REED CANARYGRASS WORKING GROUP CONFERENCE
MARCH 15, 2000 (9:00A-3:30P)

A Conference brought to you by the support of Washington State Department of Transportation, Natural Resources Conservation Service, and Society for Ecological Restoration—Northwest Chapter

USDA Service Center/Olympic National Forest Headquarters
1835 Black Lake Blvd. SW, Olympia, WA 98512

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1.0 FINAL PROCEEDINGS (abstracts, in order of appearance)

WASHINGTON STATE'S REGULATORY PROGRAM FOR MANAGING NOXIOUS AQUATIC WEEDS

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Allen will describe the Washington State Department of Ecology's approach to noxious weed control and the annual statewide permit issued to WSDA for the control of aquatic emergents, including reed canarygrass.

COHO PRE-SPAWN MORTALITIES IN A FLOODED REED CANARYGRASS HABITAT

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Reports by citizens of "dead salmon in a field" at a Waterways 2000 site in January 1999 prompted this investigation by the King County Department of Natural Resources, Water and Land Resources Division. This site is located along Patterson Creek (Snoqualmie River watershed) at its confluence with an unnamed tributary catalogued as WRIA #070383. This tributary is the location of documented coho spawning. During our visits to the site in late January, we found that the site in question is a very flat, former pastureland of about 0.15 square km dominated by reed canarygrass (*Phalaris arundinacea*). Standing water was distributed throughout the field, and tributary 0383 traversed the field in an ill-defined channel within which both reed canarygrass and the non-native yellow-flag iris (*Iris pseudacorus*) were abundant. There was very little gradient to the stream channel, the field where the coho mortalities were found, and in the immediate surroundings. GPS technology was used to map the locations of the dead coho scattered about the field. We also procured hydrologic data

from an upstream county gauging site to obtain an indication of recent Patterson Creek flows over the previous two months.

We inventoried a total of 158 dead pre-spawn male and female coho distributed on this field. No mortalities were found during a reconnaissance of the immediate surroundings. Visual inspection of maps generated from these data suggest the coho were not scattered randomly about the field, but were distributed in a manner roughly reminiscent of a funnel with the narrow end pointing at the tributary where it first entered the field, and that this funnel shape was angled in a downstream direction. The gauging data revealed a high flow event in the Upper Patterson Creek drainage in mid-December. We felt that the observed degree of decomposition of the coho was consistent with the period between the high flow event and our investigation.

We surmise coho had been migrating upstream during this high flow event and attempted to swim across the flooded field toward the point where the tributary's waters first encountered the flooded area, but the fish became stranded in the reed canary grass when this flooding quickly receded. The abundance of reed canary grass and iris within the tributary's ill-defined channel likely exacerbated the stranding. Projects to create a more defined channel have been planned, and a preliminary component of this work has been completed.

REED CANARYGRASS CONTROL IN THE OLYMPIC REGION, WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

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WSDOT (Olympic Region) have been diligently pursuing the control of this weed on two wetland project sites: Hylebos Water Way (Tacoma, Pierce County) and Andrews Creek (near Quilcene, Jefferson County). Both projects used mechanical and chemical control techniques. Andrews Creek used an additional method of covering the weed with black landscape fabric (which did not work very well). Chemical applications were made using a backpack sprayer and wicking apparatus. Although we have not "eradicated" this persistent weed, infestations have been reduced, which has allowed more desirable plant material to be more competitive.

UPDATE ON WASHINGTON’S AQUATIC NUISANCE SPECIES PROGRAM

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Aquatic nuisance species (ANS) are a serious problem in Washington. The State’s ANS Management Plan is an important step in the coordinated response to the problem and serves as an efficient means of communicating the scope of needed activities. The purpose of our ANS Management Plan is to coordinate all ANS management actions currently in progress in Washington, and to identify and provide funding for additional ANS management actions. The Plan’s goal is to, by the year 2002, fully implement a coordinated strategy designed to minimize risk of further ANS introductions into Washington waters through all known pathways; where practical, stop the spread of ANS already present; and eradicate or control ANS to a minimal level of impact. Pam will provide an update on the Plan's implementation, the state of funding for management projects, and pending legislation that will affect the State's ability to manage ANS.

LOWER COLUMBIA RIVER WETLANDS RESTORATION AND EVALUATION

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The Lower Columbia River wetland restoration and evaluation program is an effort that integrates wetland and riparian restoration with adaptive resource management principles. The objective is to provide a wetland restoration and management model that can be implemented in other watersheds of the Pacific Northwest. The success of the restoration effort will be monitored and measured by hydrologic response, vegetation diversity, and wildlife use (particularly birds). The evaluation effort is being conducted on 40 wetland restoration basins covering 5 wildlife management areas. The wetland basins are located at Sandy River Delta and Sauvie Island Wildlife Area in Oregon and the Vancouver Lowlands and Shillapoo wildlife areas, and Ridgefield National Wildlife Refuge in Washington. These sites have been invaded by upland plants, including Reed Canary grass (*Phalaris arundinacea*) (RCG). Our goal is to transform these areas to a more productive wetland type, such as open water and emergent vegetation using disking and water management techniques. Water level and duration are being managed to reduce the invasive plants and stimulate growth of the native seed bank. Vegetation and wildlife surveys are being conducted to monitor the success of the restoration effort.

Each restored wetland site will be surveyed for a minimum of three years to document changes in wetland vegetation succession and wildlife use. The surveys are being carried out using a systematic and repeatable method of measurement, allowing for comparisons of management options.

INTEGRATED PEST MANAGEMENT TO CONTROL REED CANARYGRASS IN SEASONAL WETLANDS OF SOUTHWESTERN WASHINGTON

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Reed canarygrass is an exotic invasive species that threatens to degrade wetlands throughout North America. Although efficacies of control methods have been studied in the Midwest, little information is available for efficacies of treatments in the Pacific Northwest. Consequently we investigated efficacies of integrated pest management techniques to control canarygrass in seasonal wetlands of southwestern Washington. We evaluated mechanical (disking or mowing), chemical (Rodeo®), and combinations of disking and Rodeo along with water-level control for 3 growing seasons. Stem densities of canarygrass were reduced most by spraying and disking with a follow-up application of Rodeo during the next growing season. Disking with a follow-up application of Rodeo during the next growing season generally had similar canarygrass control as the most efficacious treatment. Canarygrass that germinated and grew from viable rhizomes following drawdown after the initial Rodeo application or disking made a follow-up treatment with herbicide imperative for effective control. To prevent reed canarygrass re-infestation, treatments should not be initiated until the ability to manage consistent water levels throughout the winter and early spring exists for a wetland. Observations on plant community responses to the sudden elimination of reed canarygrass will also be discussed.

TRANSPLANTING LARGE TREES FOR REED CANARYGRASS CONTROL

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During the winter of 1999-2000, Snohomish County conducted an applied experiment with the salvage and planting of intermediate size trees (2-8 inch diameter and 20-40 ft tall). In all, forty trees (and the associated herbaceous and shrub communities at their bases) were transplanted. We propose that the trees, once established, will provide seed rain and shade, which will accelerate establishment of a robust riparian zone that will control reed canarygrass.

To test this, we are proposing monitoring of the planted acreage, and experimenting with various strategies in the areas surrounding the planted plots. One key factor that will be monitored will be the optimum spacing and shading of planted plots, such that seed rain distances, control efficiency, and weeding frequencies can be established. Once control strategies are identified, we hope to begin large-scale implementation in County-owned and managed riparian areas.

THE USE OF REED CANARYGRASS IN WASTEWATER TREATMENT

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The effect of plant species on water quality was examined. Nine plots were planted in a municipal wastewater wetland--three plots each of *Schoenoplectus acutus*, *Typha latifolia*, and *Phalaris arundinacea*—and one plot was left unvegetated as a control. Water quality was tested approximately every three weeks. The experimental plots did not bring the inflow down to secondary treatment standards, which is not surprising given their small size and approximately 2.5 day retention time. There were no strong overall treatment differences found among the species, but there were a number of minor, biologically relevant treatment effects including:

1. *Schoenoplectus acutus* appears to have a treatment effect for total phosphorus.
2. The presence of macrophytes does improve water treatment effectiveness, particularly removal of biological oxygen demand.
3. Differences in treatment effectiveness among emergent species are more pronounced in warmer months.
4. Continuous standing water will kill *Phalaris arundinacea*.

USING SHALLOW INUNDATION TO MANAGE REED CANARYGRASS

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This paper summarizes activities and observations on a 10-acre wetland mitigation project located in the Coffee Lake Creek drainage north of Wilsonville, Oregon. This four year-old wetland enhancement project in reed canarygrass has altered the existing hydrology (drained wetland) by using shallow inundation (12 to 18 inches) through June as the sole control tool. Annual monitoring has targeted percent cover and percent frequency of reed canarygrass. Recent arrival of beaver to the site and site area in the beginning of project-year 4 has again altered the hydrology and associated habitat with interesting results.

USING EXCAVATION AND CONIFER ESTABLISHMENT IN MANAGING REED CANARYGRASS

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This paper presents a summary of our work on one particular wetland mitigation site located in Woodland, Washington. The site had an overstory of black cottonwood and an understory of *Phalaris* and *Rubus discolor*. In 1996, we removed selected cottonwoods to favor the interplanting of conifers (*Picea sitchensis* and *Thuja plicata*). We also excavated certain areas to favor prolonged inundation, planting *Cornus sericea*, *Salix sitchensis* and *Carex obnupta* in these areas. We performed maintenance for three growing seasons, keeping the invasive species cut back by hand and weed-eater around the plantings to make sure they became established.

Results have been very positive. *Phalaris* and *Rubus* are still on the site, but the conifers have achieved enough height to be on their own. Willow and slough sedge have also done well. We learned some rules of thumb about opening the tree canopy for conifer interplanting and the level of maintenance required to keep the invasive species from out-competing desired plantings. Establishing conifers is probably the most effective way to suppress *Phalaris* over the long term, especially on sites absent of other control measures, such as water level control.

Level of maintenance is also a critical issue in the ability of site managers to effectively suppress invasive species. Maintenance by hand or weed-eater is time consuming, costly, and difficult to perform around each individual plant. Perhaps mitigation designers should incorporate more of a "row crop" approach to plantings, so that maintenance can be done by tractor mower or similar machine. This would make maintenance of invasive species easier, less costly, and more effective. The application of this method gains importance as the size of a mitigation site increases.

EFFECTS OF SHADE AND DEFOLIATION ON REED CANARYGRASS *(Phalaris arundinacea* L.) BIOMASS PRODUCTION: A GREENHOUSE STUDY

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Many wetlands in the Pacific Northwest have become dense monotypic stands of reed canarygrass, resulting in lower diversity of flora and fauna. Previous attempts at limiting canarygrass populations have not been widely effective. There are contradicting reports in the literature as to the effectiveness of defoliation and shade in controlling reed canarygrass. We focused on a combination of defoliation and shading techniques that might contribute to an integrated program of reed canarygrass control.

Rhizomes collected from the field were grown into plants in the greenhouse and subjected to varying levels of defoliation, shading and shade and defoliation combined. Total biomass of untreated plants increased steadily over time. Initially more resources were invested below ground, until, by 85 days, above-ground biomass exceeded below-ground accumulation.

Total biomass produced by plants defoliated 3 or 4 times was significantly less than plants that were never defoliated. Ratios of above-ground/below-ground biomass did not change significantly with number of defoliations. Plants grown in 81% shade produced significantly less total biomass than plants in zero, 41 and 51% shade. Above-ground /below-ground ratios are constant from 0-51% shade but at 81%, above-ground biomass declined significantly relative to below-ground biomass.

Shade and defoliation have additive impacts. Following one defoliation, total biomass production declined significantly between 0 and 41 % shade and between 41 and 51%. No further reduction occurred between 51 and 81% shade. Total biomass, cumulative total biomass, below-ground biomass, root and rhizome biomass were all significantly lower with 2 defoliations at 0 and 41% shade. Increasing shade, combined with repeated defoliation will result in increasing allocation of plant resources above-ground, compared to below-ground.

These results suggest that shade and defoliation can be combined to limit canarygrass productivity. Field investigations are needed to determine if this strategy can be effective long term on sites at various stages of invasion where all species present would be affected by the treatments.

EFFECT OF GRAZING ON COMPETITIVE ABILITY OF REED CANARYGRASS

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Reed canarygrass (*Phalaris arundinacea*) is a non-native grass that has become a significant problem in the wetlands of Western Washington. It was introduced as a forage crop on otherwise marginal grazing pastures, and it has spread quickly to form monocultures in some areas. It is a particular problem in unmanaged fallow wetlands. Though reed canarygrass is extremely difficult to eradicate, we looked at reintroducing grazing as a means of control. We compared two 40 acre halves of a wetland which are divided by a stream. Cattle have grazed the west side for the past six years while the east side was mostly left fallow. Botanical transects were conducted on both the grazed and ungrazed sides of the wetland in spring and summer. We looked at the levels of reed canarygrass and the presence of native plants. Our data showed there to be significantly more reed canarygrass on the ungrazed side than the grazed (P=0.000083). We also found there to be more species diversity on the grazed side (35 species) when compared to the ungrazed side (15 species). This study indicates that better wildlife habitat with an increase in plant diversity and a decrease in reed canarygrass density can be obtained through the annual use of grazing cattle.

LIVESTOCK GRAZING FOR REED CANARYGRASS MANAGEMENT AT TROUT LAKE NATURAL AREA PRESERVE, WASHINGTON

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Trout Lake NAP was established in 1995 to protect one of three populations of the Oregon spotted frog (*Rana pretiosa*) and a large intact wetland system. The site has reed canarygrass, primarily along the eastern edge of the wetland in habitats that seasonally flood and dry out. A few patches of dense reed canarygrass are present, but generally it is mixed with native wetland vegetation including sedges, willows, and various other species.

Reed canarygrass is a threat to both the Oregon spotted frog population and to the character of the intact wetland. The frogs breed and lay egg masses where there is shallow water in early spring and generally where there is only emergent vegetation. Unfortunately, reed canarygrass also prefers these habitats. Development of tall, dense stands of reed canarygrass degrades these areas as breeding and egg-laying habitat.

This site has been grazed for many years under a season-long regime. The DNR is attempting to manage the grazing under a modifed regime in order to target livestock use at reed canarygrass and minimize use of native vegetation. By targeting reed canarygrass, the height and litter accumulation are reduced, which it is anticipated will improve or at least maintain the quality of spotted frog breed habitats. This may also slow the spread of reed canarygrass by reducing energy allocation to the rhizomes.

At the same time, management goals for the NAP call for maintaining the native vegetation in the best condition possible. The grazing regime has been changed to an early- to mid-season regime, in which cattle have access to the entire area until early August and are then removed to a pasture located away from the wetland until September. This is expected to reduce the grazing pressure on native vegetation, because past observations suggest that cattle on this site switch preferences from reed canarygrass to native sedges and willow at about this time.

1999 monitoring of this modified regime indicates that most livestock utilization objectives were met. Unusual climatic conditions delayed removal of the cattle from the wetland area by 3 weeks. This is probably responsible for the slight overuse of sedges and a substantial overuse of willows that were observed. This regime will continue to be used and closely monitored to determine its effectiveness. As additional information regarding Oregon spotted frog habitat is gathered, this regime is likely to be modified further to meet our objectives.

INTEGRATED CONTROL OF REED CANARYGRASS AND PURPLE LOOSESTRIFE

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Weed control and restoration of desired vegetation requires an ecosystem level management plan if the replacement of one weed by another is to be avoided. At Baskett Slough National Wildlife Refuge (Polk County, Oregon) purple loosestrife, an introduced wetland plant, invaded the riparian area around Morgan Lake, a man-made reservoir used to manipulate water levels in refuge wetlands. A biological control program using two leaf-feeding beetles (*Galerucella calmariensis* and *G. pusilla*)was implemented to control purple loosestrife. As the purple loosestrife population declined, the reed canarygrass population increased. Managers at Baskett Slough are now interested in controlling reed canarygrass without interfering with the control of purple loosestrife. They are concerned that if control of purple loosestrife is not maintained while controlling reed canarygrass, the loosestrife population will explode again.

Refuge managers typically use five management strategies to control weeds: 1) mowing, 2) tilling, 3) herbicide application, 4) prescribed burning, and 5) water level manipulation. We are using field observations and a factorial experiment to evaluate the effect of these five treatments on reed canary grass, purple loosestrife, and the loosestrife-control agent interactions. Our preliminary results are: 1) flooding, tilling, and herbicide are best for reducing reed canary grass abundance and increasing plant diversity and the abundance of desired vegetation, 2) purple loosestrife abundance was low, but present in all treatments, and 3) insects attacked plants in all treatments. These results suggest the recommended control strategy depends on the degree to which the insects feed on purple loosestrife in the different treatments. Another year of data will be collected to account for any delayed responses to the treatments.

Slide illustrations used in this presentation are available at the following web page. The URL is: http://www.ent.orst.edu/schatm/webpage/presentations/reed.htm

EFFECTS OF VANTAGE® HERBICIDE ON *PHALARIS ARUNDINACEA* AT FERNHILL WETLANDS, FOREST GROVE, OREGON

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Vantage® Herbicide (a post-emergence grass herbicide) was applied in July 1998, May 1999, and July 1999 to approximately 500 m^2 of potential shrub/scrub wetland dominated by *Phalaris arundinacea* L. (RCG). Comparison of treated and non-treated quadrats (1 x 1 meter) shows a marked decrease in density, cover, and biomass, in treated quadrats. Average RCG biomass in treated quadrats was 0.296kg/0.25 m^2 while RCG biomass in the non-treated control was 2.64 kg/0.25 m^2. Twenty-two taxa were found in the treated area of which 5 were OBL wetland species, 7 FAC, and 10 UPL. Only three taxa were found in the non-treated control. This is an ongoing study. The site will be re-inventoried in spring 2000 and sprayed

again in May, 2000. Results suggest that repeat spraying with Vantage® Herbicide may change succession in RCG-dominated habitats.

FLORISTIC DEVELOPMENT PATTERNS IN A RESTORED ESTUARINE MARSH, ELK RIVER, GRAYS HARBOR ESTUARY, WASHINGTON.

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We have monitored the changes in emergent plant communities since return of tidal inundation to the 140ha Elk River marsh in 1986. The pre-breach community was dominated by freshwater grasses and the non-native nuisance species reed canarygrass (*Phalaris arundinacea*). Within the first three years, plant cover declined and bare space with shallow pools increased. Sediment deposition was particularly great near the breach. After three years, salt marsh species began to dominate the system. Typical early colonizers such as *Atriplex patula* and brass buttons were common during this period. Over the period of 1990 to present, salt marsh species including *Distichlis spicata*, Salicornia virginica now dominate the cover in the system. The euryhaline sedge *Carex lyngbyei* cover remained relatively constant throughout the first 13 years of development. Compared to the reference site, which represents the historical conditions in the restored system, the restored site contains a greater proportion of low elevation salt marsh species. We suspect that the primary reasons for the difference is the lower elevation in the restored site caused by subsidence. At the measured rates of accretion (3.0 mm yr^{-1}), it will likely take well over a century for the restored system to resemble historical pre-breach conditions.

MANIPULATING SOIL AND SURFACE WATER SALINITY TO SUPPRESS REED CANARYGRASS

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We are exploring a potential new strategy to suppress and/or eliminate RCG in portions the Snohomish River estuary capitalizing on its relative intolerance of moderate to high salinity tidal waters. We plan to increase soil surface salinity by application of sodium chloride, either broadcast in solid state, or sprayed in solution. Concentrations and application rates yet to be determined. Literature indicates tolerance up to 8 mmhos (conductivity). Estuary salinities range from 0.06 at the head of Ebey Slough to 11.8 mmhos at Otter Slough (sea water = 20 mmhos, fresh water = .05 mmhos). Plans to breach 1000 linear feet of dike will expose 300 acres of an abandoned drainage district to freshwater tidal influence. Salinity treatments are planned prior to breaching in DD6. Increase salinity may also select for estuarine species tolerant of a wider range of salinity. Target species presently in the estuary restricted to narrow shorelines outside of the dikes include tufted hairgrass (*Deschampsia cespitosa*), springbank clover (*Trifolium wormskjoldii)*, and Pacific silverweed (*Potentilla anserina* ssp. *pacifica*).

Earlier breaching on Spencer Island and a reference site adjacent to DD6 suggests that diurnal tidal action may begin to suppress RCG by removing thatch build up and burying stolons. Apparent decrease in culm density has also been noted. Temporary increases of salinity could further push out RCG. Planned treatments include controls, salt applications in varying rates in both solid and liquid form, single and multiple applications in a year, and exposure durations in 1 m^2 plots. Test sites include Spencer Island, Reference Site I, and several plots within DD6.

2.0 ABSTRACTS FROM PAPERS NOT PRESENTED DURING CONFERENCE

NATIVE GRASSES, FORBS, AND SEDGES FOR REED CANARYGRASS COMPETITION STUDIES: SEED COLLECTION AND INCREASE PHASE

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Initial suppression and/or removal of reed canarygrass alone is not a fix. There is a need to investigate endemic grasses, sedges, and forbs that are adapted to the same sites and can quickly re-colonize and prevent, resist, or at least co-exist with, any residual reed canarygrass rhizomes or new seedlings. From anecdotal observations, some possibilities may include rice cutgrass (*Leersia oryzoides*), big leaf lupine (*Lupinus polyphyllus*) (Willamette Valley, OR), *Impatiens* sp., bluejoint reedgrass (*Calamagrostis canadensis*), meadow barley *(Hordeum brachyantherum*), slough sedge (*Carex obnupta*), and other *Carex* species. Therefore, Puget Trough and western Oregon ecotypes of these species are being collected in the wild and increased for seed at the Corvallis Plant Materials Center. Applicable methods of seed increase are being documented to benefit commercial growers. Once sufficient seed supplies are built up, greenhouse, plot, and in situ field studies will be undertaken to examine the potential of these species to compete with reed canarygrass under a variety of soil and hydrologic conditions.

INVESTIGATION OF EMERGENT VEGETATION RESPONSE TO INUNDATION IN A RESERVOIR DRAWDOWN ZONE IN BRITISH COLUMBIA, CANADA

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B.C. Hydro has been investigating potentials for fish and wildlife enhancement in the drawdown zones of their large oligotrophic reservoirs. Reed canarygrass (*Phalaris arundinacea*) and lenticulate sedge (*Carex lenticularis*) occur naturally within the drawdown zone of Upper Arrow Lake (reservoir). Questions regarding ecosystem benefits of the drawdown zone community spurred this study to investigate three species of plants and their biomass and nutrient levels in relation to extended and deep submergence (90 days, depths to 6 m).

Replicated samples of three plant species; Reed canarygrass, lenticulate sedge and agronomic rye, were excavated with roots and substrates intact, placed in fine mesh bags, and re-planted

to allow continuation of growth. Entire bags were retrieved at weekly intervals to harvest plant components.

Results indicate that plant growth ceased immediately after inundation, but the two perennial species continued to survive for the 90 day duration of the experiment. Nutrient levels indicate translocation of nutrients occurred from leaves to roots soon after flooding. New shoot growth was apparent for both perennial species during the inundation period.

3.0 INFORMAL DISCUSSION NEAR END OF CONFERENCE (partial; paraphrased by Antieau)

Rich Haard (Fourth Corner Nursery): Important to consider microflora and microfauna in conducting restoration. This might explain where and why RCG occurs.

Al Latham (Jefferson Conservation District): Have found plastic tree protectors to be essential: keep mice away and help locate plants in deep grass, plus provide some protection from weed-eaters. Have used the "Tree Pro" www.nlci.com/treepro type in past years. This year we are trying the"Protex Pro/Gro" type - cheaper and a bit easier to install. (Terra Tech: www.terratech.net). Also, as you heard, I am a little concerned about the concept of using livestock grazing to control canarygrass in wetlands. We know that it works - any farmer will tell you it's a good way to control the stuff and they didn't have any problems until they fenced the creek! Anyway, for a state agencies to be putting cows out in areas with open water while other state agencies are fining and making life difficult for farmers who do that is kafka-esque. Also, what is the impact of RCG in streams and on fish habitat?? Dissolved oxygen levels may be severely impacted seasonally and diurnally. Also, what explains the resilience of some vegetation [such as creeping buttercup (*Ranunculus repens*)] to RCG invasion? [Another participant has observed similar resilience in stands of creeping bentgrass (*Agrostis* sp.)]

Nancy Ness (WSU Coop. Extension): If RCG does indeed have psycho-active properties, what effects do these have on fish species?

Anon. RCG is among the best species for constructing thatched roofs.

Jean Schoemeyer (Seattle Department of Parks and Recreation): Is placement of thick layers of cardboard effective in shading out RCG??

Linda Hardesty (WSU, Pullman): Many sites have RCG, but many sites do _not_ have it. We need to be looking at both types of sites for answers.

Anon. Weed control fabric is effective only if well-stapled. RCG can lift fabric easily. Need to pull up fabric after about one year, otherwise it will be difficult to remove from a site. Also, the idea of planting trees and shrubs in rows makes sense from a maintenance perspective.

Anon. Public Education is the bottom line when it comes to managing reed canarygrass!

4.0 REED CANARYGRASS WORKING GROUP BUSINESS DISCUSSION NEAR END OF CONFERENCE

Need to ensure proceedings from this conference are compiled and distributed. (Done!!) **Antieau** will look into getting these posted on the Working Group's web site (http://www.halcyon.com/sernw/rc_docs.htm).

Hardesty and **Antieau** will conspire to compile a bibliography for reed canarygrass ASAP. To be posted on Working Group's web site.

The RCG Email Contact List is now up towards 350 individuals. Would be very useful to have an automated, interactive list (listserv). **Antieau** will investigate this opportunity via SERNW. People need to send email addresses to Clay Antieau (antieac@wsdot.wa.gov) if they wanted to be added to that email contact list.

Next formal meeting of the RCGWG (like today's event) will probably be another one-day event in March 2001, unless other folks have more specific ideas. However, look for a reed canarygrass invited papers and panel session at the Soc. of Wetland Scientists (NW Chapter) meeting in Bellingham, WA (10-12 May 2000). Contact Clay Antieau (antieac@wsdot.wa.gov) or Bill Leonard (leonardb@wsdot.wa.gov) if you have an interest in participating in that.