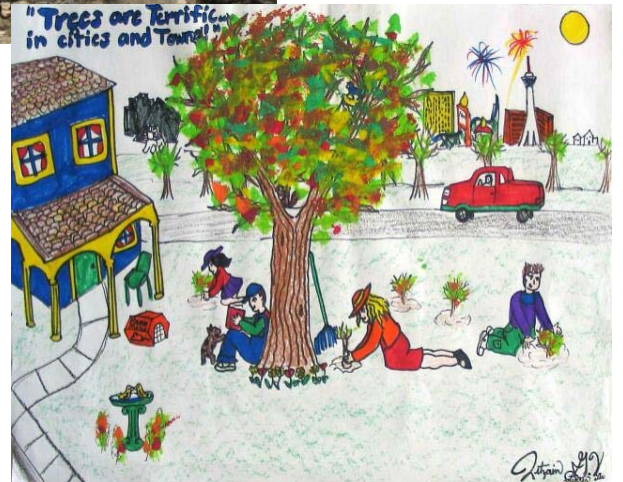




Nevada Division of Forestry



2004 Annual Report

Table of Contents

From The State Forester.....	3
Mission Statement.....	4
Objectives	4
NDF by Region.....	4
Fiscal.....	5
Fire Suppression.....	7
Communications	8
Fuels Reduction	9
VFD Assistance	11
Aviation.....	11
Training.....	12
Seasonal Program.....	14
Conservation Camps	15
Forest Stewardship Program.....	18
Urban & Community Forestry (U&CF)	19
Forest Health / Insects & Disease	20
Threatened and Endangered Species Program.....	21
Fuels for Schools.....	22
State Tree Nurseries/Seedbank	22
Conservation Education	24
Information Technology	24
Key issues and goals for 2005	25
Highlight-- Waterfall Fire.....	27
Notes	30

From The State Forester



On behalf of all Nevada Division of Forestry (Division) employees it is truly an honor and a privilege to present our 2004 Annual Report. The accomplishments of the Division throughout the State of Nevada are significant and benefit all Nevadan's quality of life. The following pages highlight some of the many contributions Division employees have made throughout the past year. From providing comprehensive emergency response services in established Division Fire Districts and comprehensively managing wildland fire statewide, to providing technical forestry assistance to Nevada private landowners and communities, our employee accomplishments are truly extraordinary.

Nevada is faced with critical natural resource issues including extended drought, insect and disease infestations and invasive species. The loss of hundreds of thousands of acres of wildlife habitat to wildland fire has negatively impacted wildlife populations, outdoor recreational opportunities and spread invasive plant species. The Division stands ready and able to bring the necessary technical expertise, trained labor and equipment to meet the natural resource challenges facing our state.

As you review our 2004 Annual Report, it is important to note that the hard work and dedication of Division employees exemplifies the team effort fostered by Governor Guinn and the Nevada Legislature. The Division of Forestry's accomplishments reflect the support and assistance of all branches of Nevada government and the hard work of many dedicated state employees. I hope you enjoy our 2004 Annual Report and if you have questions, please do not hesitate to contact us (775) 684-2500.

Sincerely,

Pete Anderson
State Forester Firewarden

Mission Statement

“To coordinate and manage all forestry, nursery, endangered plant species and watershed resource activities on certain public and private lands. The Division provides protection of life, property, and natural resources through fire suppression and prevention programs and provides other emergency services as required.”

Objectives

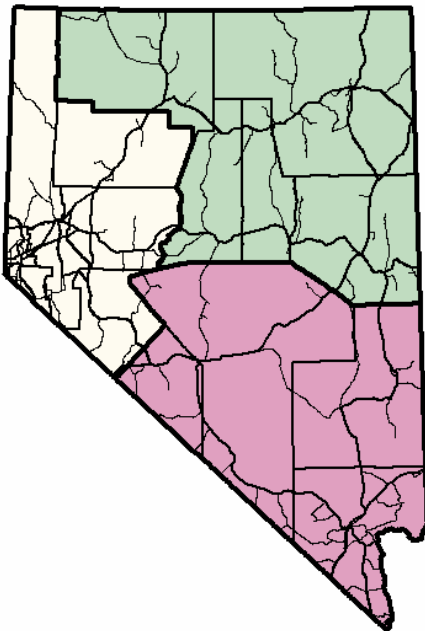
Continue to improve the health and vigor of Nevada's watersheds and diverse ecosystems through increased technical assistance to landowners and land managers; developing partnerships with federal, State and local agencies and the private sector; enforcing State laws and regulations; promoting scientifically-based conservation and best management practices; and educating the public on land stewardship ethics.

Actively protect, enhance and manage the natural resources of the state through education, technical transfer and revegetation of wildfire-damaged lands.

Provide scientifically based conservation and environmental education programs utilizing Nevada's natural resources and their management as educational opportunities.

Improve the environment of our cities and communities by increasing the planting of trees and improving the care and maintenance of existing trees. Promote public awareness about the important role trees and shrubs play in the quality of life for all Nevadans.

NDF by Region



Tan- Western Region

- Conservation Camps
 - Silver Springs, Stewart
- State Tree Nursery
 - Washoe Valley
- Fire Stations
 - Career- 3
 - Volunteer- 7
 - Seasonal- 5

Green- Northern Region

- Conservation Camps
 - Carlin, Wells, Ely, Humboldt
- Fire Stations
 - Career- 1
 - Volunteer- 27
 - Seasonal- 3

Rose- Southern Region

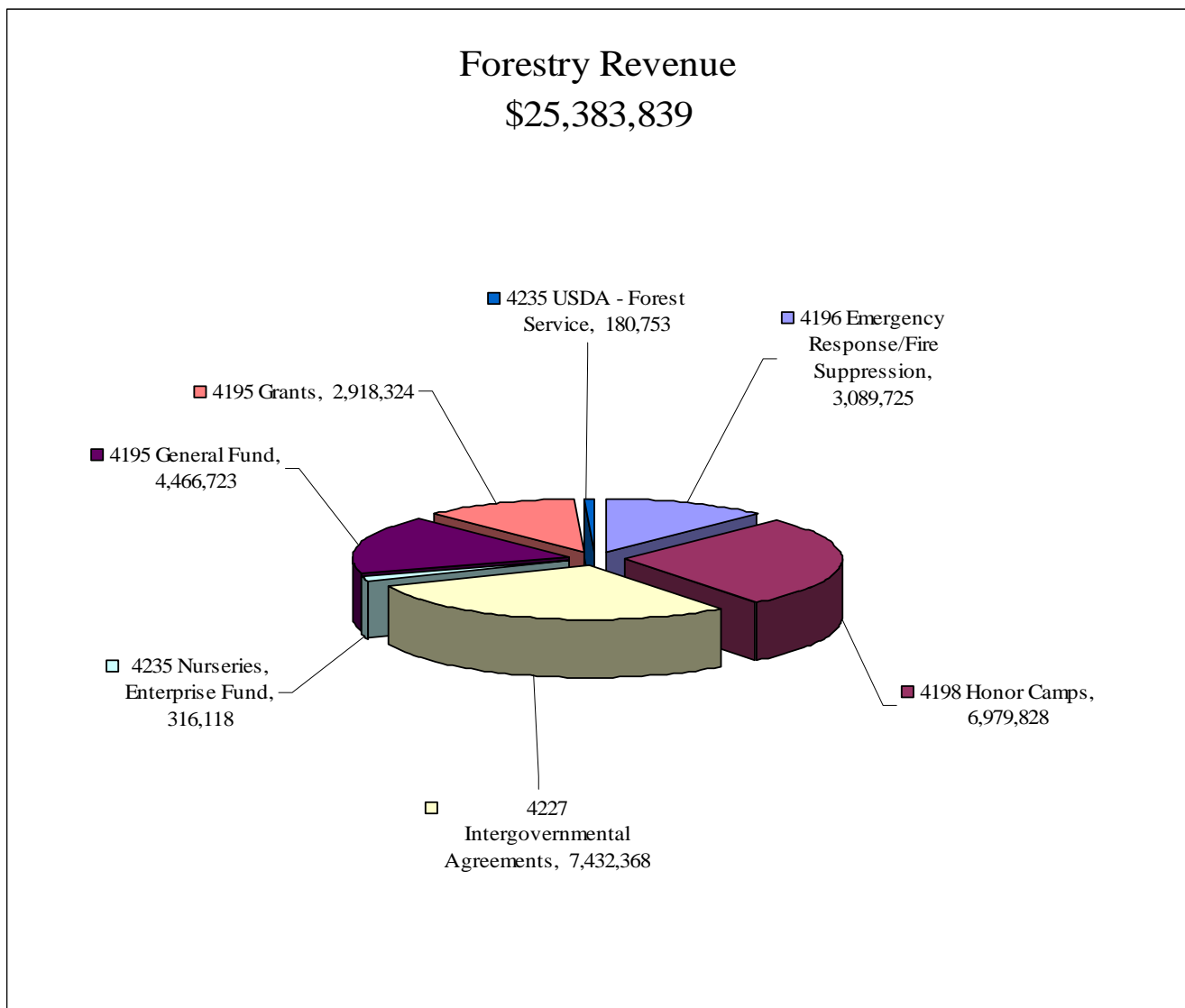
- Conservation Camps
 - Pioche, Jean, Indian Springs, Tonopah
- State Tree Nursery
 - Las Vegas
- Fire Stations
 - Career- 1
 - Volunteer- 0
 - Seasonal- 1

Fiscal

The Division's Fiscal office handles the administrative activities of the statewide forestry program which includes support for activities performed in a total of five budget accounts:

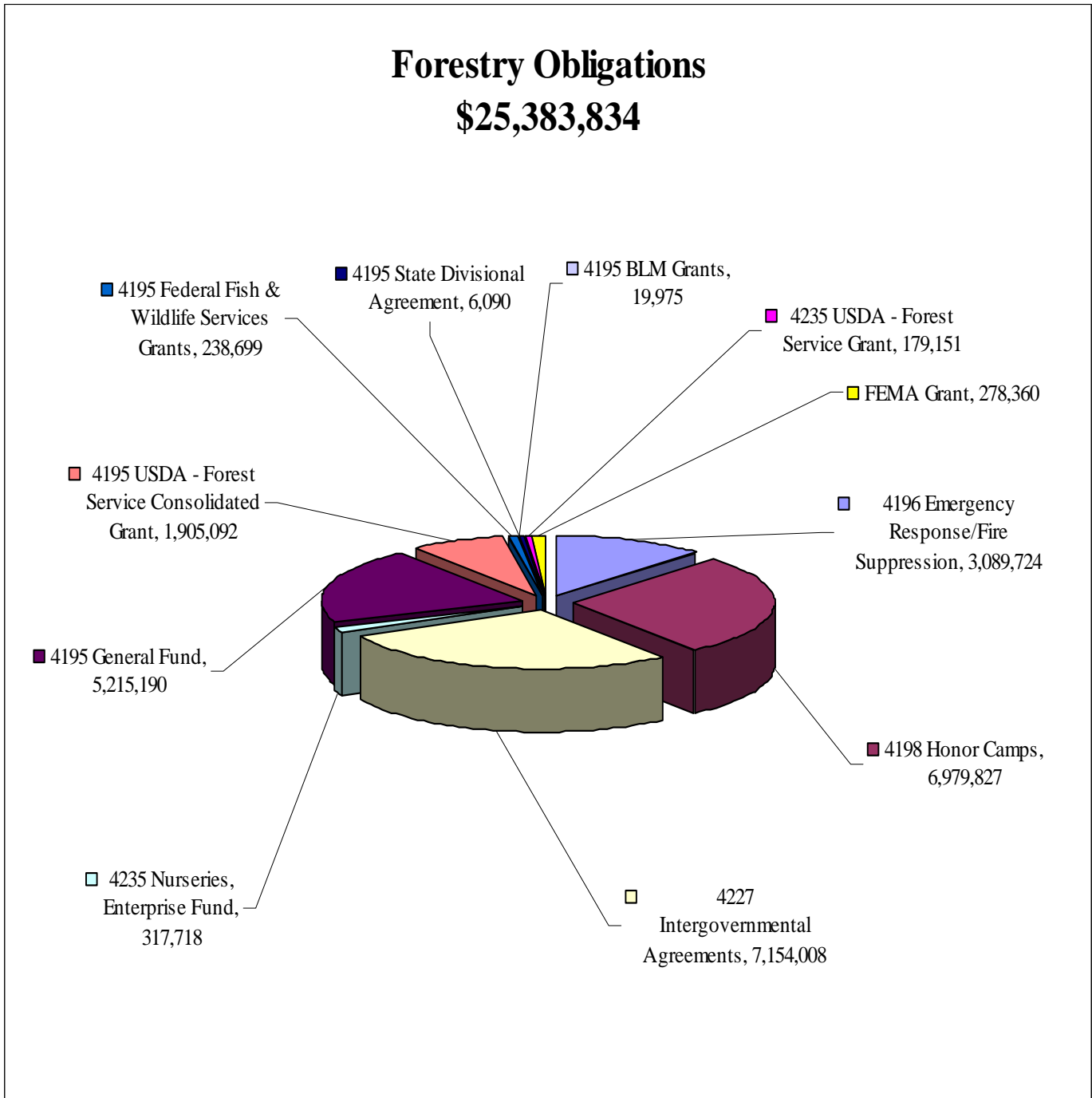
- 4195- Forestry (encompasses grant funding and 100% general funding match)
- 4196- Emergency Response / Fire Suppression (encompasses resources to suppress wildfires and all risk emergencies)
- 4198- Honor Camps (encompasses our Conservation Camps)
- 4227- Intergovernmental Agreements (encompasses the approved budgets in cooperative agreements between NDF and local political subdivisions for activities that provide for public safety and protection of property)
- 4235- Nurseries (encompasses enterprise funds and contains no general funds)

Chart below reflects figures from state fiscal year 2004 only.



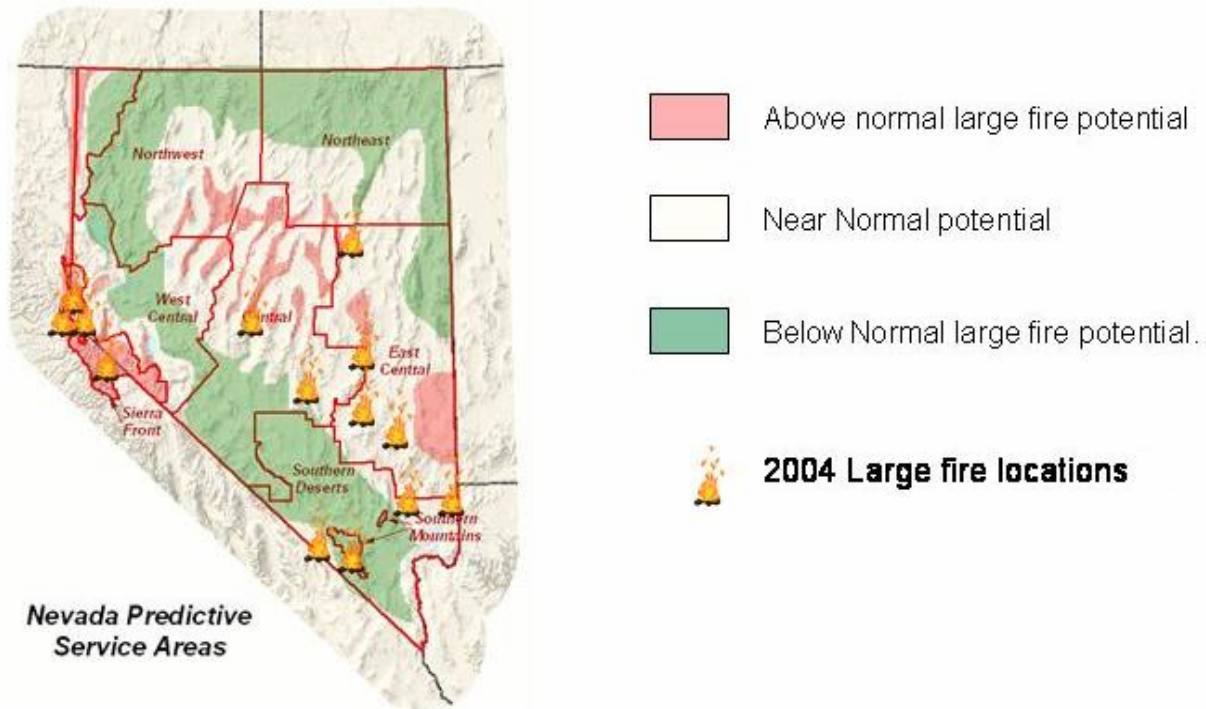
The Division’s fiscal support functions include the administration of grants programs, incident reporting and billings, mechanical services, maintenance of communications and data information systems, dispatching and air operations.

Chart below reflects figures from state fiscal year 2004 only.



Fire Suppression

Large Fire Seasonal Outlook



In April 2004, the Interagency wildfire agencies federal and state issued their assessment for the upcoming fire season. The Sierra Front and the mid-northwest area through the central areas of the state were forecasted to have above normal, large fire potential. Although not an exact science, the predictions came very close to reality, as evidenced by the following large fire data:

- Nickel Fire** - started June 17th in Clark County and spread into Lincoln County and the state of Utah. A Type III Incident Management Team (IMT) was assigned initially and the fire transitioned to a Type II incident. The Division supported the suppression efforts with the IMT members as well as hand crews, and overhead staff. Total area burned was 8,404 acres.
- Verdi Complex Fire** - started June 30th due to four fires ignited by lightning in the Verdi area of Washoe County. Initial attack contained two of the fires, while the other two burned together threatening several homes and causing evacuations. Following initial attack, a Type II IMT was assigned. A FEMA/FMAG declaration was granted reimbursing up to 75% of eligible suppression costs. As one of two jurisdictional agencies, our cost share for suppression was 89%. Total area burned was 1,080 acres.
- Waterfall Fire** - started July 14th in Carson City; the fire quickly outgrew initial attack resources and the Sierra Front Type II IMT was activated. Due to the complexity, this incident was upgraded to a Type I IMT. A FEMA declaration was granted; however, because of the magnitude of this fire it was declared a federal disaster making it eligible for a Public Assistance Grant. Total area burned was 8,800 acres. (see end of report for more Waterfall Fire details)

- **Robbers Fire** - started July 26th due to a vehicle accident in the Spring Mountain range west of Las Vegas. The fire quickly spread despite rapid initial attack efforts resulting in the development of evacuation plans, deployment of a Type I IMT, and resources were ordered to provide structure protection to the Mt. Charleston area subdivisions. Significant costs to the Division were incurred due to the extensive deployment of structure protection resources. Total area burned was approximately 300 acres.
- **Andrew Fire** - started August 25th in the Steamboat/Pleasant Valley area of Washoe County caused by target shooting. High winds and rapid fire spread led to the destruction of six homes and a significant threat to the Virginia Foothills and Virginia Highlands areas. Due to the complexity of the incident a Type I IMT was mobilized. We provided aviation, apparatus, and hand crew resources. Total area burned was 2,900 acres.



During the 2004 fire season, the Division provided numerous personnel for Incident Management Team assignments, single resources, and staffed apparatus for suppression activities to the states of Arizona, Utah, Idaho, New Mexico, and California. Our agency also provided overhead personnel for disaster relief to the states of Florida, Georgia, Alabama, and Mississippi during this years' hurricane season.

The Division continues to provide all risk protection in several fire protection districts statewide, including advanced life support paramedic service, structure firefighting, and hazardous material response at the operations level.

Region	Wildland Fire Incidents	All Risk Incidents	Total Incidents
Western	226	879	1105
Northern	253	765	1018
Southern	54	206	260

Communications

All thirty-one Division mountain top repeater sites have been properly licensed. There are repeaters throughout the State, with the northern region being the biggest challenge because of the location and inaccessibility of sites as well as the age of the communication systems. All sites made it through the fire season without any major problems. The Western Region (at 90%) and the Southern Region (at 75%) are very close to meeting communication industry standards. The challenge is bringing the Northern Region up to standard, as they are currently at less than 50% of compliance with these standards. Narrowband capability is the accepted standard for radios nationwide. The Division's radios are close to 90% for meeting the narrowband standard.

Fuels Reduction

State Fire Assistance Grant Funds

Since 2001, the Division has received funding through the USDA Forest Service (USFS) from the National Fire Plan. The State Fire Assistance Program provides funding for fuels projects in all of Nevada's seventeen counties. Funding is used to assess, plan and implement fuels treatment projects which include a combination of hand crews, mechanical thinning, chipping, mulching and seeding to create defensible space and improve forest health.

State Fire Assistance Funding History

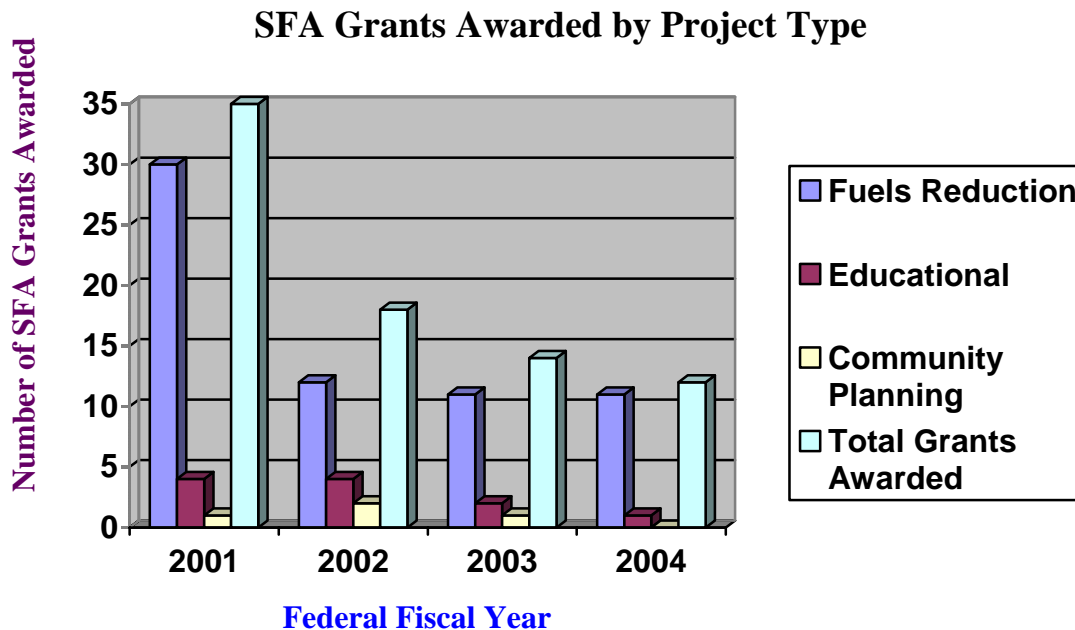
Federal Fiscal Year	01	02	03	04
\$ Amount To Grants	\$884,587	\$1,611,229	\$900,000	\$950,000
\$ Amount To Initiatives (see below)	\$471,413	\$695,707	\$1,987,514	\$1,518,750
Grand Total Awarded	\$1,356,000	\$2,306,936	\$2,887,514	\$2,468,750
Acres Treated To Date**	2,100	1,100	867	In Awarding Process

** Total acres treated continue to grow for each fiscal year as grants close

Through the Cooperative Fire Program of the State of Nevada, the Division, in conjunction with cooperators, is responsible for developing and maintaining fire protection services and fuels management. A Five Year Cooperative Fire Protection Plan was finalized in 2004, identifying the following initiatives:

- **Wildland Urban Interface (WUI)** - increase public awareness of WUI hazards, risks and mitigation practices.
- **Training** - costs associated with training for volunteers and state personnel to develop and enhance fire suppression, safety, prevention, rehabilitation, and fuels management.
- **Interagency Fire Dispatch and Coordination Centers** - update and increase interagency use of dispatch centers, interagency suppression activities and other cooperative endeavors.
- **Wildland Fire Equipment Procurement & Development** - procurement, development and management of new and used fire equipment to help keep volunteer fire departments throughout the state up to code and standards.
- **Interagency Communications** - expenses associated with intra-regional communications within the Divisions' regions.
- **Shared Protection Resources** - travel associated with program reporting/coordination activities to maintain collaboration between the Division and federal, State and local cooperators.
- **Forest Health through Fuel Management** - assess, plan and implement fuels treatment projects and acquire equipment and software consistent with the implementation of these treatments.
- **Analysis and Planning** - periodic planning and program analysis to provide current and effective rural fire prevention and control programs.





Steven's Bill

In federal fiscal years 03 and 04, the Division also received additional funding from Steven's Bill dollars to complete fuels work on state and private lands. In both fiscal years, five projects were funded throughout the state for a total of \$406,000.

Fire Protection Officer's Budgets

The Division currently employs three Fire Protection Officers (FPO's) to work with sub-grantees, local landowners, and other state, federal and non-profit organizations to conduct fuels reduction work. There is one FPO in each region. These positions prove to be indispensable in the field, as they act as not only a liaison with other partners and local landowners, but also as experts in such areas as threatened and endangered species, cultural resource sensitivities and forestry practices.

In 2004, these three FPO's have completed 292 acres of hazard fuel reduction and defensible space projects, 315 acres of green stripping and/or shaded fuel breaks throughout Nevada and installed one underground water storage tank in the Northern Region. They have worked closely with County Commissions, City Councils, Homeowners Associations, Fire Departments, Fire Safe Council Chapters, Board Meetings and other cooperators. They helped complete risk assessments for communities as well as planning, developing and monitoring fuels projects within their regions with their fuels management budgets. The FPO's work closely with the USFS, Bureau of Land Management (BLM), Nevada State Parks, as well as other cooperators in order to coordinate projects across landscapes and continue a good working relationship between these agencies and the public.



VFD Assistance



The Volunteer Fire Assistance (VFA) Program funding that comes into the Division through the USFS from the National Fire Plan is passed through to sub-recipients as grants. The VFA program provides an opportunity for qualifying Volunteer Fire Departments (VFDs) to receive training and purchase equipment and supplies. Eligible items include protective clothing, self contained breathing apparatus, hoses, nozzles, radios, pagers, pumps, generators and other fire equipment. The VFA program provides necessary assistance for rural fire departments throughout Nevada to respond to wildfires.

Summary of VFA Grants Awarded

Federal Fiscal Year	01	02	03	04
# of VFD's Assisted	53	22	19	In Awarding Process
Total \$ Amt. Awarded	\$193,000	\$157,681	\$156,000	\$156,000

With rapid population growth in the state, increasing demands are placed upon volunteer fire departments by the public, which expects a high level of quality service. Assistance is very limited for volunteer fire departments and this matching grant program truly benefits all Nevada residents and visitors alike.



Aviation



The Division's fleet consists of two UH-1H helicopters and one Piper Cheyenne fixed wing, stationed at the Douglas County Airport. Work has begun to place a third UH-1H helicopter in service. Federal policy requires state pilots and aircraft to be inspected and certified by the USFS or the United States Department of Interior/Aviation Management Directorate (USDI/AM) for federal agency missions or the transport of federal employees. A review by the USFS of the Division's Air Operations maintenance procedures was conducted in 2004.

2004 was a successful season for Division's air operations. Our Helitak program consisted of three helicopter managers leading a crew of five seasonal firefighters and ten inmate firefighters. This year Helitak responded to 37 fires. The Division's helicopters flew approximately 150 fire mission hours and delivered in excess of 168,000 gallons of water. Our helicopters also transported 172 firefighters to remote fire line assignments.



We deployed Nevada National Guard aviation resources consisting of fixed wing and rotor aircraft, some with infrared capability, to large fires in Nevada and California. The Chinook and Blackhawk helicopters have 2,000 and 600 gallon water suppression capability respectively.

Training

Regional Public Safety
Training Center
located in Reno, NV



The Division uses the Regional Public Safety Training Center and the University of Nevada-Reno (UNR) Fire Academy for entry level, reoccurring and continuing education in structure fire and wildfire suppression, hazardous material, medical, high/low angle rescue, vehicle extrication and emergency driving training for our volunteer fire departments, career staff and the annual seasonal wildland firefighter training academy.

Live Fire Training at UNR Fire
Academy in Carlin, NV for VFD
members



**RENO RIT TRAIN THE TRAINER
MAY 2004**

Rapid Intervention Team (RIT) training was conducted at the Regional Public Safety Training Center during the month of May. The courses were instructed by Division fire suppression staff. The training in self rescue, confined space and RIT for firefighters was outstanding, exceeding the expectations of all participants. This course provided cross training for volunteer and career firefighting staff. Volunteer firefighters from Carlin, Eureka, Wells and Spring Creek attended the week long training. Eureka and Elko County's career staff also attended the training in order to instruct other district personnel who were unable to attend.



In Federal Fiscal Years 2003 and 2004, the Division, the Nevada National Guard (NNG) and local municipal firefighting agencies sent representatives to the country of Turkmenistan to improve their army's technical fire response in various situations. This was the fourth reciprocal event within the fire-response exchange of the NNG's Partners in Peace Program.



Seasonal Program

Following three weeks of intensive training, forty-two seasonal firefighters graduated from the Wildland Fire Academy. The Academy was conducted at the Regional Public Safety Training Center under the leadership of the Division's career staff. This was the first state-wide academy, with seasonal firefighters from Elko in the north, Mount Charleston in the south and the Sierra Front in the west. New firefighters were certified as Basic Wildland Firefighter and Class "A" Fallers, while experienced seasonal firefighters learn advanced firefighter skills and crew leadership. All firefighters learned to safely drive four-wheel drive fire engines and to operate pumps. There was a strong emphasis on safety, teamwork and physical fitness. All training met national standards.



2004 Seasonal Wildland Firefighters
in front of new Type 3 Engine

Fire Suppression - Our Seasonal Firefighters helped fight a total of 65 initial attack, extended attack and major fires in western Nevada in 2004.

Fire Prevention & Public Education

Defensible Space Inspections – The Division's seasonal firefighters visited almost 300 homes to conduct defensible space inspections. During these inspections firefighters suggested ways homeowners could improve their homes survivability in the event of a wildland fire.



Public Safety Education – Our seasonals brought Smokey Bear, to over 16,000 children at summer camps, schools, the Reno Rodeo evening performances, fire safety days, and special events to raise fire safety awareness. In an effort to increase fire safety awareness among hunters, they distributed plastic sleeves for hunting/fishing licenses with fire prevention tips to local sporting good stores for free distribution. Also, the seasonals helped launch the Smokey Bear Balloon at the Great Reno Balloon Races and Elko Balloon Festival and participated in both the Reno Rodeo and Nevada Day parades.



Fire Prevention Signs – Division seasonals posted fire hazard signs at back country access entrances, when fire restrictions went into effect. They also made twenty-four new fire prevention signs that will be strategically placed throughout the area next spring.





Waterfall Fire Public Information – Division seasonalists distributed informational flyers about the Waterfall Fire emergency rehabilitation to homeowners in Timberline and Lakeview. In addition, they set-up and staffed a public information center.

Fuels Management

The Division used fuel management grants to keep seasonal firefighters on after the end of fire season in both the Northern and Western Regions. They completed such fuels reduction work as burning/chipping/disposing of brush and slash piles, clearing overgrown brush and thinning forest stands, removing dead brush and trees infected with beetles/pests, pruning tree limbs, installing erosion control mechanisms, constructing shaded fuel breaks and creating defensible space around homes. These seasonalists completed fuels reduction work in remote areas where mechanical treatments could not be used. All fuels management projects were set-up and directed by Resource Foresters and Fire Protection Officers, with the intent of reducing dangerous fuel levels and restoring forest health.

A Success Story

In May a fire started in Washoe Lake State Park. Pushed by strong winds, the fire was threatening nearby homes. Fortunately, there was a fuel break around the perimeter of the park. This fuel break was part of a major project that Division firefighters and a contract “brush hog” completed in the fall of 2002. The fuel break helped slow the fire and provided a safe place for firefighters to begin their attack. What could have been a disaster was instead a small fire.



Conservation Camps

The Division’s Honor Camp Program consists of ten conservation work camps located throughout the state. The camps provide coordination and supervision of forestry, conservation, and other work projects performed by work crews made up of inmates from the Department of Corrections who are supervised by our Conservation Crew Supervisors. The camps also provide trained crews to respond to wildland fires and other emergencies.

Project Overview in 2004

- Worked on 1,902 different projects throughout the State
- Utilized over 193,000 inmate workdays
- Earned \$2,459,023.00 in revenue, which was returned to the State General Fund
- Represented a 10.5% increase in revenue from 2003

Some of the projects and cooperators are:

- **Lake Tahoe Environmental Improvement Program**– The crews thinned over 250 acres of over-stocked timber stands by removing weakened and suppressed trees. This promoted a return to historic forest conditions and improved the water quality and clarity of Lake Tahoe at Spooner Lake State Park and at other State properties on the east side of Lake Tahoe. The crews also removed fuels on approximately 250 acres to reduce the fire hazards in the park.
- **Nevada Department of Transportation** – NDOT is the camp program’s largest cooperator statewide, with all camps providing crews to perform work including right-of-way fence construction and repair, noxious weed removal, right-of-way landscape maintenance, highway beautification, and litter removal.



Spooner Lake State Park before and after



- **Nevada Department of Wildlife** – Division crews have been involved in building fences to control elk movement, removed vegetation to reduce fire fuels, and establish water guzzlers to provide drinking sources for wildlife use.

Carlin Camp crew building elk fence for NDOW

- **Muddy River Riparian Environmental Alleviation Committee (MRREAC)**
- **Nevada State Parks**
- **Carson City Fuels Management Program**
- **Southern Nevada Water Authority**
- **Nevada Fire Safe Councils**
- **USFS and BLM**
- **State and Local Government Agencies**



Pioche Camp crew doing fuels reduction project at Floyd Peak

Emergency Responses

Though the 2004 fire season had fewer fires than in past years, the conservation camps provided work crews to assist in the suppression of fires that had major impacts on the communities of Nevada such as:

- *The Nickel Fire* outside Mesquite in June had crews from four camps.
- *The Andrew Fire* in south Reno used crews from six camps to help fight the fire.
- *The Robbers Fire* on Mount Charleston had crews from four camps participating in fire suppression.
- *The Waterfall Fire* in Carson City in July resulted in a large mobilization of crews from seven camps. Crews were involved in the fire from initial attack to the end of suppression activities. Crews from Stewart and Silver Springs Camps have been actively involved in the rehabilitation of the burned area as an integral part of the effort to prevent soil erosion and to re-establish vegetation and maintain water quality.



Conservation Camp Reorganization

The Camp Program began a pilot reorganization in the spring of 2004. The reorganization brought all the camps under the direct supervision of the Conservation Camp Coordinator. To assist with the day-to-day management of camp operations, four Section Chief positions were created, with each Section Chief supervising up to three camps. In addition to the Section Chiefs, Program Officer and Training Officer positions have each been established to provide better communication, standardization of procedures, and tracking of employee training and development.

Vehicle Replacement / New Trailers

In the winter of 2004, the National Highway Traffic and Safety Administration sent out a recall notice for structural defects for all Carpenter buses that were manufactured at a specific factory. All of the Camp Program's 71 buses were defective and non-repairable, requiring their immediate removal from service. The Division submitted an emergency funding request to the Interim Finance Committee to purchase replacement vehicles, which was approved. The Camp Program received 32 15-passenger vans in August 2004, which were immediately put into service. A contract for 13 crew trucks was awarded, with delivery of the first units expected in January 2005.



Silver Springs crew striping new crew vans

A contract was also awarded for 41 equipment trailers to be used with the new vans, as well as existing vans, to carry the tools and equipment needed for crews to conduct their project work. The contract specified that the vendor provide the components for the trailers and technical assistance to the Ely Conservation Camp shop crew to assemble and paint the trailers. This arrangement provided a cost savings to the State, as well as an excellent training opportunity for the shop crew. The construction of these trailers was expected to be completed in January 2005.



Left: Equipment trailers under construction at Ely Conservation Camp



Right ; Completed equipment trailer constructed by Ely Conservation Camp

Forest Stewardship Program

“Providing assistance to private landowners with the planning and implementation of resource management practices.”

This program is administered in the State of Nevada through a partnership with the USFS and the Division, to promote sustainable forest management practices on non-industrial private forest lands.

Forest Stewardship consists of three major goals:

- **Technical Assistance** - Technical assistance is free of charge and can include aid in the planning and on the ground assistance in project implementation. We have professional personnel that offer technical assistance in the areas of natural resources to private landowners, cities, state and county parks and others.
- **Educational Assistance** – This includes the development, creation and distribution of technical/educational materials. Public workshops and training sessions can be requested. There are many different forms of “project” assistance that are available through this program. The top ten programs are: Planning/grant writing assistance, Afforestation and Reforestation, Forest Stand Improvement, Agro-forestry, Water Quality and Watershed Protection, Fish and Wildlife Habitat, Forest Health and Protection, Invasive Species Control, Fire and Catastrophic Risk Reduction, and Fire and Catastrophic Event Rehabilitation.
- **Financial Assistance** – When available, cost-share grants to qualifying private landowners may be established.



Left: The Division partners with Carson City and the Carson River Conservation District mapping floodplain vegetation



Right: Windbreak planting and cost-share partnership between the Division and the Duckwater Shoshone Tribe

In 2004, this program assisted hundreds of private landowners in conservation and management of their private lands. Over 6,000 acres of private lands were affected by planning and assistance through our Forest Stewardship program this year.



Stream Restoration/ Wildlife Project with the Division, USFWS, and private landowners. Before and after one growing season



Urban & Community Forestry (U&CF)

Program Introduction

The mission of the Division's U&CF Program is to assist communities develop sustainable community forestry programs that enhance the environment and quality of life by raising public awareness of the benefits of trees, providing tree care education and encouraging long range community forestry planning. This is accomplished through financial, technical and educational assistance to cities, other state and local agencies, schools and non-profit and civic organizations. U&CF is funded 100% by the USFS pass-through funding. Challenges facing the Division's U&CF program include outreach to a rapidly growing and changing population, large distances and limited staffing and growing trees in Nevada's climate extremes.

Nevada's Urban Forestry Program

- Supports 2 ½ Full-Time Equivalent (FTE) Division employees and ½ FTE Nevada Cooperative Extension employees.
- Through the Nevada Shade Tree Council, the advisory board for the U&CF Program, the Governor proclaims the last week in October as 'Nevada Shade Tree Week' to promote tree planting in Nevada.
- Sponsors Tree City USA, the National Arbor Day Poster Contest, Nevada Historic Trees Program.
 - Nevada's Tree Cities USA are: Carson City, Boulder City, Gardnerville, Henderson, Nellis AFB, Las Vegas, Reno and Sparks
 - More than 45% of Nevada's citizens live in a Tree City USA
- Nevada Big Tree Program keeps records of the states biggest trees. The current register lists more than 100 trees.
- Awarded \$700,188 to 224 sub-grant projects in 71 Nevada communities from 1991 through 2004 Federal Fiscal year funding. An additional \$615,494 has been awarded since 1991 to University of Nevada Reno Cooperative Extension and NSTC for technical assistance.

Federal Fiscal Year 2004 Summary

USFS Allocation- FY03 expended in FY04	\$264,000	Participating communities & places	78
Sub-grants funded FY04 with FY03 funds	\$110,544	Volunteer days (hours / 6)	2262
Leveraged support (in-kind & grant matches)	\$327,378	2004 Nevada Tree City USAs)	8

Sub-grant Project Highlight – Dayton State Park



Dayton State Park is a rural campground and day use park along the Carson River, with primarily native vegetation, that is now surrounded by the fast growing community of Dayton. With an urban forestry grant of \$4,680, the park staff and U&CF Program Volunteer Coordinator began a vision to create a treasure for the Dayton and surrounding community. Over 65 volunteers cleared sagebrush, learned about windbreaks, tree selection and taking care of trees and then planted 32 trees and 16 shrubs. The grant was matched with \$12,029 of in-kind labor and supplies and volunteer assistance. Jean Murray, Project Coordinator, said, "The project

made us feel empowered and energized. We could never have envisioned the project nor started without your assistance."

Highlighted Event - The U&CF section of the USFS Washington Office review of USFS Region 1 & 4 Cooperative Forestry programs was held in Reno, Nevada in June. After presentations by all state U&CF Coordinators, NDF hosted a ½ day tour to U&CF projects in 4 communities including Stead, Sun Valley, Nixon and Wadsworth. NDF also hosted a 1 day tour of U&CF projects in Las Vegas and Boulder City last November for USFS Program Coordinators from Region 1 and 4.

Forest Health / Insects & Disease

In Nevada, the Division’s Forest Health Program is multifaceted, incorporating 1) employee, landowner and state agency training and assistance, 2) forest plan and implementation review, and 3) forest insect and disease monitoring. An employee training program for forest health insures that we provide the best forestry service to Nevadans. Education and assistance to State agencies and private landowners provides more informed management of our State and private forests. Monitoring of the State’s insect and disease outbreaks provides an overview of the main forest health problems (often times exacerbated by the recent five years of consecutive drought).

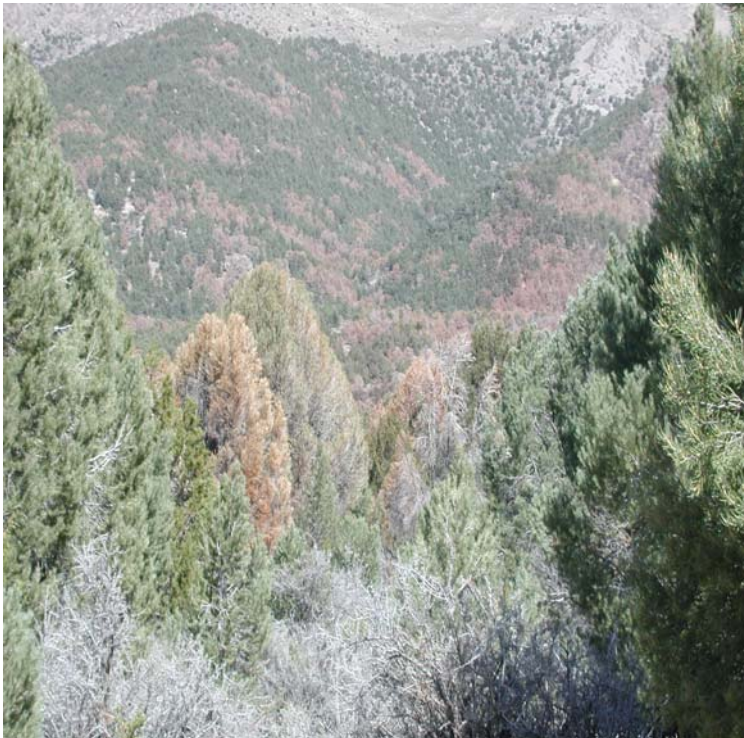


Figure 1 – Pinenut mountains March 2004 with a high level of pinyon pine mortality due to drought induced Pinyon Ips bark beetle outbreak.

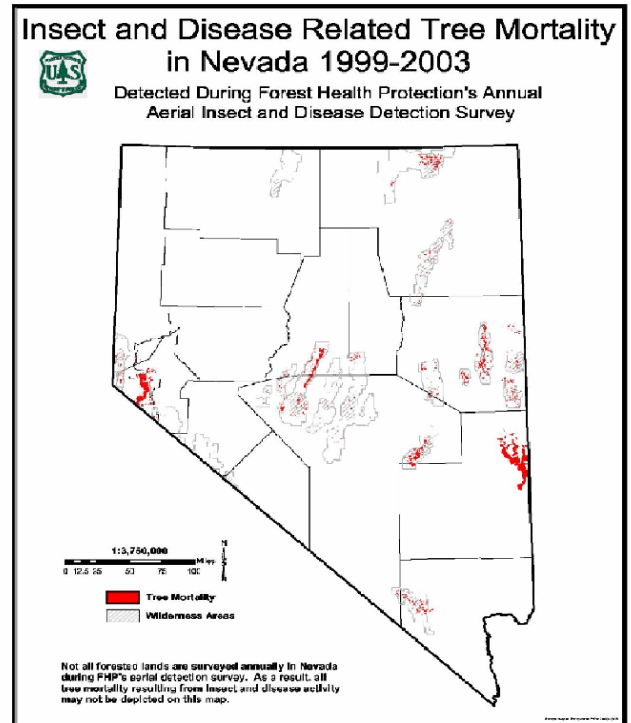


Figure 2- USFS’s Forest Health monitoring summary map, 2004.

The Division’s Forest Health Specialist and Western Region Resource Management Officer, in coordination with the USFS, surveyed over 5 million acres of forestland and woodland in Nevada in 2004 and in 2003. Note that in 2003 over 250,000 acres of the State tree species, singleleaf pinyon, were killed by pinyon ips bark beetle.

Results of Aerial Detection Survey - 2003	
Agent	Approximate Acres Affected
Douglas-fir tussock moth on Fir	7,900
Fir engraver beetle	4,600
Mountain pine beetle on pine	2,400
Pinyon Ips	259,200
Subalpine fir mortality complex	5,000
Aspen decline from Cytospora canker	9,000

Threatened and Endangered Species Program



The Division provides a program for the conservation, protection, restoration and propagation of endangered native plants and for the perpetuation of their habitats in accordance with NRS 527.260. With the rapid population growth of the state, increasing demands are placed upon threatened and endangered species. The Division complies with our obligation to conserve and protect the various species of native flora which are threatened with extinction. New proposed regulation changes could provide further changes to existing legislation as we move forward into a new, challenging year of mixing human activities with our diverse biological heritage.

Proposed Regulation Changes are as follows:

- de-listing the *Astragalus mohavensis* var. *hemigyris*, Halfring milkvetch.
- listing the *Eriogonum corymbosum* var. *aureum*, Las Vegas buckwheat
- listing the *Eriogonum diatomaceum*, Churchill Narrows buckwheat
- listing the *Ivesia webberi*, Webber ivesia

BLM Las Vegas Valley Disposal Boundary EIS draft came out in September of 2004. The BLM would transfer or sell 46,700 acres in North Las Vegas that support a strong population of Las Vegas bearpoppy (*Arctomecon californica*), as well as Las Vegas buckwheat (*Eriogonum corymbosum*). Las Vegas bearpoppy populations are decreasing across the valley, succumbing to the pressures of development. The area along the upper Las Vegas Wash supports one of the last large populations of the Las Vegas buckwheat. The Division supports the Conservation Transfer Alternative which calls for the upper Las Vegas wash to be set aside as a conservation area to support proactive habitat under conservation. We are actively participating in scoping and planning meetings with the BLM, North Las Vegas, and Clark County.



The Chair position for the Low Elevation Rare Plant Working Group and the Southern Nevada Rare Plant Group is held by the Forester II in Southern Nevada. These meetings provide for information transfer between private industry, non-profit organizations, and local, state, and federal agencies regarding the management and conservation of such species.

Conservation Initiatives

We continue to improve the health and vigor of Nevada's Critically Endangered Species within their diverse ecosystems through increased technical assistance by the Division including our nursery and native Seedbank programs. These programs have the ability to provide Nevada collected seed complementing propagation and seed banking efforts to continue to research threatened and endangered species. This work could minimize future resource conflicts and help prevent species from becoming threatened or endangered by encouraging balanced, proactive conservation through plant production and technical assistance. The nursery has negotiated an arrangement with Clark County's Desert Conservation Program to purchase materials for an expanded shade structure at the nursery that will benefit plant production as well as temporary conservation of rare plants salvaged from local development projects.



Fuels for Schools

The Fuels for Schools Program is an innovative venture among public schools, the Division and the USFS. This program helps public schools retrofit their current fuel oil or natural gas heating systems to a biomass or woodchip heating system, significantly reducing heating costs.

The David E. Norman Elementary School of the White Pine County School District in Ely has been selected as the demonstration project in the state. A grant has been awarded to the school from the Division through the USFS for \$340,000. The buildings are currently heated by a combination of multiple oil-fired steam boilers, an oil-fired hot water boiler and electric baseboards. The plan is to install a pre-fabricated biomass-fired steam heating plant to heat the original building and two building additions. Today's biomass heating systems burn at temperatures above 1,100° Fahrenheit providing almost complete combustion of biomass.



White Pine County School District just signed a Free Use Application and Permit with the Bureau of Land Management for 1,000 tons of woodchips from Mt. Wilson fuels reduction projects. This fulfills the Division's 3 ton commitment, as specified in the grant, and provides fuel for the school for six and a half years. The information obtained from this school, in addition to the demonstration schools in Montana, Idaho, North Dakota and Utah, will provide the technical and environmental data for the expansion of biomass heating technology around the state and the west.

In conclusion, Fuels for Schools is a ripe investment for Nevada and a program that benefits everyone. It provides an outlet for the reduction of waste matter, which creates wildfire risks to people and the forest. Forest health and air quality will improve. Schools are able to hire more teachers from reduced heating costs. Fuels for Schools promotes economic stimulus through the creation of jobs in Nevada communities.

State Tree Nurseries/Seedbank

The Division's State Tree Nursery program was first established in the early 1950's. This nursery program includes two nurseries; one in Washoe Valley, and the other in Las Vegas. Our nurseries specialize in Nevada conservation plant production and technical assistance. Private landowners, conservation groups and other state and federal agencies can purchase plants available or contract with the nurseries for growing of plant to meet their particular needs. The nurseries also specialize in contract sales for large or specialized species. The nurseries grow over one-hundred thousand native plants every year for conservation projects.

Both nurseries run on enterprising budgets, with a minimum assistance from grant money. While the species of plants/trees available varies each year, the goal remains the same: to produce quality trees and shrubs for conservation purposes. The availability of such plants is very limited elsewhere which creates an important niche for both nurseries.

In 2004, sales of 110,000 plants from the Washoe Valley Nursery and 30,000 from the Las Vegas Nursery resulted in a gross income of \$280,000.

Major Nursery Contracts in 2004:



Las Vegas

- Las Vegas Springs Preserve- 2,855 plants
- Las Vegas Wash- 6,000 plants
- Mesquite, Logandale and Pahrump yearly tree sales- 4,078 plants

Washoe Nursery

- Carson Landscaping Federal Mine Reclamation- 2,600 plants
- USFS- 4,000 Tahoe Yellow Cress (threatened species)
- City of South Lake Tahoe- 3,000 square feet of sod
- Trees on Wheels sales, Nevada (Elko, Humboldt, Lyon, White Pine, Lander, and Douglas counties)- 14,571 plants
- Trees on Wheels sales, California- 11,671 plants
- El Dorado County- 1,000 square feet of sod
- Villager Nursery (Truckee River Days)- 2,225 plants
- Caughlin Ranch Homeowners- 1,000 plants



The Division also has a native Seedbank program, which, in concert with the nursery has the ability to provide Nevada collected seed for conservation and fire rehabilitation projects as well as for growing native plants. The Seedbank grossed an estimated \$21,000 in seed sales statewide and sold over 203,000 pounds of pure live seed (PLS). This seed went to a variety of conservation projects including sage grouse habitat restoration, fire rehabilitation, meadow restoration, fuel break re-seeding (green stripping) and other private landowner needs.



Conservation Education

The Division's Conservation Education Program complements existing statewide Environmental Education efforts, through strengthening partnerships and utilizing existing trained facilitators to teach natural resource conservation education to a broad base of youth and adults throughout the state of Nevada. The Conservation Education program is funded by a grant from the USFS.



Conservation Educations' Yearly Goals:

- Provide facilitator workshops for Project Learning Tree (PLT), with the goal of training up to 25 new facilitators
- Provide two PLT teacher workshops with the goal of educating up to one hundred teachers
- Provide funding for joint Conservation Education workshops
- Upgrade and replace natural resource educational materials used in teaching workshops; i.e. workbooks, video and slide presentations and other training aids
- Provide for cooperative funding of environmental education programs, camps and workshops that involve forest, fire and tree education

Information Technology

The Division's jurisdictional responsibilities are expansive and the technological advances in 2004 have helped narrow the communication gap. All upgrades were legislatively approved in the 2003 budget. One of the challenges still to be addressed is the inadequate space of the main server for which funding is being sought.

2004 Accomplishments in Technology

- Satellite installation and hook-up to the Wide Area Network at 10 camps, 4 stations, and 1 dispatch center.
- Installation of the T1 line in Elko.
- Cable modem installation at Station 8 and 9 in the Western Region.
- Purchase, configuration, delivery and set up of 16 computers.
- E-mails were set up for users throughout the State.
- A Helpdesk for our personnel was established.



Key issues and goals for 2005

The Division will face a number of issues throughout 2005.

Some of those issues are:

- High potential for reduced federal funding with USFS sponsored programs.
- Impacts to the Division's Aviation Program due to critical personnel being deployed by the Nevada National Guard to Afghanistan.
- Critical natural resource issues including extended drought, insect and disease infestations and invasive species continue statewide. The increase from 2002 to 2004 of bark beetle damage has been very evident by the dramatic increase in tree mortality. Large acreages of continuous tree mortality increase the potential for larger, more catastrophic wildfires and presents a safety hazard to agency firefighters and the general public. Counties with the highest reported mortality are Lincoln, Douglas, Carson City, and Nye. There are large outbreaks in both the Wilson Creek range and the Pine Nut Mountain range, and a new outbreak has been mapped in the Paradise range in Humboldt County.
- Personnel issues continue to challenge the Division creating symptomatic problems such as employee morale, performance, recruitment, and retention.
- The age of the Division's vehicles, fire apparatus and heavy equipment has reached the point where a majority of the fleet is unreliable and rapidly approaching the point of being unsafe. There is a need to take a number of equipment pieces and apparatus out of service permanently. The need for replacement and demand for additional apparatus and equipment has out paced the Division's ability to acquire and maintain a safe and reliable fleet.

Common conditions and life expectancy of vehicles/equipment, wildland fire apparatus and heavy equipment utilized within Nevada is shortened due to diverse weather conditions, steep rugged terrain, poor soil conditions, dirt roads, and long travel distances. Alkaline soils predominate throughout Nevada. These soils break down rapidly from compaction creating a fine powder. Conditions on fires commonly reach points where dirt roads and staging areas range from 6" to 18" of alkaline powder. Alkaline powder works into a majority of mechanical mechanisms causing additional wear of wildland fire apparatus and heavy equipment. This dust also contains silica and prolonged exposure can lead to silicosis, a lung disease.

The current numbers of the Division's fleet reaching 20 years and older is becoming cost prohibitive and increasingly difficult to maintain and / or meet minimum safety standards. Due to time and distance, the logistics of supporting a strong maintenance program is often complex and costly.

The Federal Excess Property Program (FEPP) is not designed to replace or supplement an entire fleet. The Division uses FEPP to the fullest extent possible; however, it is unable to keep up with the demand at this time. If we were able to get the equipment and apparatus from FEPP, personnel are not available to place the newly acquired equipment into service due to the demands of maintaining its current aging fleet.

The Division's goals to mitigate identified issues are:

- Look to alternative funding sources at all governmental levels.
- Seek approval for emergency hire or cooperator assistance for the Division's aircraft maintenance program.
- Commit the necessary planning, personnel development, technical expertise, trained labor and equipment to meet the natural resource challenges facing our state.

Drought is a recurring phenomenon in Nevada that often leads to an increase in bark beetle outbreaks. Being proactive by thinning the forest and woodlands in Nevada through fuels management and forest health projects are very important steps in preparing for the periodic drought stress that these trees encounter on a regular basis. The continuation of the USFS funded Cooperative Forestry Program is important to these efforts.

- Integrate program planning to identify common goals/objectives for the efficient and effective utilization of available funds and personnel.
- Update the Division's Equipment Management Plan to provide a Division-wide standard for acquisition and replacement of equipment/apparatus to meet our mission.

Enhance the ability of all programs of the Division to safely and effectively provide required services.

Meet the requirements of Nevada's Clean Air Policy.

Reduce vehicle and equipment maintenance costs, and

Improve local and state firefighting resource capability and readiness to protect communities and the environment from wildland fire or natural disaster.

Nevada and most of the West is faced with forest and rangeland conditions that have the potential to result in similar catastrophic wildfires in 2005.

Drought, fuel loading, beetle kill and rapid urban development into the Wildland Urban Interface provide the scenario for more Waterfall Fires. The fuels reduction projects that had been implemented prior to the fire worked well and minimized losses throughout Carson City's west side.

We must continue to reduce fuels and educate landowners about creating defensible space through the fall and winter months to prepare for next years fire season.

Highlight-- Waterfall Fire

Nevada Division of Forestry carrying out our Mission

The Division is deeply involved in Fire Prevention, Protection and Rehabilitation of Nevada lands. The waterfall fire has been a superior example of our Mission.



On July 14th, Carson City residents began their morning with a wildfire on the slopes of Kings Canyon that quickly led to the devastation of over 8,000 acres, displacing hundreds of homeowners and destroying 18 homes.

Governor Kenny Guinn requested a federal Preliminary Damage Assessment (PDA) team through the Division of Emergency Management (DEM) and Federal Emergency Management Agency (FEMA) for a thorough assessment of the damages and economic impact experienced as a result of the Waterfall Fire. The PDA team sent in their assessment of the damages, and on August 27th President George W. Bush approved the request for \$10,875,000 to assist in the Waterfall Fire efforts.

Prevention

Prior to the Waterfall Fire, the Division awarded the Carson City Fire Department over \$500,000 of National Fire Plan monies through the USFS to construct fire breaks along the western and northwestern edge of Carson City. Many lots within the wildland urban interface were treated by creating defensible space immediately adjacent to residential structures and by thinning brush by up to 80%, a distance of 50 to 100 feet beyond the immediate defensible space area.

An overabundance of vegetation and ground litter (fuel loading) threatened Carson City. Fuels reduction work provides safety for firefighters and the general public as well as protection for personal property and natural resource values. A more aggressive approach to fuels management/ reduction is a top priority amongst private landowners, land managers, fire agencies and other cooperators throughout Nevada.



The majority of these fuel breaks were cut using mechanized equipment ('masticators') that chop vegetation into coarse mulch and return it to the ground. The Division's Conservation Crews and USFS seasonal engine crews removed vegetation in areas where confined, steep or rocky terrain made equipment use difficult. Our hand crews burned or chipped all vegetation they removed from each site.



Subdivisions protected with one and two year old fuel breaks did not suffer any losses of residential structures during the Waterfall Fire. Fuel breaks repeatedly demonstrated their effectiveness to reduce fire intensity and duration of exposure to heat and flames in several subdivisions along the western edge of Carson City.

Suppression

The fire was reported at 2:57 a.m., Carson City Fire Department responded immediately. At 3:07 a.m. the Division was advised of the fire and was requested to respond. We initially responded with engines and hand crews due to access concerns. At 3:32 a.m. our On-Duty Battalion Chief arrived on scene and unified command was established. Air resources were ordered as soon as they were able to meet the daylight flying requirement. Over the duration of the fire, the Division responded with 24 conservation camp crews, 16 engines, and 20 overhead personnel. The Waterfall Fire was declared contained on July 21st and declared controlled on July 27th. Total acreage burned in the Waterfall Fire was approximately 8,800.

"The fire caused significant destruction of private and commercial properties, roadways and drainage infrastructure," Governor Guinn said. "While the initial response has primarily been concluded, the post-fire, long-term recovery will be extensive in order to prevent further damages to homes, commercial properties and public infrastructure resulting from excessive water runoff, debris flows and potential mud slides."

Rehabilitation

The Division specializes in many different forms of conservation and restoration practices. We have taken the lead in implementing rehabilitation on State, Private and Carson City lands impacted by the Waterfall Fire. The Division is also partnering with USFS and the Washoe Tribe of California and Nevada to complete work on their lands.



Over three thousand, 25-foot long straw wattles have been put in place in critical watershed areas by our Conservation Camp crews. These critical areas include all of Carson City's water systems and severely impacted areas above many of the affected homes.

Carson City, private landowners and the Division are partnering in the "drilling" of seed and mulching on the Waterfall Fire. Carson City and the Division are putting straw mulch along the wildland urban interface and drill seeding the lower areas of the burn. It is anticipated to be completed by the end of January 2005, weather permitting.



The Division's Seedbank coordinated the ordering, delivering and seeding of approximately 180,000 lbs of wildland seed and over 7,000 bales of weed free straw for this rehabilitation project. We will also be planting streamside vegetation for Carson City with seedlings from our State Tree Nursery.



Royce Kennerley's Eagle Scout project sponsored by the Division's Stewardship Program, planted over 200 willows in a severely burned section of Kings Canyon just below the waterfall.

Notes