

Western IPM Center Tribal Work Group
University of Nevada Cooperative Extension Center, 4955 Energy Way, Reno, NV 89502
October 29, 2014

Meeting Notes

Attendees:

Susan Frankel, USFS; Melodie Hefner, University of Nevada Cooperative Extension; Nina Hapner, Kashia Band of Pomo Indians; Paula Day, Tri-County Weed Control (via video-conference) ; Janice Alexander, University of California Cooperative Extension; Shouhua Wang, Jeff Knight, Brett Alan, Nevada Department of Agriculture; JoAnne Skelly, Extension Educator, Carson City/Storey County, University of Nevada Cooperative Extension; Dick Hoenisch, Carla Thomas, National Plant Diagnostic Network, University of California; Jim Farrar, Matt Bauer, Western IPM Center; Washoe Tribal Council Member Geoffrey B. Ellis, Environmental Specialist II John Warpeha, Washoe Tribe of Nevada and California “the Tribe”.

Meeting Goals:

Define needs for the Tribes in maintaining a healthy ecosystem through dialogue, and identify projects to meet needs.

Comments from Councilman Ellis:

We appreciate everyone coming to talk with us. We will need a follow up meeting to bring the other Tribes together and will help you to get those folks here. I also sit on the Intertribal Council of Nevada and California and will help you to engage the Nevada/California Tribes. This needs to be a bi-state campaign rather than individual states and Tribes. Issues don't end at state lines. We should talk about how to merge separate state resources to meet our Tribal needs. Our Tribal organization is very interested in sharing and cooperating together.

There are 27 Tribes in Nevada – the Washoe are spread out between Susanville, Quincy, Portola, Loyalton, Bishop, south to Bridgeport, Woodfords California and the Lake Tahoe Basin. The next meeting should be deeper into Nevada, to get the other tribes, perhaps at Elko or Las Vegas. The Washoe Tribe has 1600 people, 50% live off reservation lands. The reservations are located at Washoe Ranch and Stewart Ranch, Douglas County; Dresslerville, Carson County; and Woodfords, Alpine County. Most of the Washoe membership lives in California. There are many descendants that are not officially part of the Tribe. How does one measure that? The Washoe would like to lower the blood requirements. Any youth in the community is considered Washoe. We need to mentor our youth to be educated professionals. It's a slow circle to build a community; the wheel is so big and spins so slowly.

Noxious weeds of concern to the Washoe at Woodfords include Yellow star thistle and hoary cress. Weeds migrate down Indian Creek, which is 4,750 to 5,200 feet in elevation. The primary weeds within the Washoe Stewart Community are Hoary cress, Bull thistle, Canada thistle and Perennial pepperweed. The Washoe Woodfords Community has the weeds Yellowstar thistle, Diffuse knapweed, Hoary cress and Bull thistle. Hoary cress, Perennial pepperweed, Cheat

grass, Diffuse knapweed, Bull thistle are problems in the dry land sagebrush desert areas and riparian corridors. Hoary cress is the most prevalent noxious weed in the Carson Valley. The Tribe applies herbicides to noxious weeds, but does not spray willow collecting areas.

Washoe and Stewart Ranches are Tribal trust lands encompassing approximately 2,440 acres. The ranches graze cattle and grow alfalfa through irrigation water. Alfalfa is fed to cattle and sold. Most ceremonial plant gathering areas are not on the reservations. All Tribes face this challenge and need to travel to collect medicines, ceremonial plants, fiber and food. Food plants include wild asparagus, wild onion and pine nuts, which are not seen in our areas anymore due to drought. Snow levels are also much lower as well. The Carson River is now overgrown with moss and algae and has very low flow in July and August. Water diversion structures are currently above the water surface. Many fields are dry due to lack of water.

American Black bears are a nuisance animal, but some Tribes oppose Black bear hunts. The Tribe is opposed to euthanizing nuisance bears and would rather see relocation of the animals.

In Alpine County, the Washoe work well with the Alpine County California Board of Supervisors. Wildlife is no longer abundant in Alpine County like Mule Deer. Mule deer herds are not in the areas the Washoe once observed them. Are the aspen groves healthy? The Washoe see stunting damage along highway corridors. Is it due to air pollution? Tribes know where the gathering areas are, but are reluctant to share this information from fear of damage.

The Tribe cooperatively works with the Nevada Department of Agriculture on special weed treatment project and pesticide. The University of Nevada Cooperative Extension assists the Washoe Tribe with weed applicator training. The Tribe also works with neighboring private land owners. The Tribe has traditional interests in Meeks Meadow and Taylor Creek, which are owned by the U.S. Forest Service. Bull thistle is hand removed by the Forest Service at these sites. The Tribe has a cooperative agreement with the Forest Service regarding Meeks Meadow and a memorandum of understanding with the Alpine Upper Carson River Watershed Invasive Weed Management Group. The Tribe also works with the Lake Tahoe Weed Coordinating Group. There are concerns that recreational bikers may deposit weeds.

Weed management methods that have been tried by the Carson City Open Space Program include grazing goats and sheep, hand-pulling, and herbicide treatments – all depending on the weed species. In Carson City in a cooperative extension project, Pyrenees guard dogs and herders had to stay on sight to avoid predation and poaching. The Carson City Weed Coalition has also tried using insect control of Canadian thistle. In Nevada, the Tribe has replanted some areas of Stewart Ranch. Goats have potential as a control for weeds. On 20 acres of dense solid knapweed and perennial pepperweed, goat grazing had success when followed by herbicide treatments. Sheep used every year have had good success. There are logistics to consider including the age of the herd, cost of movement, lactation, and shearing. Bull thistle has become a significant problem at Grover Hot Springs, which is California State Parks Land.

Comments from the group:

There is funding through NIFAUSDA (National Institute of Food and Agriculture) for grants, there are opportunities for funding through Nevada Cooperative Extension and Nevada Department of Agriculture. Jay Davison and Heidi Kratschare leads for Nevada IPM cooperative extension and Melodie Hefner supports these projects as staff. Seth Urbanowitz in Ely is also a Cooperative Extension resource.

Bureau of Indian Affairs programs may provide funds to pay third party spraying for multiple tribes if tribes don't have certified applicators on staff. The cost of being a registered pesticide applicator just went up in Nevada to \$50.

Travel to get training is also expensive, but Nevada Cooperative Extension has video training for pesticide safety. There are also traveling face-to-face training teams and the Weed Warrior Program. There is no charge for the trainings.

Presentations

Nevada Plant Diseases

- Fifty-seven percent (57%) of the plant problems are caused by plant pathogens or insects.
- Canker diseases are the major problem along with leaf rusts.
- *Phytophthora's* infect all parts of plants. The water mold can travel with water.
- *Phytophthora catctorum* on maples causes oozing sap. It can be far up into the tree and branches.
- There are also bacteria that infect other tree species, maple, birch and beech are vulnerable, and cause oozing (wetwood).
- *Cytospora* canker is a problem on aspen, cottonwood, and willow. Environmental conditions can predispose the trees to be more susceptible. Bacteria enter the tree through wounds causing soft rot and wetwood.
- Rust diseases are blown by wind. Sagebrush rust is native. Rusts can be controlled by fungicides or management of alternative hosts. Venturia leaf and shoot blight turns aspen leaves and shoots black, and the tip hooks over.
- Jeffrey pine is damaged by *Elytroderma*. Otherwise a tree with pine needles turning yellow is probably caused from drought or salinity.
- Screwbean mesquite dieback is caused by *Phleospora prosopidis* and can be controlled by fungicides, but has to be treated every year. This tree is an important food plant. No work has been done to find an alternate treatment. It was first reported in 1940s near Death Valley, this is the second report ever in the United States from 2013.

It is important to consider what the cultural uses are which could endanger the tribal people who are working with or consuming plant products.

Action Item: It was suggested that a follow-up meeting be held to identify the gathering areas and determine whether sprays are impacting tribal health. Nevada Department of Agriculture is developing a website for pollinator health and no spray areas. It was suggested that this could be expanded out for tribal gathering purposes, but the gathering locations should not be made public nor shared beyond need-to-know people. Many do not want to disclose culturally important areas even to protect against spraying. Can we share information selectively or without specific location information?

Other disease noted: Pierce's disease on grape causes a leaf scorch. *Phytophthora* blight of pumpkins. Phytophthoras can be spread on nursery stock and during propagation.

Anyone in Nevada can send a sample for diagnosis to Nevada or California Departments of Agriculture.

For samples from Nevada:

Nevada Department of Agriculture
405 S. 21st Street, Sparks, NV 89431
<http://agri.nv.gov/Plant-Industry/>
Diseases: Shouhua Wang, shwang@agri.nv.gov, 775-353-3765
Insects: Jeff Knight, jknight@agri.nv.gov, 775-353-3767

For samples from California:

California Department of Food and Agriculture Plant Pests Diagnostic Center
3294 Meadowview Road, Sacramento, CA 95832
Attn: Diagnostics, 916-262-1100
<http://www.cdfa.ca.gov/plant/ppd>

They will provide you with suggestions on how to manage the problem or refer you to a Cooperative Extension specialist for help.

Nevada Insects on Plants: Jeff Knight, Nevada Department of Agriculture

- Problems at Pyramid Lake and Duck Valley with Mormon crickets and Grasshoppers. They are usually common from Highway 50 north and are getting worse due to the drought.
- Black Grass Bugs, *Irbisia* and *Labops* on Great Basin wild rye in planted pastures can be controlled with pesticides. There is work on developing biocontrol agents that may be available in the next few years.
- Satin moth is an introduced insect closely related to gypsy moth. It prefers aspen but will also feed on other *Populus* and *Salix* species. These insects have natural predators.
- The sagebrush defoliator, *Aroga websteri*, causes irregular outbreaks; it's native and unpredictable. It can affect 5-1,000 acres, and kills sagebrush through defoliation. Historically it was considered a biocontrol agent for sagebrush, when sagebrush was not appreciated as a habitat.

- Brown marmorated stink bug will be a problem when it arrives in Nevada. It likes to feed on *Prunus*, so chokecherry, bitter cherry, and other native hosts can be impacted. It damages the fruit by leaving feeding wounds. It is also a home pest problem when thousands come into homes to winter there. There are other stink bugs that are native but don't cause big problems.
- Blister beetle larvae predate grasshoppers. They are also poisonous to livestock, especially when hay goes to flower.
- Pinyon pine pests include pinyon Ips, pinyon bark beetle, pinyon needle scale and pinyon sawfly (defoliator wasp). These pests weaken trees.

Nevada Weeds:

- Tree of heaven has male and female trees. Female trees produce lots of seeds. They are very invasive. The trees smell bad when cut.
- Yellow star thistle entered California in 1849 by ship in alfalfa seed. There is also Malta star thistle and Iberian star thistle. Star thistle is often spread in hay. Yellow star thistle can produce 75,000 seeds per plant. Star thistles have square stems and produce plumed and unplumed seeds. Star thistle can be difficult to control but the following can help: biocontrol by yellow star thistle bud weevil, burning, goat grazing, or plant competition.
- Tamarisk, salt cedar (late tamarisk), brings salt to surface, consumes a lot of water and can be a fire hazard. *Tamarisk ramosissima* is another type of tamarisk. Other species include Chinese tamarisk, athel tamarisk and small flower tamarisk.
- *Arundo donax*, giant reed, is similar to bamboo, and was imported for use as roof and erosion control. It can grow 4 inches a day and is being considered for use as a biofuel. Let Dick Hoenisch (rwhoenisch@ucdavis.edu) know if you want Joe DiTomaso's weed identification software.

Additional Concerns for Nevada Plantscapes:

- Fremont Cottonwood supports an entire ecosystem including Apache cicadas (which live in the roots for 10 years), western poplar sphinx moth that has a 12 inch wing span. These insects don't cause tree health problems. Southwestern tent caterpillars can be a problem for cottonwoods and other tree species. Cottonwood petiole gall aphids feed on plants in the mustard family as an alternate host. Psyllids are farmed by formica ants.
- Willow rust can be very severe and has alternate hosts of *Ribes* and fir.
- Some are concerned that juniper and pinyon are encroaching on sagebrush habitats. Juniper borers include western cedar borer, black horned juniper borer, and juniper pocket borer.
- True mistletoe occurs on juniper. Juniper pocket rot is a disease of juniper.
- Pinyon diseases and insects include pinyon blister rust, black stain, pitch mass borer, dwarf mistletoe, pinyon Ips, pinyon needle scale and pinyon sawfly.
- Pinyons and junipers are important to the Nevada tribes.

From Washoe Councilman Ellis: On BLM land, bear hunting (poaching) and pinyon nut picking occurs at the same time of year. This is dangerous for the pickers. The Washoe Tribe opposes the bear hunting.

Action Item: The Washoe and BLM could develop a plan to improve safety during pinyon pine collection and protect against shooting accidents.

Future and current threats:

Forest health has increasing challenges because of climate change including fire and drought. There is a lack of resources to help tribes care for the land, negotiate political hurdles, and set resource priorities.

National Plant Diagnostic Network (NPNDN) - The NPNDN registers people who are out in the landscape observing plants to be First Detectors. The NPNDN brings together a network of entities to enhance effective plant pest, disease and weed outbreak detections, reporting, alerts, data analysis, and training. The NPNDN communicates, coordinates and cooperates with the appropriate entities engaged in protecting plant health.

- The Asian longhorn beetle (ALB) spends a year and a half in the tree and kills the tree in the process. Its exit holes are very large. Its larvae live in hardwoods. It has been introduced and in some cases eradicated in the Eastern US.
- Emerald ash borer larvae feed on ash trees which kills the tree. Its exit holes are not as large as ALB's and are D-shaped. Emerald ash borer is moving west from Michigan and has reached Colorado.
- Thousand cankers disease is caused by a fungus vectored to walnut trees by a type of ambrosia beetle. Exit holes are tiny. The fungus can kill the tree within 1 year.

From Nina Hapner: The NPNDN First Detector Program has been very helpful to the tribes to learn about how these pests, weeds and diseases affect plants of cultural interest to tribes.

Discussion

Listed concerns:

Weeds, star thistle, knapweed, herbicide usage

Some plants (for example, wild onion and wild asparagus) are not as abundant anymore. Also herds of deer are absent and trees are not as healthy.

Water management for quality and quantity: less snow, rainfall, rivers are low, slow and scummy.

Control of weeds with herbivores.

Pinyon nuts poaching, bear poaching, wood cutting, collection coincides with bear hunts, littering/illegal dumping, off-road vehicle landscape destruction, desecration of sacred areas, and pollution.

Possible tribal projects:

Suggestions: Hold a meeting with BIA, Bureau of Reclamation, parallel state and local agencies, Bureau of Land Management (BLM), and the tribes to meet to discuss the above problems to set up collaborations.

Concerns include

- Off-road vehicle damage,
- bear hunting and pinyon collecting conflicts,
- scavenging items from cultural sites and grave sites,
- paranormal groups having sessions at gravesites, lack of respect for the deceased.

Need to develop and implement a plan for solutions to these problems and have more frequent communications. Think beyond Federal agencies for help in enforcing laws (i.e., State Department of Transportation, etc.)

Other concerns include Lake Tahoe Cave Rock preservation, water quality and quantity, climate change, and drought concerns.

Need to incorporate more cultural sensitivity and tribal ecological knowledge into agency and university best management practices. Specific knowledge needs to be joined with the tribal knowledge of the land to come up with best management practices.

Management is on the right path, but funding is so limited that we have to be cooperative and coordinated so that what funds that exist are leveraged. The Washoe are very collaborative and progressive. Each agency could be invited into a tribal council meeting to dialog with a tribe, starting with the Washoe. The process needs to be consistent, documented, and on track.

Youth need to be educated, and the elders can pass on concerns and issues.

Funding barriers mean we need more collaboration and coordination with outside agencies. A first step could be a tour of tribal lands and concerns with the BIA, BLM, and state agencies such as Nevada Department of Agriculture, Nevada Pesticide Department, University of Nevada Cooperative Extension and other relevant groups. It may take several tours to address all of the issues listed above.

Use Inter-Tribal Council of Nevada network to expand exposure of the WIPM Tribal Work Group during the December 8-11, 2014 meeting at the Nugget in Sparks, Nevada.

Western IPM Center Tribal Work Group Meeting
Working Flip Chart for Reno, CA
10-29-14

- Weeds, Starthistle, knapweed, etc. herbicides ok, stay away from willow
- Some plants (onion, asparagus) not as abundant -> drought
- Less snow, rivers low and slow
- Bears-hunts coincide with pinyon gathering times
- Deer populations lower
- Aspen/willow grove declines -> air pollution?
- Control weeds with herbivores
- Do not want to advertise culturally important areas even to protect against spraying – can we share information selectively or without specific location info?
- Presentations directly to Tribal Council to facilitate communication
- Specific knowledge needs to be joined with the tribal knowledge of the land to come up with best management practices
- Educate youth and engage with elders
- Field trip of Washoe lands to see problems in person -> individual follow-ups to make this happen
- Think beyond Federal agencies for help in enforcing laws (i.e. State Department of Transportation, etc.)

Summary sheet

- Pinyon nuts, poaching, woodcutting, collection coincides with bear hunts, littering / illegal dumping, no permits, off-road vehicles
- Conversation with BIA, BLM, State reps, etc. need more frequent communication
- Off-road vehicles encroaching on cultural sites and destroying vegetation
- Desecration of sacred areas and items-> enlist stewards from the larger local community of help watch
- Water, drought, climate change -> Tahoe Bureau of Reclamation
- Funding barriers mean we need more collaboration and coordination with outside agencies