



## NEVADA STATE FOREST ACTION PLAN

### NATIONAL PRIORITIES SECTION – Update Report

2015

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the requirement that each state develop a long-term, state-wide assessment and strategies for forest resources. These assessments and strategies focused on three national priorities:

- Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
- Protect Forests from Threats
- Enhance Public Benefits from Trees and Forests

These documents were developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions that would be the most efficient activities to address threats to Nevada’s natural resources and citizens identified during the assessment phase of the Forest Action plan.

This document serves as a record of strategic actions taken by Nevada stakeholders to implement Nevada’s Forest Action Plan and will be updated with any FAP revisions.

#### **1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**

***Threat 1. General decline in forest health***

***Threat 2. Decline in aspen stands***

***Threat 3. Increasing wildfire size and frequency***

***Threat 4. Wildfire impacts to watershed stability and function***

The four threats identified above are grouped together as actions taken often address more than one, if not all of them.

***Strategy 1: Implement forest management plans that improve forest conditions across landscapes***

**Action:** *Conduct timber stand improvement to regulate stocking levels appropriate for site carrying capacities*

Multiple projects have been implemented on private, state and local government lands in identified priority landscapes that were designed to adjust the stocking of forests and woodlands to levels that will allow the resource to withstand wildland fires, and provide greater adaptability to drought stress and resistance to insect attack. These projects are identified later in this update as specific fuel reduction and/or forest health improvements.

**Action:** *Implement management activities that promote establishment and maintenance of aspen*

**Action:** *Maintain desired conditions using prescribed fire*

Declining aspen stands on state and private lands in the Carson, Ruby, Independence, Wilson Creek and Spring Mtn mountain ranges have been treated to reduce high levels of fuel, remove encroaching conifers and sanitize diseased trees.

- 200 acres of aspen stands in Lake Tahoe State Park have been improved. Treatments have focused on regenerating and expanding aspen clones through coniferous overstory removal, removal of declining aspen overstory and prescribed burning. These practices have led to stimulation of decadent clones and expansion of acreage occupied by aspen.
- Planning for future broadcast burns in declining aspen clones is in progress for other locations within Lake Tahoe State Park and in the University of Nevada's 2,600 acre Whittell Forest.

**Action:** *Promote new and continued biomass utilization opportunities/business to facilitate land management*

- The Division of Forestry secured a LSR grant in 2014 to evaluate the effectiveness of biochar derived from hazardous fuel reduction projects, as a soil amendment to enhance the growth and survival of urban tree plantings. A sub-grant was issued to the Desert Research Institute to evaluate the chemical and moisture retention properties of the biochar. This effort has led to a collaborative relationship with a private business that is composting wood chips and biochar, both from fuel reduction projects, to produce soil amendments that will be bagged and sold to retail customers. Another spinoff from the biochar grant is the use of biochar in stormwater detention basins at Lake Tahoe to treat polluted waters before they enter the lake.
- The Division of Forestry received a grant from the State Department of Energy to construct a prototype kiln for producing biochar. The success and portability of the kiln led to construction of ten additional kilns, funded through a federal wood innovations grant, to produce biochar from pinyon-juniper stands on USFS lands in Eastern NV. The biochar produced from these kilns

will be applied on sagebrush restoration sites and evaluated for its impacts on sagebrush and bunch grass revegetation.

**Action:** *Pursue opportunities for collaborative planning and project implementation on landscape scale with federal state and local government land managers and private landowners.*

- NDF has engaged USFS, BIA, The Nature Conservancy and private landowners to implement over 800 acres of timber stand improvement and watershed restoration/conservation in the Clear Creek Watershed. The Clear Creek Watershed work NDF is performing is enhancing multiple public benefits from the trees and forests in the watershed which are vitally important to municipal, agricultural, and wildlife uses in Western Nevada. Clear Creek is Nevada's only perennial tributary to the Carson River, and additionally, there are many highly prized recreational trails through the watershed. USFS and BIA have been working in the watershed to conduct logging and hazardous fuel reduction treatments on hundreds of acres. NDF implemented a TSI/hazardous fuel reduction project on a newly developing community and conservation easement located between an existing BIA treatment, several USFS treatments, and two existing communities that have also implemented hazardous fuel reduction. Over a million board feet of timber was removed and sent to market, supporting local timber harvesting capacity. The treatment helped create a landscape-scale impact totaling nearly 1/5<sup>th</sup> of the watershed being protected from wildfire. Half of the development's property has been placed in a conservation easement, which in combination with other federal, private and tribal lands in the area, comprises one of the rare working timbered landscapes in Nevada. All of the work performed in the watershed has been guided by existing Community Wildfire Protection Plans and the Carson Range Multi-jurisdictional Fuel Reduction and Wildfire Prevention Strategy, which are both partnerships between public and private entities. While the Clear Creek project is a single project, NDF used many similar projects in the Lake Tahoe Basin as a model for implementing this multi-jurisdictional project with synergistic impacts to public, private and other stakeholders. NDF also has additional projects that are currently being implemented in all three of our administrative regions that mimic these practices and ideals.

**Strategy 2.** *Implement fuel reduction projects that reduce high intensity wildfires*

- Wildfire hazard/fuel reduction accomplished on 1,725 acres of coniferous forest located within Lake Tahoe State Park. The majority of the fuel reduction projects have been located adjacent to similar projects occurring on USFS, local government and private lands. Coordinating the strategic placement of the fuel treatments provides a greater landscape scale treatment and enhances the effectiveness of all fuel reduction projects.
- NDF has implemented over 636 acres of fuel reduction treatments on state and local government lands in the agency's western region. Over 300 acres of fuel reduction work has been accomplished in the agency's southern region, and 700 acres in the northern region. These treatments have been strategically located along highways, in highly popular recreational areas,

or are adjacent to fuel reduction projects on federally managed lands in order to maximize their effectiveness.

**Strategy 3. Develop and Improve inventory data for forest conditions**

**Action: Continue aerial detection surveys for insect and disease conditions**

- In cooperation with the USFS, NDF conducts aerial forest health surveys across multiple landownerships in Nevada. Surveyors have mapped insect and disease conditions across the annually over the past five years, averaging 6,348,219 acres/year.

**Action: Increase Forest Stewardship planning**

- NDF field foresters have been providing planning assistance to multiple private landowners and state and local governments. All plans contain resource inventories and assessments. Nineteen Stewardship plans have been completed covering 10,302 acres of private landownerships in the State. An additional 17 management plans have been produced, covering 4,765 acres, that did not qualify as Stewardship plans.

**Strategy 4. Increase agency expertise and capacity in prescribed fire**

- NDF hired a Type 2 Prescribed Fire burn boss; 10 other staff actively pursuing RXB2 qualification

**Threat 5. Wildland/Urban Interface wildfire risk**

**Strategy 1. Implement the Wildland Fire Risk Assessments and Community Wildfire Protection Plans**

**Action: Continue working with Nevada Firesafe Council and local chapters to implement WCPPs**

**Action: Develop grant proposal and provide funding for local fuel reduction projects.**

**Action: Coordinate fuel management projects with local fire departments to broaden treated areas for enhanced effectiveness**

- Much of the Division of Forestry's fuel reduction work has occurred in and around communities threatened by wildland fire. NDF has treated 778, 535, and 640 acres in the WUI areas of the Western, Southern and Northern regions respectively.

**Strategy 2. Increase public awareness of fire safety**

**Action: Continue prevention education programs**

**Action: Continue collaboration on education with agency partners**

- NDF has developed a strong relationship working with UNR-Cooperative Extension's *Living With Fire* program and the Nevada Network of Fire Adapted Communities to provide outreach and

education. NDF provides pass through funding annually to support the *Living With Fire* program.

### ***Threat 9. Fragmentation of land ownership***

#### ***Strategy 1. Minimize effects of fragmented ownership***

##### ***Action: Provide subdivision level management planning***

- Past and ongoing work with multiple local fire hazard reduction groups, communities and HOAs focusses on providing community-wide hazard assessments and treatment plans to ensure coordinated and comprehensive plan development and implementation.

#### ***Strategy 2. Provide incentives to conserve working forest lands***

##### ***Action: Promote Forest Legacy program***

##### ***Action: Work with NGOs like Nevada Land Trust to promote conservation easements and acquisitions***

- Forest Stewardship/Legacy Coordinator has been developing and pursuing several possible conservation easement or fee acquisition projects in coordination with Nevada Land Trust (NLT) and Carson City. Potential projects will be ranked for submittal to the USFS Forest Legacy grant program. The NDF Northern Region RMO is currently developing a Forest Stewardship Plan for one potential Legacy easement property, with others in the planning stages with NLT. NDF continues coordinating and facilitating communications with NLT and Carson City as projects are identified and developed. NDF is currently working to involve The Nature Conservancy (TNC) and other potential partners in these processes.

## **2. Protect Forests from Threats**

### ***Threat 1. General decline in forest health***

#### ***Strategy 1. Implement forest management plans that improve forest conditions across landscapes***

##### **Action: Implement insect and disease control projects when appropriate**

- Forest Health activities on state and local government lands and private property have focused on creating sustainable and resilient conditions, and on controlling pest outbreaks when they threaten the long term health of desired vegetation, or interfere with the land owner's goals. Projects were implemented in Jeffrey pine, mixed conifer and pinyon-juniper cover types and have included controlled burning, sanitation cutting, pesticide application, revegetation and stocking control. When possible, projects have tied into work conducted on adjacent federally

managed lands to increase the impact of the forest health treatments. The state forest health specialist has made 62 individual site visits addressing conditions on 1400 acres, and planned or completed projects on 549 acres and has conducted seven trainings on relevant forest health topics.

***Threat 3. Increasing wildfire size and frequency***

***Threat 4. Wildfire impacts to watershed stability and function***

***Strategy 1. Implement forest management plans that improve forest conditions across landscapes***

***Action: Pursue opportunities for collaborative planning and project implementation on landscape scale with federal, state and local government land managers and private landowners.***

- The Division of Forestry secured funding from the USFS to host a summit on Nevada's Collaborative Approach to the National Cohesive Wildland Fire Strategy. The summit was attended by a broad range of cooperators with a roll to play in developing strategies for one or more of the three tenets of the Cohesive Strategy. The result of the summit was the formation of an advisory group that will oversee the implementation of specific objectives developed for each of the three CS tenets. This is the beginning of an effort that will bring about greater collaborative planning and implementation of work across all Nevada to create resilient landscapes, increase the number of fire adapted communities and improve response to wildland fire.
- The Division of Forestry worked with Humboldt-Toiyabe National Forest staff to identify a prioritized list of treatment areas as part of the 2014 Farm Bill, Sec. 8204. The top priority area was the West Fork Pine Creek in the Jarbidge River watershed. This watershed is one of the primary water sources for the downstream community of Jarbidge. We are working with NSF staff to develop and implement a 2,615 acre treatment that will reduce the wildfire hazard, restore the health of the forest and protect the watershed from catastrophic wildfire and the associated impacts to Jarbidge's water supply
- Awarded a 2016 Bi-state LSR grant that will provide for landscape scale sage grouse habitat improvement in eastern NV and western UT. Project partners include private landowners, multiple state and local government agencies, federal land management agencies and non-profits. The patchwork of state facilitated projects will be adjacent to and nested within planned and ongoing projects implemented by federal partners, to strengthen the cross-jurisdictional collaboration among all agencies, landowners, and stakeholders. The proposed projects build on existing and ongoing to plans by federal partners to implement landscape scale treatments.

***Threat 6. Low elevation riparian forests are declining or have been completely replaced by exotic, invasive species***

**Strategy 1. Invasive species control and riparian restoration**

**Action:** Control and reduce salt cedar, Russian olive and other invasive/noxious species along water courses

**Action:** Reintroduce native vegetation or introduce desired non-native vegetation for riparian rehabilitation

- Using funds from a successful western states competitive grant, NDF was able to eradicate saltcedar monocultures and replanted native vegetation on 242 acres across 13 different landowners on parcels along the Virgin or Muddy Rivers, both of which feed into the Colorado River and are included in the USDA-defined Colorado River Basin critical conservation area. After saltcedar eradication using either hand crews or mastication equipment, site appropriate native vegetation was established including locally collected cottonwood and willows, or native shrubs and grasses to provide habitat and soil stability where the water table was too low for native tree survival.

**Action:** Promote partnerships with coordinated weed management areas, research, education, sportsman's groups, NGOs gov't agencies, communities, private landowners

- NDF is a founding member of the Southern Nevada CWMA (SNCWMA) and is serving as a bridge between federal agency members and private landowners to promote coordinated weed management throughout southern Nevada. The SNCWMA has founded a fountaingrass initiative to work on local eradication and control of the state listed noxious weed species that invades and dominates riparian environments and can increase wildfire risk and intensity along riparian corridors.
- NDF has partnered on several projects, including the Virgin/Muddy river project listed above, with Partners in Conservation (PIC), a locally organized non-profit based in the Moapa Valley of Southern Nevada whose mission is to “fill the gap between rural communities and government entities and develop specific partnerships to resolve conservation, recreation, and public land issues”. PIC was a bridge to community volunteers (including high school football teams, local residents, and boy scout groups) which volunteer labor on the Virgin/Muddy River project, and provided NDF a local voice to partner with when presenting to town boards, HOAs, etc. PIC brings together residents throughout the Moapa Valley for discussions of landscape scale impacts of projects completed with partnerships between NDF, private landowners, BLM, Southern Nevada Water Authority, and USFWS.

**Threat 11. Invasive weeds**

**Strategy 1.** *Monitor invasive plants within NV*

**Strategy 2.** *Increase knowledge of weeds and associated issues*

**Strategy 3.** *Develop rehabilitation and restoration strategies using native or non-native species*

The Division has been working extensively with Nevada Department of Agriculture, private landowners, County natural resource managers, local communities, conservation districts, and federal land managers to increase awareness of weed infestations, increase the knowledge of spread vectors and rehabilitation techniques as well as providing technical support to those seeking to reverse the trend of weed infestation.

- The Division of Forestry secured a LSR grant titled “Truckee Meadows Weed Coordination Group: A Strategic Approach to Medusahead Control” to develop a collaborative project to control the spread of the noxious weed across multiple ownerships along the foothills of the Carson Range in Washoe County. Project partners include NV Dept. of Agriculture, NV Dept. of Wildlife, Nevada Land Trust, Washoe County, Univ. of Nevada Cooperative Extension, USFS and the Great Basin Institute. The project led to the formation of the Medusahead Task Force which has been responsible for mapping the extent of infestation, identifying treatment areas, treating infestations, monitored effectiveness and providing public education related to this pest.
- NDF provided specialized rehabilitation treatment planning and implementation on the South Fork Humboldt River outside of Elko, where we secured two grants from the Nevada Department of Environmental Protection, in cooperation with many more partners, to implement a meadow and streambank restoration project. The river provides about half of the flow volume to the Humboldt River, the only river that carries water throughout most of Northern Nevada and is extensively used by agricultural producers and wildlife. Public also benefits extensively from this watercourse as it is a highly prized fishery and it feeds several recreational and agricultural downstream water storage reservoirs. NDF has been implementing weed control, seeding, willow staking, and tree planting on lands owned by Nevada Division of State Parks to improve flood plain habitat and reduce in-flow water quality degradation.
- Another example of this type of project was implemented by Nevada Department of Agriculture and Dayton Valley Conservation District, with funding from NDF. At the River Park Open Space parcel, these partners worked to implement over 200 acres of noxious weed treatments in floodplain areas adjacent to the Carson River, which supports some of the most extensive Fremont cottonwood galleries in the State. These areas are abandoned agricultural lands which are generally stripped of their water rights and associated irrigation practices with no active restoration to a native or sustainable vegetation community when urban development occurs along the river corridors. In addition, the flooding that took place in 1997 brought large quantities of weed seed into the area, creating many of the infestations that are being treated. The cooperators on the River Park projects eliminated monotypic stands of perennial pepperweed and Russian thistle that were also presenting a wildfire risk to the adjacent



subdivision of River Park. This project is part of a larger effort in the Dayton Valley to eradicate perennial pepperweed from the Carson River corridor, which has been largely successful due to cooperative efforts of various organizations, agencies and landowners. Without these treatments existing native vegetation communities would continue to be destroyed and outcompeted by exotics and the continuing unraveling of stream and river geomorphic features that total de-stabilize riparian ecosystem and limit their ability to support native vegetation communities. In addition, wildlife habitats are replaced with dense stands of vegetation that most wildlife do not typically use or prefer. There are also similar projects occurring in all three administrative regions of NDF, and the Forest Action Plan continues to provide guidance that helps direct the agency's resources at addressing these very important challenges.

- Many areas in Nevada that are becoming increasingly invaded by weeds are home to some of Nevada's best non-irrigated livestock production rangelands as well as the best recreational hiking, fishing and hunting areas that support both urban and rural economies. An example of this is in northeastern Nevada around the town of Tuscarora, which has the largest contiguous invasion of Hoary Cress, a Noxious Weed in Nevada. There are some 5,000 to 10,000 acres of this plant that exist in near monocultures where wildfire has occurred across the landscapes at the base of the Tuscarora Mountains that were addressed by the Tuscarora Working Group and the Tuscarora Comprehensive Fuels and Weed Containment Plan. NDF has treated over 1,000 acres of private lands in the area, and also educated landowners and agricultural producers on how to combat the invasion and increase the chance of rehabilitation. The BLM has treated over 5,000 acres since the inception of the plan. All of the seed mixes were custom mixes of native and introduced species which are used to maximize the chance of successful occupation of the ecological niche following weed treatment as well as being resistant to reinvasion of the weeds. These kinds of tactics, along with the coupling of fuels treatments and traditional fire protection are examples of NDF protecting the existing partially or non-invaded landscapes from weeds.

### **3. Enhance Public Benefits from Trees and Forests**

***Threat 7. Urban forests are threatened with decline resulting from changes in state demographics, the economy and water conservation programs***

***Strategy 1. Increase and improve resources and partnerships to meet the growing need for technical assistance, education and outreach***

***Action: Develop new partnerships with volunteer groups, communities, public agencies, nurseries, and arboretums***

***Action: Integrate NDF programs and projects***

- The Nevada Division of Forestry, Urban and Community Forestry Program (UCF) has developed and expanded partnerships with several municipal governments and other agencies to deliver program activities. Recently, UCF conducted inventories of public trees in many communities in the state, including in rural areas not previously engaged. Inventory reports have been delivered to municipal groups (tree boards, county commissions, and city councils). The report results have been helpful to communities to realize the value of the benefits their trees provide in real terms, using the iTree suite of tools. Many communities have devoted more resources to tree management and training for staff, due to the results of these inventories. The communities of Winnemucca and Genoa have become or expressed an interest in becoming a Tree City USA because of this outreach conducted by UCF.
- UCF has also reached out to new partners to work on areas of common interest. The UCF program manager has spearheaded a cooperative effort with Keep Truckee Meadows Beautiful (KTMB), a local non-profit agency that promotes green space management using volunteer labor. The UCF coordinator helped KTMB manage hundreds of volunteers this year, and will also continue to provide assistance during the Reno/Sparks area Christmas tree chipping this year. As this partnership has grown, UCF and KTMB have applied to the EPA for a grant through the Urban Waters Small Grant program. In addition to this work with KTMB, NDF statewide Resource Management Officers organize volunteer hours to work on UCF program work. This program is particularly strong in the Las Vegas area.

***Strategy 2. Education and Outreach***

***Action: Provide technical assistance for tree care education***

***Action: Support professional development opportunities***

***Action: Provide support for Hispanic green industry training***

- In addition to supporting inventories of public trees and management planning, the UCF program support tree care education in English and Spanish throughout the state. The UCF program has granted funds to support the University of Nevada Cooperative Extension program to deliver speakers that qualify for ISA continuing education units, and programs directed to Spanish speaking green industry professionals. The UCF coordinator is a member of the education committee at the Nevada Landscape Association, and regularly participates in educational events, and helps to organize the judge the annual Certified Landscape Technician test each fall. The UCF coordinator conducts education outreach several times a year and participates in all green industry conferences as a speaker or organizer.

***Strategy 3. Community UF Program Development and Management***

#### **Strategy 4. Funding**

**Action:** Use partners, or provide funding and expertise to implement or update tree inventories and canopy studies, tree benefits analyses and community forestry management plans

**Action:** Provide funding to communities for tree management planning, capacity building, tree inventory and assessments, and educational activities

- Inventories of publicly managed trees by the Nevada Division of Forestry, Urban and Community Forestry program is driving significant changes in the management of statewide urban forests. This programmatic focus has helped incentivize communities to increase professional staffing, set green industry educational goals, motivated policy changes among many of Nevada’s municipalities, and increased budget for tree planting in statewide municipalities. As a direct result of NDF-Forest Service funded inventories that demonstrated the economic value of municipal trees, Clark County (72% state population) hired a horticulture specialist to manage county park trees and the City of Las Vegas is now hiring a city forester for the first time. The inventory in Clark County revealed an overrepresentation of small diameter trees, and as such, structural pruning was identified as a critical management intervention to see the benefits of small trees becoming large trees. Ed Gillman, a world-renown pruning expert, was invited to Las Vegas to give a one day pruning workshop specifically addressing structural pruning of small trees. In northern Nevada, inventories also yielded significant results that are driving change. A Reno city councilwoman reported that the city council was “stunned” by the loss of over 5,000 trees in the past 20 year in the city. As a direct result of the inventory, Reno has approved a budget to replace all lost trees and the inventory identified potential planting sites for new trees. The city of Reno urban forester is developing the state’s first urban forest management plan as match for the inventory grant from NDF/Forest Service. The councilwoman has also initiated policy change to increase penalties for removing trees in violation of city code. Inventories of public trees in Nevada are a significant driver of positive changes in the management of urban forest resources and laying the groundwork for the development of comprehensive management planning for statewide municipalities.

#### **Strategy 6. Reduce runoff from urban areas into watersheds.**

- In collaboration with the Desert Research Institute and the Nevada Department of Transportation, the Nevada Division of Forestry has helped to install a biochar enhanced retention basin that drains a large parking lot immediately adjacent to pristine Lake Tahoe. This basin contains biochar, produced by NDF crews and equipment, which was mixed into the soil to enhance plant growth on the site and to filter pollutants that originate from the parking lot. Hopefully, this pond will prevent excess pollutants from entering Lake Tahoe, a significant resource for the State of Nevada.

- The UCF program recently wrote a grant in collaboration with the Keep Truckee Meadows Beautiful agency to expand the Watershed Warriors program in Washoe County Schools. If funded, over 3,000 under-served students will learn about water quality and watershed management. Students will be incentivized to help reduce sources of pollution that flow into the Truckee River and grow to become adults who are stewards of the watershed.