

VI. Relationship to NDOW Plans, Policies and Programs:

This project is consistent with the goal and related strategy stated in the Kirch WMA's Conceptual Management Plan. Goal: maintain adequate habitat for migrating and local waterfowl, doves and sandhill cranes. Strategy: evaluate the potential for creating several food plots to attract and benefit migrating sandhill cranes and provide watchable wildlife opportunities. This project also is in accordance with NDOW's mission statement and Wildlife Commission Policy 66: farming may be initiated on some areas to meet site-specific management area needs.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary

All of the funding associated with this project will be used to purchase seed.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

This project would spend $4,500 per fiscal year after FY16 until the cost of seed increases.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Key Pittman WMA Wildlife Food Plots*

Date of Proposal: 4/1/2015

Special Reserve Account(s) that Would Fund this Project: Upland Game Bird Stamp and Duck Stamp

NDOW Project Manager (PM): Ron Mills

PM Phone Number and Email Address: 1(775) 725-3521; rmills@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $6,500 (Project costs will be split as follows to reflect the benefits to upland game birds relative to waterfowl: 60% or $3,900 from the Upland Game Bird Stamp account and 40% or $2,600 from the Duck Stamp account)

Total Cash to be Used from Other Funding Sources (please list by source): None

Total In-Kind Donations by Source (please list by source): None

Total Project Cost to be Funded by All Sources: $6,500

Project Proposal

I. **Purpose of Project and Goals to be Achieved:**
The goal of this project is a measurable increase of wildlife use with increased hunter and public use and hunter success. This will be achieved by completing annual plantings and vegetation manipulation, and to enhancing existing habitat on the management area for the benefit of wildlife.

II. **Project Location (include a map if available):**
Key Pittman Wildlife Management Area, Hiko, NV

III. **Project Approach Including Tasks to be Accomplished**:
The food plot cycle begins October first. Following dove season the fields are mowed, disked and seed drilled and irrigated. At the same time the NW corner of the Frenchy Unit is mowed. In December and January the grass seed is broadcast in deficient habitats mostly created by

noxious weed treatments or other mechanical disturbances. In February or March the food plots are seeded again with additional cereal grains, forbs, legumes and sunflower. At this time the northern impoundments are drained. In June millet and sunflower is broadcast along portions of the pond edges. In mid-July grazing begins. In mid-August the desirable native vegetation (goose foot and alkali bulrush) has matured and the northern impoundments are mowed and filled with water. During the last week of August the food plots are strip mowed for the dove season. At the end of September/October the dove season ends and the grazing lease ends and the cycle starts again., due to the extended dove season and conflicting with the waterfowl season opener, the food plots have to be mowed, disked, seeded and irrigated prior to the waterfowl opener.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Benefits: The food plot program incorporates cover crops, nitrogen fixing plants and cereal grains to provide forage to wildlife and maintain and/or improve the soil for better production, reduce noxious and invasive weeds and eliminate the need for commercial fertilizer. Results: Increased documented use of waterfowl, quail, dove, cottontail rabbit and deer, improved harvest of game species and a reduced need for noxious and invasive weed control. Benefits to non-game species such as small mammals, raptors, song birds, reptiles and many others is another bonus of this project. The KPWMA Food Plot program is an ongoing, yearly habitat management activity. The results of food plots in FY16 will be evaluated for their effectiveness and benefit to wildlife and sportsmen. The results of this evaluation will determine what species will be planted in subsequent years.

V. Project Schedule:

See Section III for the time line.

VI. Relationship to NDOW Plans, Policies and Programs:

Annual habitat maintenance and enhancement is identified in all of the current WMA Conceptual Management Plans. Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's (Comprehensive Strategic Plan). Achieve an overall goal of no net loss of wetland area or function and the long-term goal to enhance and increase wetland quantity and quality within the WMA (Wetland Conservation Plan).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the funding associated with this project will be used to purchase seed.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year: Approximately $6,500 will be spent per fiscal year after FY16.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Mason Valley WMA Vegetation Control*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Isaac Metcalf

PM Phone Number and Email Address: (775) 463-2741

Total Funds Requested from the Wildlife Reserve Account(s): $4,500

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $4,500

Project Proposal

I. Purpose of Project and Goals to be Achieved:

NDOW is mandated by state law to control listed noxious weeds found on our property. Removal of noxious and undesirable weeds improves the WMA's appearance, public access and wildlife habitat. The goal of this project is to remove and contain noxious/invasive weeds and undesirable vegetation such as hoary cress, perennial pepperweed, cattail, and hardstem bulrush on the Mason Valley WMA. This will be accomplished by applying herbicides to noxious and invasive weeds in upland areas, riparian areas, parking lots and right of ways. Herbicides will also be applied to undesirable emergent vegetation along shorelines, ditches, wetland units, and boating access points. Herbicides are utilized to control noxious and invasive plants in order to restore native plant communities. This project will reduce the total area and density of noxious weed infestations. Wetland habitats are most productive when made up of a balanced mosaic of 70% open water and 30% vegetative cover; aquatic approved herbicides are used to achieve or maintain this balance. Control of undesirable vegetation on ditches, boating access facilities, parking lots, and right-of-ways facilitates water management, improves access for sportsmen, limits the spread of these weeds to other areas, and improves the aesthetics of the WMA.

II. Project Location (include a map if available):

The Mason Valley WMA is near Yerington, NV.

III. Project Approach Including Tasks to be Accomplished:

The annual vegetation control program consists of spring and early summer treatment of noxious hoary cress and perennial pepperweed by application of herbicides with ground equipment. Undesirable vegetation on ditches, water control structures, boating access points, parking lots and right-of-ways throughout the area are treated in the summer. Areas of undesirable emergent vegetation on wetland impoundments and reservoirs are treated in late summer.

1. Perennial pepperweed (*Lepidium lotifolium)*, and hoary cress (*Cardaria draba*) will be treated in the spring and summer of 2016 by applying Escort, Plateau, or Habitat herbicides from ATV, truck, and backpack sprayers. The chemicals chosen for control of these species will be determined by the characteristics of the site and the life stage of the plant; all chemicals are applied according to their labels. These species of noxious weeds occur in upland and riparian areas, control of these plants will result in better nesting habitat for waterfowl.

2. Ditches, water control structures, boating access points, parking lots and right-of-ways will be treated in the summer of 2016 by applying glyphosate herbicide from ATV, truck, and backpack sprayers. Control of undesirable vegetation in ditches and water control structures is essential for water delivery to reservoirs, wetland impoundments, and irrigation of food plots.

3. Emergent vegetation on wetland impoundments and reservoirs will be treated with aquatic-approved glyphosate in late summer 2016. Wetland impoundments will be treated with ATV sprayers. Wetland habitats are most productive when made up of a balanced mosaic of 70% open water and 30% vegetative cover, these herbicide treatments will achieve or maintain this balance. Treatment of emergent vegetation in these areas will improve feeding, resting, nesting, and brood rearing habitat for waterfowl.

4. An aerial treatment of 200 acres will be conducted in the fall of 2016 by private contractor. Emergent vegetation in areas not accessible by traditional means will be treated with aquatic-approved herbicides.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Treated sites will be evaluated after application of herbicides to determine the effectiveness of the timing, method and chemicals chosen for the treatment. Effective treatments will show a significant die-off of targeted vegetation after treatment and reduced regrowth the following growing season. The vegetation control will improve habitat values and public access during hunting season.

V. Project Schedule:

The control of undesired emergent vegetation will be an ongoing, yearly habitat management activity. The aerial spraying will occur during August-September.

VI. Relationship to NDOW Plans, Policies and Programs:

Annual vegetation control is identified in the Mason Valley WMA Conceptual Management Plan. Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's through 2009. (Comprehensive Strategic Plan-2004-2009 page –1).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

Funds for this project will be used to fund aerial application and purchase of herbicides for treatment of noxious weeds. A breakdown of the project's costs is shown in the attached table.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes _X___ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

Annual herbicide treatments will continue through FY 16 at a rate dependent on chemical costs and areas to be treated. Approximately $4,500 will be spent annually on herbicides for this project.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Project Cost Breakdown

Project Components	*Costs to be Paid by NDOW Special Reserve Account(s)**	*Costs to be Paid by Other Sources**
1. Land Acquisitions		
2. Personnel Costs		
A. NDOW Personnel		
B. Other Personnel		
C. Total Personnel Costs	$ -	$ -
3. Travel Costs		
A. Per Diem		
B. Mileage		
C. Total Travel Costs	$ -	$ -
4. Equipment		
A. Personal Protective Equipment	$ 500.00	
B.		
C. Total Equipment Costs	$ 500.00	$ -
5. Materials		
A. Herbicides	$ 2,000.00	
B.		
C.		
D. Total Materials Costs	$ 2,000.00	$ -
6. Miscellaneous		
A. Aerial Application of Herbicides	$ 2,000.00	
B.		
C.		
D.		
F. Total Miscellaneous Costs	$ 2,000.00	$ -
7. In-Kind Services		
A.		
B.		
C. Total In-Kind Services	$ -	$ -
Subtotals	$ 4,500.00	$ -
Total Project Costs	$	4,500.00

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Mason Valley WMA Joggles Pump Station*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Isaac Metcalf

PM Phone Number and Email Address: (775) 463-2741; imetcalf@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $5,800

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $5,800

Project Proposal

I. Purpose of Project and Goals to be Achieved:

This project's funding will cover the annual cost of power associated with operating the Joggles Pump Station at the Mason Valley Wildlife Management Area (MVWMA). This pump is used when decree or storage water is unavailable form the Walker River. The Joggles Pump Station will be used by MVWMA staff in efforts to reach its goal as outlined in the MVWMA conceptual plan by providing migratory waterfowl feeding and roosting sites in the fall and winter months.

II. Project Location (include a map if available):

The MVWMA is located near Yerington, NV in Mason Valley.

III. Project Approach Including Tasks to be Accomplished:

The Joggles pump at maximum capacity will pump a total of 340 acre feet of water in approximately 30 days to the wetlands and food plots located on the eastern portion of MVWMA. Fluids and regular maintenance will be conducted as needed throughout FY16 by MVWMA staff.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Benefits obtained by the use of the Joggles Pump Station include supplemental water delivery to wetlands and food plots on the eastern portion of MVWMA when decree and storage water is unavailable. Consumptive and non-consumptive users will benefit with the added viewing and waterfowl hunting opportunities that the water from the Joggles Pump Station provides.

V. Project Schedule:

The well will be run from September 1st continuously until 340 ac-ft of water is pumped out of the Joggles well.

VI. Relationship to NDOW Plans, Policies and Programs:

Managing the state's WMAs for waterfowl habitat is the main priority set by the Commission and also part of the MVWMA's Conceptual Management Plan. This project also provides an abundance of areas for public hunting that would otherwise be dry due to the lack of storage and decree water.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of this project's funds will be used to pay for the power costs of operating the Joggles Pump Station.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes _X___ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

The cost to run the Joggles Pump Station is dependent on rates set by the power company.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Mason Valley WMA Prescribed Burns*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Isaac Metcalf

PM Phone Number and Email Address: (775) 463-2741; imetcalf@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $6,000

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $6,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:

The purpose of the Mason Valley Wildlife Management Area (MVWMA) Prescribed Burns project is to reduce emergent vegetation stands that provide little to no usable habitat for waterfowl. Overgrown stands of emergent vegetation prevent utilization of the Mason Valley WMA by consumptive and non-consumptive users. Prescribed burns will allow accesses to areas for MVWMA users and promote the growth of early successional plant species viable to the function of the wetlands in MVWMA.

Goals of the MVWMA Prescribed Burns Project are:

1. Increase productive and favorable wetlands for waterfowl and shore birds that are found within the MVWMA.
2. Promote the growth of annual plants.
3. Increase hunting, fishing and viewing opportunities for MVWMA users.

II. Project Location (include a map if available):

The MVWMA is near Yerington, NV.

III. Project Approach Including Tasks to be Accomplished:

Prescribed burns will be conducted on areas that were treated with herbicides the previous year. The Nevada Department of Forestry (NDF) will complete a burn plan with the help of MVWMA staff. NDF will have two fire crews on site to conduct the prescribed burns for three days. MVWMA staff will construct fire breaks and assist with mop-up.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Prescribed burning on the MVWMA will reduce emergent vegetation in inaccessible and unusable wetlands by waterfowl and shorebirds. Prescribed burning will promote wet soil vegetation germination and the growth of annual grasses in MVWMA. Consumptive and non-consumptive users benefit by increased wildlife utilization in the burned areas, thus adding more opportunities for hunting and viewing. Angler and hunting surveys will be collected post-burn and compared with pre-burn surveys to identify any trends following the prescribed burns.

V. Project Schedule:

This project will take place in the fall or spring of FY 16. The actual dates will depend upon NDF Burn Boss and Conservation Crew availability.

VI. Relationship to NDOW Plans, Policies and Programs:

Annual vegetation control is identified in the MVWMA Conceptual Management Plan: Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat management is an integral function of NDOW. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's through 2009. (Comprehensive Strategic Plan-2004-2009 page –1).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary

All of this project's funds will be used to pay NDF for the use of its fire crews.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

$6,000

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Mason Valley WMA Redhead Pump Station*

Date of Proposal: 4/10/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Isaac Metcalf

PM Phone Number and Email Address: (775) 463-2741; imetcalf@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $5,600

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $5,600

Project Proposal

I. Purpose of Project and Goals to be Achieved:

This project's funding will cover the annual cost of power associated with operating the Redhead Pump Station at the Mason Valley Wildlife Management Area (MVWMA). This pump is used when decree or storage water is unavailable from the Walker River. The Redhead Pump Station will deliver water to wetlands and food plots on the eastern portion of the MVWMA. The Redhead Pump Station will be used by MVWMA staff in efforts to reach its goal as outlined in the MVWMA Conceptual Management Plan by providing migratory waterfowl feeding and roosting sites in the fall and winter months.

II. Project Location (include a map if available):

MVWMA is located near Yerington, NV in Mason Valley.

III. Project Approach Including Tasks to be Accomplished:

The Redhead pump will run for 183 days throughout FY 16. Fluids and regular maintenance will be conducted as needed throughout FY16 by MVWMA staff. Coordination with Mason Valley Fish Hatchery staff will be needed to insure that water is used to maximize the most benefit for waterfowl.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Benefits obtained by the use of the Redhead Pump Station include supplemental water delivery to wetlands and food plots on the eastern portion of MVWMA when decree and storage water is unavailable. The Redhead Pump Station allows MVWMA staff to deliver water to the fishing series ponds in efforts to maintain a viable fisheries and desirable waterfowl nesting and brood rearing units.

V. Project Schedule:

Pumping will continue through FY16

VI. Relationship to NDOW Plans, Policies and Programs:

Annual vegetation control is identified in the MVWMA Conceptual Management Plan: Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's through 2009. (Comprehensive Strategic Plan-2004-2009 page –1).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary

This is a yearly project and the cost will depend on the cost of power, expected to be about $5,600.

IX. Is this Project Going to Continue After FY16? Yes _X___ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes X____ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

The cost to run the Redhead Pump Station is dependent on rates set by the power company.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Federal Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *North American Waterfowl Management Plan Implementation Support*

Date of Proposal: 04/02/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Mike Zahradka

PM Phone Number and Email Address: (775) 688-1563; mzahradka@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $10,000

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $10,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:
Funding is provided to Ducks Unlimited to help fund wetland conservation work in Canada. Canadian Prairie Provinces provide significant breeding and nesting habitats for waterfowl, some of which migrate through Nevada during the fall and winter and provide hunting opportunity for Nevada waterfowl hunters.

II. Project Location (include a map if available):
Funding would be provided to Ducks Unlimited who, in turn, will assure that funds provided by NDOW will be spent on wetland habitat conservation work in Canada.

III. Project Approach Including Tasks to be Accomplished:
NDOW prefers that funds be used on wetland enhancement projects in Alberta since banding data indicates that a fairly high percentage of Canadian waterfowl harvested in Nevada originate from there.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Funds donated to Ducks Unlimited are used to enhance and maintain waterfowl habitat. In addition to directly benefiting waterfowl, this also indirectly benefits Nevada's hunters by increasing or maintaining waterfowl populations in Nevada.

V. Project Schedule:

This is an annual contribution made to Ducks Unlimited.

VI. Relationship to NDOW Plans, Policies and Programs:

This funding, consistent with the North American Waterfowl Management Plan and the Wetlands Conservation Act, will assist in the enhancement and maintenance of wetland habitats in Canada. These wetlands provide important habitat for migratory waterfowl, which in turn, migrate and stopover in Nevada and increase hunting opportunities. Funding this type of work is also consistent with the following portion of NDOW's mission: "To protect, preserve, manage and restore wildlife and its habitat for their aesthetic, scientific, educational, recreational and economic benefits to citizens of Nevada and the United States".

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the funds awarded to this project will be used for the donation described above.

IX. Is this Project Going to Continue After FY16? Yes _X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes _X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

$10,000 annually

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X_ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Overton and Key Pittman WMAs Wetland Enhancement (Phase 2)*

Date of Proposal: 04/20/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Mike Zahradka

PM Phone Number and Email Address: (775) 688-1563; mzahradka@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $30,000

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $30,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:

Funds from this project will be used to purchase water control structures for Phase 2 of the Wetland Enhancement Projects at Overton and Key Pittman WMAs. These wetland enhancement projects will reconstruct the north ponds at Key Pittman WMA and Pintail/Wilson Ponds at Overton WMA to improve waterfowl habitat and hunting conditions in those areas

II. Project Location (include a map if available):

Key Pittman WMA is located in Lincoln County; Overton WMA is located in Clark County.

III. Project Approach Including Tasks to be Accomplished:

To determine how best to improve the ponds at both WMAs, Ducks Unlimited has recently conducted a topographic survey and will be preparing a 1-foot contour interval topographic base map, and in association with NDOW, will prepare a detailed wetland enhancement design for the ponds. The design will result in more uniform pond bottoms that eliminate overly deep areas and spreads water to areas that in the present state do not support shallow ponded conditions. The design will include installing new water control structures (WCSs) that, in

association with proposed pond re-contouring, will improve water delivery and drainage, and the ability to manage habitat. The final design will include earthwork calculations that will be used for preparing construction cost estimates for Phase 3 of the project.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

This project would purchase water control structures to be used in Phase 2, the construction phase of the project which would implement the wetland enhancement plan developed in Phase 1. These efforts are intended to provide better habitat conditions for waterfowl and better hunting opportunities for area users. The wetland enhancement plan will be evaluated by Habitat Division staff to determine if it meets agency objectives. Once it has been determined that the design created by this project meets agency objectives, funding will be sought to perform the actual ground work to accomplish the goals of the project. For this Phase 2 project, the WCSs for which funding is being requested have been preliminarily identified as being needed to provide improved water deliveries and drainage for the North Ponds at Key Pittman WMA and the Pintail/Wilson Ponds at Overton WMA.

V. Project Schedule:

Water control structures will be purchased in FY 16 and construction of the wetland enhancement projects is expected to take place in FY 17.

VI. Relationship to NDOW Plans, Policies and Programs:

Annual Habitat maintenance and enhancement is identified in all of the current WMA Conceptual Management Plans: Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMAs) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's (Comprehensive Strategic Plan). Achieve an overall goal of no net loss of wetland area or function and the long-term goal of enhancing and increasing wetland quantity and quality within the WMAs (Wetland Conservation Plan).

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary

All of the funds awarded to this project will be used to purchase water control structures.

IX. Is this Project Going to Continue After FY16? Yes _X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes ____ No __X__

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X_ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Overton WMA Farming*

Date of Proposal: 04/01/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Tim Wood

PM Phone Number and Email Address: (702) 397-4142; tlwood@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $3,500

Total Cash to be used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be funded by All Sources: $3,500

Project Proposal

I. Purpose of Project and Goals to be Achieved:

This project's funds would be used to purchase seed, fertilizer and various soil amendments to be used in producing crops on approximately 130 acres of fields at the Overton WMA. Over the years, the WMA's farm fields have suffered from a lack of appropriate farming strategies and the soils of the fields are in a dramatically degraded condition. This funding, combined with implementation of other cultural practices, would help address that situation and help restore the productivity of the fields. When the fields are in good condition and producing quality wildlife forage, they are used heavily by resident and migrating waterfowl, wild turkeys, dove, quail and a host of non-game wildlife species.

II. Project Location (include a map if available):

The Overton WMA is in the Moapa Valley of Clark County.

III. Project Approach Including Tasks to be Accomplished:

This project's funds would be used to purchase seed, fertilizer and various soil amendments to be used in producing crops on approximately 130 acres of fields at the Overton WMA.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Providing desirable habitat and quality feed in these fields will attract and hold geese, ducks and shore birds throughout the winter migration and nesting season. This project will also benefit some upland game species such as dove, turkey and quail on a yearly basis. Wildlife and hunter use will be monitored throughout the season. In subsequent years the seed mixtures could be altered to target species that should have responded better to the improvements. Planting areas where crops did not become established will be evaluated and improvements will be planned to increase planting success. The effectiveness of this project would be measured by the productivity of the fields, the subsequent usage by wildlife species and improved hunting opportunities for area users.

V. Project Schedule:

Implementing the Overton WMA's Farming Plan is an ongoing, yearly habitat management activity that typically runs from March to October.

VI. Relationship to NDOW Plans, Policies and Programs:

The farming of the area fields are identified as a goal in the Overton WMA Conceptual Management Plan. In addition, to comply with Nevada Board of Wildlife Commission Policy-66, the primary management emphasis at the Overton WMA is the protection and improvement of quality waterfowl habitat and the related provision of hunting opportunities. Improved implementation of the farming program will greatly enhance the chances of meeting the intent of that policy.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the $3,500 to be awarded to this project will be used to purchase seed, fertilizer and soil amendments.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If yes, is this going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is going to Continue after FY16, Define the Total Dollars to be spent during Each Fiscal Year: $3,500.00

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Overton WMA Irrigation System Repair*

Date of Proposal: 04/06/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Tim Wood

PM Phone Number and Email Address: 702-397-2142; tlwood@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $16,000

Total Cash to be Used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $16,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:

The purpose of this project would be to repair multiple and damaged existing pipes on the Overton WMA's irrigation delivery system. This project would allow us to better manage our water delivery system and conserve valuable water resources. This project would allow us to provide improved habitat conditions for wildlife found on the WMA which results in improved hunting opportunities for area users.

II. Project Location (include a map if available):

The Overton WMA is in the Moapa Valley of Clark County.

III. Project Approach Including Tasks to be Accomplished:

This project's funds would be used to purchase new pipe and fittings to replace damaged pipe and to replace damaged concrete ditch material along the A-4, B-2, B-3 and B-4 water delivery system.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

The pipe and concrete ditch that is currently in place has been damaged due to the flood events that occurred in September of 2014. With the damaged areas of the irrigation system we cannot control the water flows efficiently. By replacing the damaged areas it will save water and time for WMA personnel. Monitoring will include conducting daily observations of the water drainage system to ensure that it is functioning properly and maintenance will be provided as necessary.

V. Project Schedule:

Repairs would be done throughout FY16 as time and conditions permit.

VI. Relationship to NDOW Plans, Policies and Programs:

This project would help achieve the following goal from NDOW's Comprehensive Strategic Plan prepared in 2004: "NDOW will preserve and protect quality habitat and enhance deficient habitat;" as well as the following related objective from the same document: "Maintain, protect and enhance wildlife habitats on wildlife management areas by applying good science and best management practices through implementation of the WMA's Comprehensive Management Plan."

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the funds to be awarded to this project will be used to purchase irrigation pipe and fittings.

IX. Is this Project Going to Continue After FY16? Yes ____ No __X___

X. If Yes, is this Going to be an Annual, Recurring Project? Yes ____ No ___X__

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Overton WMA Water Outlet and Pipe Replacement*

Date of Proposal: 04/02/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Tim Wood

PM Phone Number and Email Address: (702) 397-2142; tlwood@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $5,000

Total Cash to be used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be funded by All Sources: $5,000

Project Proposal

I. Purpose of Project and Goals to be Achieved:

The existing metal pipe and outlet structures are badly rusted and leak. At times, water flows around the structure and around the sidewall of the pipe causing the seasonal wetlands to dry up and sometimes compromising nesting areas. These failures result in wasted water and degrade habitat for waterfowl and shorebirds. The goal of this project would be to replace the old existing outlet structures and pipes in approximately eight moist soil units in the B series. This project will conserve water and improve habitat conditions on the WMA.

II. Project Location (include a map if available):

Overton WMA is in the Moapa Valley of Clark County.

III. Project Approach Including Tasks to be Accomplished:

This project's funds would be used to purchase new PVC pipe and outlet structures to ensure adequate draining of excess water from the fields and seasonal ponds at the Overton WMA.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Providing proper drainage at the bottom of fields and seasonal ponds will help remove the alkali and excessive saturation of soil. This project will benefit wildlife by providing desirable habitat and quality feed in the fields. Monitoring will include conducting daily observations of the water drainage system to ensure that it is functioning properly and maintenance will be provided as necessary.

V. Project Schedule:

Replacement of pipe and outlet structures would begin soon after funding was approved and be completed by late fall.

VI. Relationship to NDOW Plans, Policies and Programs:

This project would help achieve the following goal from NDOW's Comprehensive Strategic Plan prepared in 2004: "NDOW will preserve and protect quality habitat and enhance deficient habitat;" as well as the following related objective from the same document: "Maintain, protect and enhance wildlife habitats on wildlife management areas by applying good science and best management practices through implementation of the WMA's Comprehensive Management Plan."

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the funds awarded to this project will be used to purchase water outlet structures and associated pipe material.

IX. Is this Project Going to Continue After FY16? Yes ____ No __X___

X. If yes, is this going to be an Annual, Recurring Project? Yes ____ No ___X__

XI. If it is going to Continue after FY16, Define the Total Dollars to be spent during Each Fiscal Year:

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Overton WMA Weed Control*

Date of Proposal: 04/01/2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Tim Wood

PM Phone Number and Email Address: (702) 397-2142; tlwood@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $4,500

Total Cash to be used from Other Funding Sources (please list by source): $0

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be funded by All Sources: $4,500

Project Proposal

I. Purpose of Project and Goals to be Achieved:

This project would fund the purchase of herbicides to help control undesirable vegetation such as cattail, hard stem bulrush, arrow weed, and thistle at the Overton WMA. The goal is to control the spread of weeds and help maintain and enhance waterfowl values on wetland and riparian habitat associated with the WMA. The invasive weed control improves the WMA's appearance, public access and wildlife habitat.

II. Project Location (include a map if available):

The Overton WMA is in the Moapa Valley of Clark County.

III. Project Approach Including Tasks to be Accomplished:

This proposal is for the purchase of the needed herbicides and surfactants to treat noxious and invasive weeds at the Overton WMA. Areas will be treated with glyphosate and Garlon type herbicides. The application will be done with UTV mounted sprayers, trailer mounted sprayers, and backpack sprayers.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

Noxious and invasive weed control will improve access for the public and NDOW personnel, limit the spread of noxious and invasive plant species, improve wildlife habitat and enhance the general appearance of the WMA. Sites treated with herbicide will be evaluated after application of herbicides to determine the effectiveness of the timing, method, and chemicals chosen for the treatment. Effective treatments will show a significant die-off of targeted vegetation after treatment and reduced regrowth the following growing season.

V. Project Schedule:

Noxious and invasive weed control typically occurs from spring through early fall.

VI. Relationship to NDOW Plans, Policies and Programs:

Managing Nevada's wetlands is a top priority set by the Commission and NDOW is mandated by state law to control listed noxious weeds on our property. This will also allow us to achieve management objectives of 70% open water to 30% vegetative cover, which is a common goal in all WMA Conceptual Management Plans.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status:

None

Project Costs and Funding

VIII. Cost Summary

All of the funding to be awarded to this project will be used to purchase herbicides and surfactants.

IX. Is this Project Going to Continue After FY16? Yes _X___ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

The future cost of vegetation control is dependent on herbicide costs.

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes __X_ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?

NDOW's WMA System Grant

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Fallon Wood Duck Project*

Date of Proposal: April 13, 2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Russell Woolstenhulme

PM Phone Number and Email Address: (775) 688-1914; russellw@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $30,000 (includes 3% overhead to Nevada Waterfowl Association)

Total Cash to be Used from Other Funding Sources (please list by source):

University of Nevada Reno (Teaching Assistantship	$7,500
Nevada Waterfowl Association (Wood Duck Chapter)	$15,300

Total In-Kind Donations by Source (please list by source):

USFWS (Region 8 Migratory Birds Program)	$2,500
USFWS (NV Field Office)	$3,500
USFWS (Stillwater NWR)	$6,000

Total Project Cost to be Funded by All Sources: $64,800

Project Proposal

I. Purpose of Project and Goals to be Achieved:

Purpose

The waterfowl regulations setting process is an annual process which uses multiple data sets to create a suite of harvest and population models. Basically, population status is assessed and a prescriptive model predicts harvest level which informs harvest packages. The role of harvest in the dynamics of North American waterfowl populations remains controversial. It is widely accepted that harvest mortality is additive to other sources of mortality for geese , but additivity of harvest mortality for ducks remains unresolved. Harvest strategies for continental mallards (Anas platyrhynchos), lesser scaup (Aythya affinis), and northern pintails (A. acuta) incorporate the assumption of at least partially additive harvest mortality. For the latter two species, mortality rates over recent decades have not varied with harvest rates, inconsistent with

additive harvest mortality. However, this is considered a "passive" management approach. It still remains to be known how harvest impacts waterfowl populations. Without a more "active" management approach, waterfowl populations have to be managed conservatively. For many years, a project has been requested by the waterfowl management community to explicitly address these uncertainties. However, attempts in the past, at a continental scale, were not successful.

Objectives

This proposed study has manipulated annual harvest rates between 0.03 and 0.30 (unmanipulated harvest rates have been in the 12 - 15% range) on a largely resident population of wood ducks (Aix sponsa) near Fallon NV, over an eight year period (2008-2015). This proposal is very similar to the Stabilized Regulations experiment initiated in the 1980's, but is different at two levels: 1) harvest rate is manipulated while habitat conditions remain constant, and 2) this experiment is at a county, rather than a continental level. The described study system is unique in that: 1) 60% of individual wood ducks are uniquely marked prior to hunting season, 2) 90% of the population marked prior to breeding, and 3) 83% of total harvest of this population occurs as local harvest. We will assess: 1) monthly age and gender specific survival, using encounters of uniquely marked individuals (bands and webtags) in response to variation in harvest rates, 2) variation in survival as a function of measures of individual quality (i.e., structural size, body mass, and reproductive history) which allows us to assess heterogeneity in survival and recovery at different levels of harvest, and 3) analyses will examine potential for trade-offs among different life history traits under varying levels of harvest. Under a hypothesis of compensatory harvest mortality we predict that annual survival will be invariant to different levels of harvest. We also predict that low quality individuals will be more vulnerable to harvest and that non-hunting mortality will be inversely correlated with harvest mortality for low quality individuals. Lastly, individuals may make trade-offs among different life history strategies across varying levels of harvest which may result in individual compensation. The Fallon, NV wood duck project has the unique ability to address this question with wood ducks, which are a surrogate for many harvested duck species.

II. Project Location (include a map if available):

In the area surrounding Fallon, Nevada

III. Project Approach Including Tasks to be Accomplished:

Field Methods

Nevada Waterfowl Association has conducted an intense banding, recapture, and resighting program on Wood Ducks in the Fallon area since 2003. Sites are baited with whole kernel corn year round. Rocket nets, air-cannons, and floating traps have been used in areas where landowners have been feeding birds for some time and also where we have placed bait to attract them. Lastly, we also capture nesting hens and ducklings in nest boxes and also nest box traps.

We fit all captured individuals with unique markers. Ducklings too small to hold a band (typically in the nest; but also in floating traps) are fitted with webtags. Webtags are applied so that a sample of known age ducklings are marked to measure duckling growth rates and survival during the early period of growth, and potentially linked to conspecific density or harvest rate during the previous hunting season. All wood ducks that are large enough to hold

standard aluminum leg bands are fitted with such markers. We also apply a 1cm tall colored PVC band with two engraved characters to the opposite leg. Application of coded tarsal bands allows us to identify individuals without having to physically capture them. Codes on these markers can be read at distances up to 200 m with a 15-60X spotting scope. Resights can account for over half the encounters especially during breeding season when wood ducks are more territorial and do not form large aggregations. Preliminary analyses of adult wood ducks show monthly detection rates varying from 0.05 to 0.57 with lowest rates during brood rearing and molting periods; annual detection rates have been estimated at 0.97. Such encounter rates are unprecedented for waterfowl and provide substantial power to assess monthly mortality processes.

We have established relationships with two landowners who are now involved in observing marked wood ducks and recording their band codes. Additionally, we attempt to observe marked individuals throughout the year, including hunting season so we can estimate monthly mortality during the hunting season, which has never been accomplished before without use of radio transmitters. Currently. ~50% of our reencounters are generated by resighting marked individuals, essentially doubling our reencounters.

Nevada Waterfowl Association has installed 344 nesting boxes to date and have collected nesting data from these boxes annually since 2003. We begin monitoring of nesting boxes approximately the 3rd week of March when the first nests are initiated. We visit all nests boxes weekly through the middle of July at which time all nests have hatched. At each nest check, we block the entrance to the nest box in an attempt to capture the hen to ensure she is marked and measured. On average, 100 nests are found annually with ~85% of the females being captured and marked, and ~400 ducklings (98% of duckling hatched in boxes) being webtagged on the day of hatch. We attempt to assign all encountered individuals to age and gender and record several morphological measurements including: diagonal tarsus, culmen, total head, 9th primary, wing chord, and weight. Hunters encounter our marked birds when hunting Wood Ducks. All bands are engraved with the 1-800-327-BAND toll-free band number to facilitate reporting harvest of a banded bird to the USGS Bird Banding Laboratory. Beginning in 2008, we provided a photograph and a request to report harvest of webtagged wood ducks in NDOW's waterfowl hunting pamphlet and have received numerous reports by this method.

Harvest Manipulation

The Pacific Flyway has harvest frameworks which allow for seven wood ducks per day. We began discussions with NDOW, the general public, waterfowl hunters, and the Nevada State Wildlife Commission in 2010 to implement an experiment to induce variation in harvest rate. We hosted free spaghetti dinners in both 2010 and 2011 to inform the general public and hunters about why we were asking for a restrictive bag limit and received 100% support in both years. In August 2011, discussions with County Wildlife Advisory Boards also received support for the reduced bag limit. A presentation was made to the Nevada State Wildlife Commission at their August 2011 meeting where waterfowl hunting regulations are set. We received full support which resulted in a one per day wood duck bag in Churchill County, Nevada for the 2011/12 and 2013/14 waterfowl seasons. For liberal treatment levels, we will discuss with landowners who do not allow hunting, ways to allow access to their properties so that harvest rates can be increased while still within the seven wood ducks per day federal framework. By manipulating regulations and access to properties, we intend to produce three harvest rate treatments: restrictive (0 to 10%), moderate (11 to 20%), and liberal (21 to 30%) with each to be replicated at least twice during the eight year study. The lowest harvest treatment is

similar to those currently experienced by northern pintails and lesser scaup. The restrictive harvest treatment was implemented as part of this study in the 2011/12 and 2013/14 hunting seasons, resulting in a harvest rate of 9% in 2011/12 and 5% in 2013/14. The moderate harvest rate treatment is within the range currently experienced by mallards. From the 2008/09 through 2010/11 hunting seasons, normal harvest rates were in the 12-15% range providing already collected data for the moderate harvest treatment. The highest harvest rate treatment is comparable to that experienced by mallards and lesser scaup under historically liberal regulations and was implemented in the 2012/13 and 2014/15 seasons with a harvest rate of 14%.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored:

We use a suite of modern approaches for assessing the hypotheses identified above. We will use recaptures, observations of color banded individuals, and hunter recoveries to estimate monthly survival probability (1 – mortality probability) for the hunting season and other seasons of the year. These analyses will be conducted using the Multi-state robust design with recoveries option in Program Mark so that we can include effects of temporary and permanent emigration. Preliminary analyses suggest we can precisely estimate monthly survival, encounter probability, and recovery rate (SE's were 5% of estimates). Harvest rate is related to band recovery rate by the band reporting rate, which is unknown for wood ducks. Recent use of 1-800 bands, however, has increased band reporting rates for mallards and geese to approximately 0.8. Combined with the fact that hunters accounting for about 75% of the harvest of the study population participate in the banding and nest monitoring effort, the effective reporting rate in our study should be > 0.9. Estimates of band recovery rate will, thus, represent a reasonable, although slightly biased estimate of harvest mortality rate. Because our estimate of total mortality rate is based on an independent analysis (recaptures and observations) we can partition total hunting season mortality into that due to harvest and that due to other causes. Such partitioning is not possible in studies dependent entirely on band recoveries, because such studies cannot estimate hunting season mortality, and estimates of survival covary with those of recovery rate.

We will assess multiple hypotheses by estimating annual survival, hunting season survival, and nonharvest mortality as a function of harvest rate. Under a hypothesis of compensatory mortality we expect that annual survival and survival during the hunting season will be invariant to harvest rate while nonharvest mortality will be inversely correlated with harvest mortality. We will assess the relationship between band recovery rate and measures of individual quality, including breeding history, and body mass adjusted for structural size. We predict that low quality individuals (e.g., those that did not breed the previous summer) will be harvested at higher rates than high quality individuals. Another hypothesis will be assessed by estimating annual survival, harvest mortality and nonhunting mortality as functions of individual quality, with the expectation that low quality individuals will have lower annual survival and higher nonhunting mortality. The final hypothesis will test for an interaction between individual quality and nonhunting mortality across harvest levels.

V. Project Schedule:

This project is year-round and the write-up of the project is expected to be complete by December 31, 2016.

VI. Relationship to NDOW Plans, Policies and Programs:
This project will help inform NDOW waterfowl harvest managers and will also be informative to other states and flyways across North America. This project also assists with reaching mallard pre-season duck banding goals. Additionally, the PhD student supported by this project volunteers on a number of NDOW and USFWS projects such as the Nevada Breeding Waterfowl Survey and the Pacific Flyway wingbee, and thus has been an integral component of the Nevada migratory bird management program. Lastly, this project partially fulfills the required purposes and objectives established in the migratory bird management portion of NDOW's federal aid grant package.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary
A breakdown of the project's costs is provided in the attached table.

IX. Is this Project Going to Continue After FY16? Yes ____ No __X___

X. If Yes, is this Going to be an Annual, Recurring Project? Yes ____ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?
NDOW's W48 Game Management Grant

Project Cost Breakdown

Project Components	*Costs to be Paid by NDOW Special Reserve Account(s)**	*Costs to be Paid by Other Sources**
1. Land Acquisitions		
2. Personnel Costs		
A. NDOW Personnel		
B. Other Personnel	$ 25,800.00	$ 9,200.00
C. Total Personnel Costs	$ 25,800.00	$ 9,200.00
3. Travel Costs		
A. Per Diem		
B. Mileage		
C. Total Travel Costs	$ -	$ -
4. Equipment		
A. Vehicle rental and mileage		$ 10,000.00
B. Gas for other researcher vehicles		$ 1,500.00
C. Total Equipment Costs	$ -	$ 11,500.00
5. Materials		
A. Bait	$ 1,800.00	$ 2,000.00
B. Plastic ID leg bands		$ 1,500.00
C. Nest box material and mantinance		$ 800.00
D. Blind Building Material and Maint.		$ 1,000.00
E. Project Laptop		$ 800.00
F. Spoting Scopes		$ 2,000.00
G. Total Materials Costs	$ 1,800.00	$ 8,100.00
6. Miscellaneous		
A. Utilities for housing	$ 1,500.00	
B. 3% overhead to NWA	$ 900.00	
C. Housing		$ 6,000.00
D.		
F. Total Miscellaneous Costs	$ 2,400.00	$ 6,000.00
7. In-Kind Services		
A.		
B.		
C. Total In-Kind Services	$ -	$ -
Subtotals	$ 30,000.00	$ 34,800.00
Total Project Costs	$	64,800.00

Fiscal Year 2016 Special Reserve Account Project Proposal

Project Summary

Project Title: *Geolocators for Waterfowl Dispersal Patterns Project*

Date of Proposal: April 13, 2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp

NDOW Project Manager (PM): Russell Woolstenhulme

PM Phone Number and Email Address: (775) 688-1914; russellw@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $22,500

Total Cash to be Used from Other Funding Sources (please list by source):

University of Nevada Reno (Teaching Assistantship)	$ 7,500.00
Nevada Waterfowl Association (Wood duck chapter)	$ 5,300.00

Total In-Kind Donations by Source (please list by source):

USFWS (Region 8 migratory birds program)	$ 2,500.00
USFWS (NV field office)	$ 2,200.00
USFWS (Stillwater NWR)	$ 6,000.00

Total Project Cost to be Funded by All Sources: $46,675

Project Proposal

I. Purpose of Project and Goals to be Achieved:

Goals include attaching the geolocator tracking devices that will be purchased under this project to 150 individual ducks across three waterfowl species (wood ducks, mallards, and canvasbacks). Geolocators are cheap (~$150/each) tracking devices which use a light meter and a clock to calculate daily latitude and longitude. Geolocators have to be physically recaptured to download data (e.g., recaptured as part of banding efforts or shot and reported by hunters). There is enough battery life and data storage capabilities to collect and record data for 24 months. In essence, there is the potential to create maps of movements and habitat use for 2 years for each geolocator.

For FY14 and FY15, the Nevada Board of Wildlife Commissioners Heritage Committee awarded $10,000 and $23,175 for the purchase of 64 and 150 geolocators, respectively. Preliminary data

shows that these tracking devices are very useful for determining movement patterns for waterfowl including such things as dates of movements and general locations of movement (e.g., from Lahontan Valley, NV to Central Valley, CA) for mallards and wood ducks. Additionally, we have gathered many data in relation to nest attendance by wood ducks.

II. Project Location (include a map if available):
The geolocators will be attached in the area surrounding Fallon, Nevada.

III. Project Approach Including Tasks to be Accomplished:
Waterfowl will be captured with bait traps, rocket nets, or drive-traps. Upon capture, a sample of birds will be fitted with geolocators. Marked birds will receive an additional tarsus band with a phone number hunters can call when they shoot a bird with a geolocator to facilitate acquiring data.

IV. Describe the Beneficial Effects of the Project and How they Will be Measured and Monitored: Data from this effort will inform population and habitat managers about waterfowl movements and identify key time periods and key locations throughout the annual cycle.

V. Project Schedule:
Wood ducks will be fitted with geolocators during nesting (March through July). Mallards will be fitted during pre-hunting season banding efforts (July through September). Canvasbacks will be fitted during their spring migration (February).

VI. Relationship to NDOW Plans, Policies and Programs:
This project will directly identify and rank important key habitats both within and outside of Nevada. Habitat groups including NDOW, Ducks Unlimited, National Wildlife Refuges, and the Intermountain West Joint Venture will benefit.

VII. NEPA Compliance or other Activities that Need to be Accomplished Before this Project Can be Completed and their Status: None

Project Costs and Funding

VIII. Cost Summary
All of the funds awarded to this project will be used to purchase geolocators.

IX. Is this Project Going to Continue After FY16? Yes _X___ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes ____ No __X___

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year: 2017 - $22,500

XII. Would Funds from this Program Be Used for State Matching Purposes? Yes _X__ No ___

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?
NDOW's Federal W48 Game Management Grant

Fiscal Year 2016 Wildlife Reserve Account Project Proposal

Project Summary

Project Title: *Eastern Region WMAs Weed Control*

Date of Proposal: April 26, 2015

Special Reserve Account(s) that Would Fund this Project: Duck Stamp and Upland Game Bird Stamp

NDOW Project Manager (PM): Steve Foree

PM Phone Number and Email Address: 775-777-2306; sforee@ndow.org

Total Funds Requested from the Wildlife Reserve Account(s): $3,750

Total Cash to be Used from Other Funding Sources (please list by source): $3,750 of Duck Stamp funds

Total In-Kind Donations by Source (please list by source): $0

Total Project Cost to be Funded by All Sources: $7,500

Project Proposal

I. **Purpose of Project and Goals to be Achieved:**
The herbicides purchased for this project would be used to control noxious weed invasions on the unmanned Eastern Region properties owned by the State. It our hope to control the spread of weeds to maintain and enhance waterfowl values on wetlands and riparian areas associated with these parcels. The invasive weed control improves appearance, public access and wildlife habitats, including the habitat of upland game birds.

II. **Project Location (include a map if available):**
Treatment locations will be spread across the Eastern Region unmanned NDOW properties including the Bruneau River WMA, Franklin Lake WMA, Birch Creek, South Fork Little Humboldt and Izzenhood NDOW properties.

III. **Project Approach Including Tasks to be Accomplished**:
Funds allocated to this project would only be used to cover the cost of purchasing the needed herbicides and surfactants to treat the state properties. Salaries for those staff doing the

treatments will be covered by existing grant funding sources, or if a large enough need is identified a future proposal for other funds could be submitted for contracted assistance.

IV. Describe the Beneficial Effects of the Project and How they will be Measured and Monitored:
Noxious and invasive weed control will improve public and NDOW personnel access to NDOW-owned lands, limit the spread of noxious and invasive plant species, improve wildlife habitat and enhance the general appearance of the properties. Sites treated with herbicides will be evaluated after their application to determine the effectiveness of the timing, method, and chemicals chosen for the treatment. Effective treatments will show a significant die-off of targeted vegetation after treatment and reduced regrowth the following growing season.

V. Project Schedule:
The herbicides purchased by this project during FY16 will allow for the continuation of the Eastern Region weed treatment maintenance regime. In the past we have used the herbicides purchased with these funds to treat Canada and Bull thistle on the Bruneau River WMA, hoary cress on Franklin Lake WMA and Canada thistle on the Birch Creek property. Treatments are typically done during the spring and summer months when weeds are actively growing.

VI. Relationship to NDOW Plans, Policies and Programs:
Annual vegetation control is identified in all of the current WMA Conceptual Management Plans and is consistent with other NDOW plans and policies, for example: "Desired Outcome: Wildlife habitats that are in good ecological condition, capable of supporting a diverse array of wildlife species. Goal: Habitat is the key to the success of all wildlife populations. Effective habitat is an integral function of the Department of Wildlife. NDOW will preserve and protect quality habitat and enhance deficient habitats. Objective: Maintain, protect and enhance wildlife habitats on wildlife management areas (WMA's) by applying good science and best management practices through implementation of Comprehensive Management Plans on all WMA's" (from NDOW's Comprehensive Strategic Plan). "Achieve an overall goal of no net loss of wetland area or function and the long-term goal to enhance and increase wetland quantity and quality within the WMA" (from NDOW's Wetland Conservation Plan).

VII. NEPA Compliance or other Activities tha Need to be Accomplished Before this Project Can be Completed and their Status:
No permits are necessary to treat weeds on NDOW lands as we are using chemicals that do not require a certified applicator license. Should such chemicals be necessary for a given species, NDOW will either have an employee obtain certification or a contracted certified applicator will be hired. Any application on adjacent public land will be covered under existing BLM/USFS decisions relative to weed control activities.

Project Costs and Funding

VIII. Cost Summary:
All of the $3,750 to be allocated to this project will be used to purchase herbicides during FY16.

IX. Is this Project Going to Continue After FY16? Yes __X__ No _____

X. If Yes, is this Going to be an Annual, Recurring Project? Yes __X__ No _____

XI. If it is Going to Continue After FY16, Define the Total Dollars to be Spent During Each Fiscal Year:
We expect the need for weed control on WMAs to continue in perpetuity. We will request funding each year.

XII. Would Funds from this Program Be Used for State Matching Purposes: Yes_X___ No _____

XIII. If Yes, Which Federal Grant Would the Matching Funds be Used For?
NDOW's WMA System Federal Grant