



## California Department of Fish and Wildlife

### Upland Game Bird Account

**1. Project Title:** Knoxville WA Native Grassland Restoration

**2. Amount Requested:** \$29,800.00

**3. Applicant Contact Information:** National Wild Turkey Federation, Tax ID# 57-0564993

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#### 4. Introduction:

Knoxville Wildlife Area (KWA) is a very popular wildlife area for hunters targeting upland game birds, black-tailed deer, wild pig, and even offers limited waterfowl hunting opportunity. KWA consists of 21,000 acres dominated by oak woodlands with expanse stands of chaparral. Several valleys lie throughout the wildlife area with the majority along the riparian flats of Eticuera creek, providing open grasslands. Under natural conditions these grasslands provide critical nesting, brooding, and foraging habitat for several upland game bird species including valley quail and wild turkeys. The tall grass also serves as forage and much needed fawning cover for the resident black-tailed deer herd. Unfortunately, as with many of California's rural lands, the majority of these valley's no longer contain natural grasslands, but instead are infested with invasive exotic plant species. The two main culprits being yellow star-thistle (*Centaurea solstitialis*) and medusa head (*Taeniatherum caput-medusae*). Yellow star-thistle (YST) is a very aggressive invasive that contains a large taproot extending 2-3 feet below the soil surface. This allows YST to out-compete native annual species and dominate entire sections of the landscape. The recent drought has amplified YST's stronghold in many areas. Medusa head (MH) is also a strong aggressor that out-competes native annuals. Once established, MH can create densities of 1,000-2,000 plants per square meter, not only eliminating native grasses and forbs but also creating high fire danger. YST and MH serve very little wildlife value due to their homogenous thick cover and un-palatable plant bodies.

Due to the needle-like stickers on YST's flowering body and the burrowing seed heads of MH, these plants also create a hunter access issue. MH's seed heads can be detrimental to the eyes and noses of hunting dogs, so most hunters avoid these areas for the safety of their hunting companion. In a similar sense, deer season on KWA occurs in the very warm months of July, August, and September, and hunters tend to wear light and breathable clothing. YST's needle-like stickers penetrate light clothing with ease, leaving deer hunters avoiding dense patches. YST and MH are bad news for wildlife and hunters alike.

The specific goals and objectives of this project are to convert current unproductive and weed-infested public lands back into productive native grasslands for the benefit of upland game birds and upland game bird hunters.

#### 5. Project Description:

The project area contains 60 acres on the southern end of Knoxville Wildlife Area that is infested with yellow star-thistle and medusa head. It is proposed that through proper integrated pest management techniques recommended by UC Davis IPM Techniques and the CDFW statewide pest advisor, that YST and MH will be eradicated from the site and replaced with native annual grasses. The funds applied for in this grant will go toward the purchase of native grass seed of this project. The annual grasses will be purchased from Hedgerow

Farms in Winters, CA and will be seed harvested locally to the project site in both Napa and Yolo counties. The seed mix will contain purple needlegrass (*Stipa pulchra*), California oniongrass (*Melica californica*), three weeks fescue (*Festuca microstachys*), and one-sided blue grass (*Poa secunda secunda*). The plan and timeline suggested by the CDFW statewide pest advisor is as follows: Summer 2015 CALFIRE will come in and burn the entirety of the project area. This will remove the thatch and expose the soil. CDFW has agreed to take care of the required permitting by Bay Area Air Quality Control as well as the CEQA regulations. Fall/Winter of 2015 will be the first aerial application of herbicide after the first few rains soak the ground and weeds begin to emerge. Milestone will be used due to its effectiveness with both YST and MH. Spring/Summer 2016 will be the second aerial herbicide application. This will be a round of glyphosate to help clean up what made it past the fall/winter application of milestone. In fall of 2016 the project area will be planted with a no-till seed drill with the native grass seed mix. Then, if necessary, a third herbicide application will be scheduled of 2,4-D for broadleaf control. That will depend on the native success in the spring. When implementing aerial herbicide applications it is recommended that the smaller oak species be covered for protection.

Due to the requirement that the funding is needed to be spent within the contract year (7/1/15-6/30/16), and native seed cannot be purchased early and stored (will lose significant viability), the seed will need to be purchased in advance for the project. Hedgerow Farms has given consent for this agreement. Due to the integrated process of a native grassland restoration, seed funding needs to be secured prior to spending a significant amount of time and money on site prep in regard to herbicide and earthwork, which is why it is necessary to apply for it in this grant cycle for planting in November of 2016.

The partners of this project that will be contributing funds and in-kind services are the California Department of Fish and Wildlife, CALFIRE, California Deer Association, and the National Wild Turkey Federation. CDFW will be supplying all of the herbicide and treatments, as well as planting the native seed. CALFIRE will be contributing the costs associated with burning the project site. California Deer Association (CDA) has awarded \$8,000 to the project for the purchase of native seed. CDA's contribution will cover the native seed costs for 21% of the project area, or 12.6 acres. NWTF will be contributing the costs associated with a public outreach sign, and the time taken to write this grant. CDFW staff is responsible for coordinating with CALFIRE for the burn permit and CEQA compliance, contracting with an aerial spray service, applying any subsequent ground-based herbicides, purchasing seed, and drill-seeding of native plant species.

Knoxville WA Native Grassland Restoration Timeline	
Task	Date
Prescribed Burn	Jun-15
1st Herbicide Application	Nov-15
2nd Herbicide Application	Apr-16
No-till Seed Planting	Nov-16
3rd Herbicide Application	Apr-17



## Knoxville WA Native Grassland Restoration

Knoxville Wildlife Area



## **6. Expected Benefits:**

Sixty acres of currently rank land that has little to no value for upland game birds will be restored to its native habitat that will provide several benefits to upland game birds and upland game bird hunters. Upland game birds will profit from increased forage through seed production and leafy green matter. This will also increase upland game bird brooding habitat quality in respect to escape cover and the production of invertebrates, a necessary high-calorie brood food. The resident herd of black-tailed deer will benefit from increased browse and better fawning cover. Upland game bird hunters will benefit by gaining access to higher quality hunting grounds where they can enjoy using their hunting companions and not have to worry about medusa head seeds causing them harm. The proposed project will increase the overall quality of habitat and the quality of hunting on Knoxville Wildlife Area.

This project can also serve as a demonstration to the public how CDFW partners with other agencies and local non-profits to aid in wildlife habitat restoration projects that benefit recreational users on state-owned lands. NWTF will donate the costs and installation of a sign at the project site to illustrate the partners associated with the proposed project.

## 7. Itemized Budget:

Upland Game Stamp Proposal						
		Location		Project Costs		
LINE ITEM BUDGET FOR:	Knoxville WA Native Grassland Restoration	Knoxville Wildlife Area				
<b>PERSONNEL (GRANTEE STAFF):</b>						
	CDFW will be running the project and administering the funds					\$0.00
TOTAL PERSONNEL EXPENSES:						<b>\$0.00</b>
<b>OPERATING EXPENSE:</b>						
SEED:	Botanical Name	Common Name	Ecotype/Origin	lb/acre	cost/lb	cost/acre
	<i>Stipa (Nassella) pulchra</i>	purple needle grass	Yolo County	5	\$48.00	\$240.00
	<i>Melica californica</i>	California oniongrass	Yolo County	5	\$30.00	\$150.00
	<i>Festuca (Vulpia) microstachys</i>	small fescue/ three weeks fescue	Yolo County	5	\$18.00	\$90.00
	<i>Poa secunda ssp. secunda</i>	one sided blue grass	Yolo County	5	\$30.00	\$150.00
	-	-	-	-	Total cost/acre	<b>\$630.00</b>
	-	-	-	-	60 acres	<b>\$37,800.00</b>
TOTAL OPERATING EXPENSES:						<b>\$37,800.00</b>
<b>SUBTOTAL PERSONNEL OPERATING EXPENSES:</b>						
	CDFW will be running the project and administering the funds					\$0.00
<b>PARTNERSHIP CONTRIBUTIONS:</b>						
	<i>California Deer Association</i>		Seed Purchase for 12.6 acres	Grant Award		\$8,000.00
	<i>CDFW</i>		Herbicide, project implementation	In-Kind Costs		
	<i>CALFIRE</i>		Prescribed Burn	In-Kind Costs		
	<i>NWTF</i>		Outreach Sign	In-Kind Costs		
	<b>Match Subtotal</b>					<b>\$8,000.00</b>
				<b>TOTAL UPLAND STAMP GRANT REQUEST</b>		<b>\$29,800.00</b>

