

EXOTIC PLANT MANAGEMENT

REDWOOD NATIONAL AND STATE PARKS

PROGRESS REPORT

FY 1998

(October 1997 to September 1998)

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December 1998

PROGRAM HIGHLIGHTS

Approximately 8,000 hours were spent controlling exotic plants this year. The attached spreadsheet file (Table 1) shows the exact amount of work accomplished this fiscal year.

Redwood National Park has been assigned one full-time inmate work crew from California Department of Corrections, Alder Camp. When not fighting wildland fires, they are available to work on pre-approved work projects for the park. The fifteen to seventeen member crew primarily works on vegetation management and prescribed fire work projects. They spent a total of 4,285 person hours in the field working on exotic plant control projects.

Weed project data for Scotch broom and Ivy removal projects were input for the California Noxious Weed Control Project Inventory in support of the goals and objectives of the interagency California Noxious Weeds MOU. Data base information is now available on the internet at: <http://endeavor.des.ucdavis.edu/weeds/>

European beach grass, *Ammophila arenaria*, pampas grass, *Cortaderia jubata*, and thistle exotic plant distributions were digitized for Freshwater Spit and Gold Bluffs Beach.

A project clearance for European beach grass removal, using the effective eradication technique developed by the Nature Conservancy, was prepared. At Lanphere-Christensen Dunes Preserve in Humboldt County, the Nature Conservancy successfully eradicated a ten-acre area of beachgrass with repeated manual digging over a five-year period (Pickart 1997). Although labor intensive, the cost is balanced by the fact that this method eliminates the need for revegetation. If approved, work will begin in February 1999 as plants emerge out of dormancy.

Two new non-native species have been found in the parks this year. Burdock, *Arctium lappa*, was located on one of the islands in the Klamath estuary by Jim Wheeler. Vicki Ozaki reported Butterfly bush, *Buddleja davidii*, along the river banks at Jedediah Smith Campground.

The California Conservation Corps (CCC) have done excellent work removing Scotch broom from the Bald Hills. The CCC completed the 1997 Native Prairie Restoration Project contract in FY98. They are now available to work 6,000 hours for Resource Management toward their lease agreement with Redwood National Park at no cost to the Division. The plan is to use 2,000 of those hours for a CCC intern position in FY99.

YCC crews assisted with thistle removal in the Bald Hills and spotted knapweed removal at Jedediah Smith Campground.

Volunteers included Youth Conservation Corps, Saint Mary's Middle School from Medford, Oregon, high school students from Eureka, Illinois, and VIP's Daniella Scalice, Nicole Spencer, and Rachel Silverman.

References:

Pickart, Andrea J. 1997. Control of European beachgrass (*Ammophila arenaria*) on the west coast of the United States. Unpublished document. The Nature Conservancy, Arcata, California.

SPECIFIC CONTROL EFFORTS

HIGH PRIORITY SPECIES

Scotch Broom, *Cytisus scoparius*

California Conservation Corps (CCC) completed their contract for the Native Prairie Restoration Project.

We continued monitoring the effects of fire on first-year Scotch boom through periodic visits to the 20 transects established in 1997. The data suggests that use of prescribed grass fire with low surface moisture, low to moderate humidity, warm air temperature, and long duration (generally associated with a backing fire) is 100 percent lethal to young Scotch broom (see attached summary).

In late fall, native grass seed, *Elymus glaucus* and *Danthonia californica*, that was collected during late summer, was introduced into five prepared sites. Sites exhibiting soil damage from increased fuel loading, burned brush piles, were the highest priority. Native grass seed was prepared by 1) vigorously shaking seed from grass stalks, 2) scarifying *Danthonia californica* by vigorously rubbing seed between gloved hands, 3) placing seed into zip-lock bags and weighing bags. After the seed was raked into the soil, the grass stalks were spread over seeded areas as a mulch. We also added few shovels of adjacent soil to the soil damaged sites in order to introduce beneficial soil microorganisms that assist the germination and growth of grass seed. *Elymus glaucus* was present in two sites during spring monitoring, however *Danthonia californica* was not found in any of the sites.

In August, 1998, *Elymus glaucus* was collected and will be planted in two additional soil damaged sites this fall. It is strongly advised that additional fuel not be added to Scotch broom seed beds, unless we are able to follow-up with revegetation. A complete report monitoring the effects of fire on first-year Scotch boom will be completed in FY99.

Manual removal will continue along roadsides and unburned areas.

Cape Ivy, *Delaireria odorata* formerly known as **German Ivy**, *Senecio mikanioides*

Cape ivy has been identified at Davison, Requa, Nickel Creek, B-mill deck, and the lease-back property near Wilson Creek. Removal of new sprouts continue at Davison and a project is underway at the lease-back property near Wilson Creek.

English Ivy, *Hedera helix*

There was major infestation of English ivy at Marshall Pond which threatened old-growth and second-growth forests. Ivy plants covered most of the ground and were climbing up the trees along flint ridge trail area. Some of the vines had over a 3 inch diameter. An ivy removal project was initiated at Marshall Pond FY97. Alder camp inmate crews removed the above ground portions of ivy by cutting vines at the base of the trees with hand tools and pulling most of the vines off the trees. The exposed rooting stems were then pulled out. Plant material that could not be removed from tree tops was left and eventually died. The ivy was piled in the deck area, left to dry, and later burned. Many native plants now flourish around Marshall Pond in the

areas cleared of ivy. The crew will return this next fiscal year to pull ivy that was not accessible (along steep banks) during the rainy season, and remove new plants.

Gorse, *Ulex europaea*

A small patch of gorse was found at Redwood Information Center (RIC) in the north island of the parking lot last year. No plants were found this year.

Pampas Grass, *Cortaderia jubata*

Most plants are pulled using a winch and choker. This has proven to be a very effective and time saving method. A small choker cable is set around the base of a large clump of pampas grass and hooked up to an electric winch mounted on a pickup. Several hundred plants were removed from Hwy 101 Bypass this year.

Pampas grass distributions have been mapped between Freshwater Spit and Mussel Rock. A project clearance for Pampas grass removal at Freshwater will be prepared in FY99.

Tansy Ragwort, *Senecio jacobaea*

A small population of Tansy was found and removed along the road to Wolf Creek outdoor school. Biological control agents continue to keep populations in the Crescent Beach area under control. The Cinnabar moth has been found on plants in the Williams Ridge area of the Bald Hills, but the more effective flea beetle has not been seen in this area. Tansy is primarily controlled with manual removal in the Bald Hills.

Iceplant, *Carpobrotus chilensis*

I am pleased to report that it is becoming more and more difficult to find iceplant at Freshwater spit with each passing year.

Yellow Bush Lupine, *Lupinus arboreus*

There has been a slight increase in the number of bush lupine found at Freshwater spit. Approximately a dozen plants were removed this year.

Himalayan Blackberry, *Rubus discolor*

NCIDC and NPS support crews assisted with the removal of Himalayan blackberry from around the buildings at the Prairie Creek fish hatchery. A visit and consultation with North District Rangers was held in August about some concern they had with a population of Himalayan blackberry along Enderts beach road. It was decided that they would cut/mow the blackberry bushes along the roadside as needed.

Star Thistle, *Centaurea solstitialis*

Humboldt County Department of Agriculture contacted the park to see if we were interested in having the County release biocontrol agents in the park to control star thistle in the Bald Hills. There is not a large enough population of star thistle to support the insects. In addition, Redwood National Park will only consider introduction of biological control agents after several years of scientific evaluation.

OTHER SPECIES

Spanish Heath, *Erica lucitanica*

Less than a dozen new seedlings were found this year.

Bull Thistle, *Cirsium arvense*

The thistle populations around South Operations Center (SOC) have been expanding. This reduces available forage areas for the elk. Regular mowing through the growing season can eradicate bull thistle in three years with proper timing. With the assistance of Roads and Trails, a mowing strategy to eradicate bull thistle around SOC was implemented. Thistle was mowed the week of April 13th, June 15th, and August 17th. I would recommend beginning a week earlier in April, and 2 weeks earlier in June and August for this next year, and maybe add a fourth mow in late August or early July. The support crew weeded areas not accessible to the mower.

STATE PARKS

Spotted Knapweed, *Centaurea maculosa*

A spotted knapweed removal day was organized for the Jedediah Smith Campground. RNP's Exotic Plant Manager, State Park Resource Ecologist, Youth Conservation Corps, and people from Del Norte County Department of Agriculture(CDA), State Parks, and National Park removed over 350 plants from the gravel bar. Two years ago less than 50 plants were found. CDA has been actively controlling spotted knapweed on adjacent lands and are eager to assist at Jedediah. The area should be regularly monitored throughout the summer, to insure that plants are pulled before they set seed. California Department of Parks and Recreation (CDPR) personnel were given on-site instruction in identification of key exotic species and effective removal techniques.

Fennel, *Foeniculum vulgare*

There are extensive populations of fennel along Hwy 101 near Klamath. With this seed source, it is likely that we will see small populations of fennel popping up along the roadways throughout the parks.

Presently, fennel is being controlled along Newton P. Drury Scenic Parkway between the South entrance and mile post 126.88. Most of the plants are concentrated around the bridge area. The best time to attack these plants is early spring when the soil is moist and many of the plants can be pulled by hand. A pulaski works well digging out plants that cannot be pulled by hand.

Wild Teasel, *Dipsacus fullonum*

A few plants were pulled along the east side of Newton P. Drury Scenic Parkway approximately 50 feet north of the Big Tree entrance in FY97. No plants were found in FY98.

Canada Thistle, *Cirsium arvense*

There is approximately ½ acre of Canada thistle along Davison Coastal Rd. approximately ¼ mile south of the second day use area of Gold Bluffs Beach. NPS Exotic Plant Manager provided CDPR staff on-site training in identification of bull thistle, Canada thistle, and pampas grass. Control and removal techniques were also discussed. Personnel have been cutting flower heads and bagging before cutting plants. The perimeter of the Canada thistle patch was staked with ½ inch rebar to monitor spread of thistle. Staff will continue cutting back plants to control spread until an approved eradication method is implemented. Work hours and cost analysis is recorded (see attached control records for Gold Bluffs Beach).

Pampas Grass, *Cortaderia jubata*

Most of the accessible pampas grass has been removed from the Gold Bluffs beach area under the direction of trained CDPR staff.

European Beachgrass, *Ammophila arenaria*

European beachgrass, pampas grass, and thistle populations have been digitized for the Gold Bluffs Beach area. There was no removal of beachgrass.

Butterfly bush, *Buddleja davidii*

CDPR staff were instructed in identification and removal techniques for *Buddleja* at Jedediah Smith Campground. Several large, 10-15 feet tall, plants were winched out of the gravel bar.