

Douglasia

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Journal of the
WASHINGTON
NATIVE PLANT
SOCIETY

*To promote the appreciation
and conservation of Washington's
native plants and their habitats
through study, education,
and advocacy.*

WNPS honors five Fellows in 2006

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Douglasia

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Editor's note

As I've learned since joining the Washington Native Plant Society and *Douglasia* three years ago, the Society isn't just about plants, it's about people. I'm continually impressed and inspired by the energy and helpfulness and dedication of WNPS members.

In this issue, we are pleased to feature articles about five very dedicated WNPS members. These individuals have been named as this year's WNPS Fellows, the highest honor given by the Society: Tom Corrigan, Don Knoke, Richard Tinsley, Ann Weinmann, and Fred Weinmann. I very much enjoyed reading each of their stories, as I'm sure you will too. We especially thank Peg Pearson of the Central Puget Sound Chapter for all the time she put in to research and write these very thorough and captivating profiles.

Also inside, you'll learn about two Washington prairies—the Kai Tai Prairie Preserve on the Olympic Peninsula and the 91st Division Prairie at Fort Lewis. And you'll read about the efforts being taken to monitor the pathogen *Phytophthora ramorum*.

Please also remember to vote for WNPS state board positions. Please take a moment to fill in the election ballot insert and drop it in the mail.

Thanks go to all the contributors for their insightful articles, and as always to all the many people who pitch in—in numerous ways—to create *Douglasia*.

Enjoy these long dog days of summer,

Karen Gatrell

Correction

In the Winter 2006 edition of *Douglasia*, the underlining in the Willows key by Dana Visalli was mistakenly omitted. We are reprinting the key in this issue, with the underlining. The key is also available online at www.wnps.org/douglasia/douglasia_index.html.

WNPS State Board of Directors: Meetings 2006

October 21, 2006

For more information on agenda and location contact the WNPS office two weeks ahead of the meeting date.

* To become a WNPS Fellow is the highest honor given to a member by our Society. This title is given to those who have made outstanding contributions to the understanding and/or preservation of Washington's flora, or to the success of WNPS.

** Deceased

President's message

by Dean Longrie



In this issue we are proud to present the Washington Native Plant Society's most recently honored WNPS Fellows: Tom Corrigan, Don Knoke, Richard Tinsley, Ann Weinmann and Fred Weinmann. The Society is rich in members who volunteer

considerable time, expertise and energy to fulfill our mission "to promote the appreciation and conservation of Washington's native plants and their habitats through study, education and advocacy."

Becoming a WNPS Fellow is the highest honor bestowed by the Society. Considerable thought and time goes into the selection of the candidates. This honor is bestowed at most once every five years. Individuals are nominated by the WNPS membership and nominations are reviewed by the WNPS Fellows Committee.

I wish to thank the members of the current Fellows Committee who reviewed nominations and made recommendations to your State Board of Directors. The Fellows Committee consisted of many long-time members of the Washington Native Plant Society who recognize the value of the contributions made by this year's WNPS Fellows. My long-time colleague, Laura Potash, chaired the committee consisting of Tom Johnson, Sarah Gage, Scott Moore and Joan Frazee. Laura, Tom, Sarah and Joan are all previous presidents of WNPS.

Special thanks go to Peg Pearson who interviewed and wrote the excellent biographical sketches found in this issue of *Douglasia*. Those of us who know these designated Fellows think Peg did a great job of capturing the essence of these individuals and their contributions to WNPS.

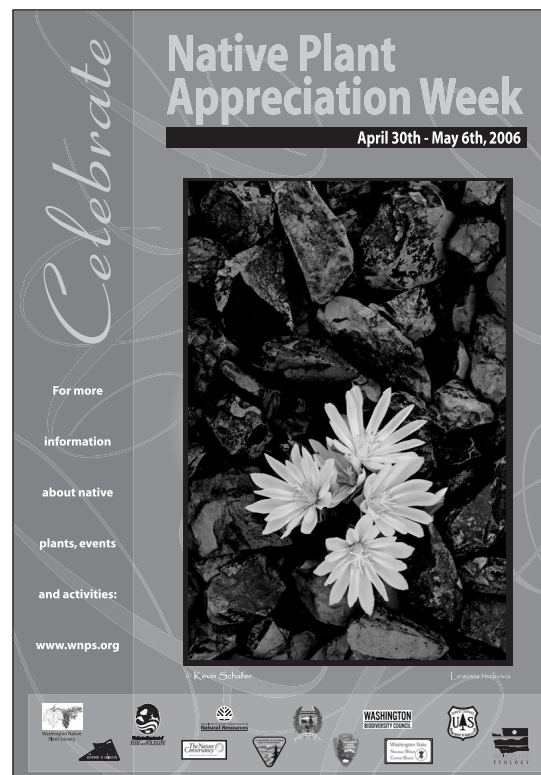
The Washington Native Plant Society celebrated its third Native Plant Appreciation Week in May along with the Governor, state and federal agencies, local governments and many non-profit and private organizations. Seventy-six events were scheduled around Washington to encourage citizens to learn about native plants. I would like to thank each person who took the time to make Native Plant Appreciation Week successful. You presented talks, offered native plant walks or restoration opportunities, and taught others about native plant gardening through native plant garden visits and native

plant sales. Many cities and counties joined the Governor in proclaiming Native Plant Appreciation Week. I also thank all the WNPS members who took the time to go to their local council or commission meetings and accept the proclamations on behalf of WNPS.

The 2006 Native Plant Appreciation Week poster was a beauty! I send special thanks to Kim Galimanis of 4Point Design who designed the poster free of charge. Kevin Schafer took a wonderful photo of *Lewisia rediviva*! His photo is this year's photo contest winner. I may be partial to plants but the rocks were nearly as beautiful in this incredible photo!

This summer, I hope you will take the time to go hiking, learn a few more native plants, share your excitement about native plants and CELEBRATE the natural beauty of our great state of Washington.

DL



Conservation update

by J.H. Browne, Jr., WNPS Conservation Committee Chair

There was a conference in Pasco, at the end of March—"Rangelands for the Future"—that got my attention. Since most of the privately owned land east of the Cascades that still resembles conditions here prior to Euro-American settlement is presently considered "rangeland," it seemed worthwhile to consider what those concerned with these places saw in their future. (The timing was attractive, too, since there was a public hearing about the outcome of the Washington DOE vs. U.S. DOE confrontation over the Hanford cleanup scheduled for the evening prior to the conference—a "twofer" that I couldn't resist.)

The opening speaker made the point that a key to having rangelands (or any landscape) valued highly by future generations requires both the physical presence and the opportunity to express curiosity about the outdoors, generally; and if we don't show (and/or model) the natural processes of the world to children, there won't be a future of people who are aware of (and in communion with) the "real world." A case was made that the sedentary, indoor life that seems to be the status quo for many kids today (including those in rural areas) may be responsible for something the speaker called a "nature-deficit disorder." (Thinking back to my own schooling, there was almost no emphasis on the immediate physical surroundings beyond those that had some economic significance, although that didn't keep me from spending a lot of time outdoors. What it DID do, and perhaps still does for many people, is frame the value of a landscape in economic terms, for example, the sage-steppe is a "wasteland," because there's no apparent industry there to make it "useful.")

There were statistics presented about the number of farms and ranches decreasing, while the average size was growing (although farms and holdings of less than 50 acres were increasing). Even more significant, perhaps, was that the rate of loss of agricultural lands was proceeding at a rate that was more than twice the rate of population increase. The imminent retirement of the baby boomers was presented as a very real threat to the continuity of the farming and ranching lifestyle—which also means unfenced physical continuity of much of the landscape, in many critical areas—because present owners weren't finding a family member who wanted to keep the place intact. Ultimately, the continued well-being

of rangelands will depend upon two things: economics and the perception that a "home on the range" is quite desirable.

It was gratifying to hear the word "sustainable" used in a context other than the maximum achievable profit that can be obtained from a ranch or farm. The meaning here had shifted to include (or at least consider) ecology as a paradigm. Topics of discussion included whole-systems management, multi-species habitat conservation plans, and Habitat Conservation Plans that can sell sustainability shares (a way to economically justify habitat "set-aside" areas for ranchers, etc.), along with an outline of Natural Resources Conservation Service programs (for example, wetland reserves, CREP, CSP, etc.). The Forest Service's practices of supporting "degraded habitat restoration" by those with grazing allotments, and the use of sheep and goats to perform invasive species removal fomented some lively back-and-forth among participants.

A great deal was covered beyond these subjects, for example, business practices (including cooperatives and trusts, branding and value-added marketing); many legal issues; zoning and land use laws; maintaining a rural situation on the edge of suburban sprawl; a history of regional settlement examined in parallel with federal laws enacted between 1850 to 1930; the public vs. private aspects of ownership (for example, water rights, mineral rights, traditional commons, aboriginal claims, and the status of wildlife regulation); and even a bit of sociological perspective—it was quite a crash course for me.

Why is rangeland important to the conservation of our native plant communities? Most WNPS members are urban/suburban, and/or agency professionals, teachers and students. In my view, we need knowledge of our present situation, and an understanding of how it got this way, if we are to deal wisely with the future. The human cultures that flourish here are the primary imminent threats to the health and well-being of our environs, while they also contain extensive knowledge (based upon physical proximity and interdependence) and both social and legal leverage that can be exerted in the cause of thoughtful coexistence with our fellow beings, plants and animals. If we are attentive to the perceptions and desires of others, we may find it easier to encourage the curiosity (and support the attitudes) that will help us achieve our goals.



2006 FELLOWS

WNPS honors five Fellows in 2006

To become a WNPS Fellow is the highest honor given to a member by our Society. This title is given to those who have made outstanding contributions to the understanding and/or preservation of Washington's flora or to the success of WNPS. In a volunteer organization that is both people and ability rich, WNPS Fellows are chosen based on these main criteria:

- *Through the actions of this member, a significant and lasting change in the organization has been realized.*
- *The member has contributed an extraordinary amount of volunteer time to WNPS.*
- *The member has performed an outstanding act and/or been a driving force on behalf of the conservation, education, research or advocacy of Washington's native flora.*
- *Longevity of contribution at state or chapter level.*

In addition, the WNPS State Board of Directors might consider an individual who has substantially increased the visibility of WNPS as an organization, or who has contributed significantly to the building or maintenance of WNPS's infrastructure, or someone who has exhibited their passion for native plants by serving as a mentor and role model to the Society's members and community at large.

Over the past thirty years, WNPS has selected 21 outstanding members to be Fellows. Every five years in the summer issue of *Douglasia*, a call for nominations is published. Individuals previously recommended may be reconsidered. The WNPS Fellows Committee reviews the specific criteria of each nominee and recommends individuals to the Board of Directors. During the spring Board Meeting of the following year, the decision whether or not to select a member is finalized by a vote of the Directors.

By the time you read this, these Fellows will have been honored at the WNPS Study Weekend in June in Northeastern Washington. These five individuals chosen

Tom Corrigan
Don Knoke
Richard Tinsley
Ann Weinmann
Fred Weinmann

as 2006 WNPS Fellows are remarkable individuals. We salute them in this issue.

The following profiles were written by Peg Pearson, WNPS Central Puget Sound Chapter.

Tom Corrigan

When Tom Corrigan heard there was a native plant society in Seattle in 1977, he signed right up. Busy with family and an orthopedic surgery practice in Everett, he managed to squeeze in an occasional program and field trip over the years. Not until 1995 when he and his wife, Barbara, retired to La Conner did he become



Tom Corrigan. PHOTO: BARBARA CORRIGAN

more involved, serving as the Salal Chapter's chair from 1996 to 2004 and as Chapter botanist since then. Citing numerous accomplishments, innovations, and personal characteristics in their endorsement of Tom as a 2006 WNPS Fellow, his nominators summed up by saying, "We were lucky to have had Tom, a gifted and outstanding person, as our leader for so many years."

Tom talks of his involvement from a perspective of personal responsibility rather than as a checklist of contributions. He believes solutions to human problems require a healthy Green World and that, if all people and

nations would respect and protect the planet's resources, a sustainable peace is possible. "Hopefully, there will be a recognition by a majority of voters that, to have a worthwhile life, the consideration of the environment must be central to it," adds Tom when explaining how "your politics is the practical result of your philosophy of life." He's convinced that WNPS "is the best organization to learn about the Green World" locally.

Lifelong passions for learning, science, and the natural world have served Tom well. He began hiking and camping winters and summers with the Boy Scouts in the Appalachian foothills near his home in Glen Ridge, New Jersey, a small suburb 15 miles west of New York. For a science project, he presented babies of five species of turtles, collected with the help of his mom. After one of his family's "Chicken on Sunday" suppers, he reassembled the skeleton. His parents encouraged Tom, an older sister, and a younger brother to pursue whatever interested them.

At Union College in Schenectady, New York, Tom was eager to study geology his first year. Discouraged by a professor unwilling to discuss critical plate theories, he thought about architecture his sophomore year before settling on pre-med, having enjoyed working in hospitals during summers. A botany class his senior year "left a permanent mark" on him, and he still remembers the professor kneeling "in complete rapture over finding some rare specimen in a murky swamp."

Preferring to attend medical school in Montreal instead of Boston or New York proved life-expanding in several ways. After graduating from McGill University in 1959, Tom married Barbara from Newfoundland whom he had met six months earlier. He completed a year's internship at Evanston Hospital, part of Northwestern University in the Chicago area. Influenced by a first-rate surgeon, he chose to do his residency in Madison, Wisconsin. When he switched to orthopedics after a first year of general surgery, Tom was drafted on a technicality. The Berry Plan granting deferrals to medical students did not allow changing paths.* During 1961 to 63, he was stationed as a captain in the U.S. Army Medical Corps at a remote Sierra Mountains base in Herlong, California. At an elevation of 4,000 feet and some 60 miles NNW from Reno surrounded by majestic peaks, it was a memorable introduction to the western sagebrush desert landscape. Tom and Barbara knew they wanted to stay in the West, preferably near water. On the invitation of another Wisconsin surgeon already settled in the Pacific Northwest, Tom joined an orthopedics practice in Everett in 1966.

In 1977, Tom discovered the one-year old Washington Native Plant Society. He was enthralled when on field trips with Dr. Art Kruckeberg. It was on an August 1979 plant inventory with Art on the north slope of Mt. St. Helens that Tom realized he needed to do some serious studying if he was to be of any assistance. To that end, he was halfway through a four-day wildflower course at the Cispus Environmental Learning Center twenty miles north of Mt. St. Helens when she erupted the following May. He also had traveled to Nepal earlier in 1980 to do a plant survey on Mount Kalinchok near the Tibetan border with the Oregon Native Plant Society. The co-sponsoring University of Katmandu professors were on strike so the trip became more of an unforgettable trek than plant tutorial. Hitting the books again back home, Eugene Kozloff's detailed photos helped Tom connect native plant names with their botanical features.

Upon retiring to La Conner in 1995, Tom continued to bone up on favorite subjects: botany, birds, and geology. In one study group, a dozen or more participants started on page one of Pojar in January and finished the last chapter in time for the wildflower season. He tutored himself on lichens and sedges. Carrying on his long interest in birds dating back to ninth grade when he bought his first bird book, he met with a group of 40 other birders for weekly study walks over three years. When in Everett, Tom had been an advocate for sustainable forestry practices for the Pilchuck Audubon chapter after studying with Bonnie Phillips Howard, the author of a prescient Snohomish watershed analysis report in the early 1980s. In La Conner, Tom transferred to the Skagit Audubon chapter and served five years on their board as a representative at large. Tom also took geology classes accredited by the community college.

Early on, Tom became fascinated with primitive plants like ferns, clubmosses, and especially mosses. During a class at the University of Washington, he studied on the moss-rich trail of the Perry Creek Natural Research Area with professor Elva Lawton who was semi-retired and in her mid-80s at the time. From his collection of specimens and notes, Tom wrote and illustrated a beginners' guide to the most common local mosses: *Mosses to Find in Western Washington* was self-published in 2001.

In 1995, Tom started to attend Salal Chapter programs at Skagit Valley College in Mt. Vernon. The Salal Chapter had formed in February 1991 and operated with three *pro tempore* leaders until Art Kermode was elected first co-chair that fall. Art remembers Tom sitting quietly, replying a simple "right" to most discussions. The chapter had had four chairpersons in its first few years and the

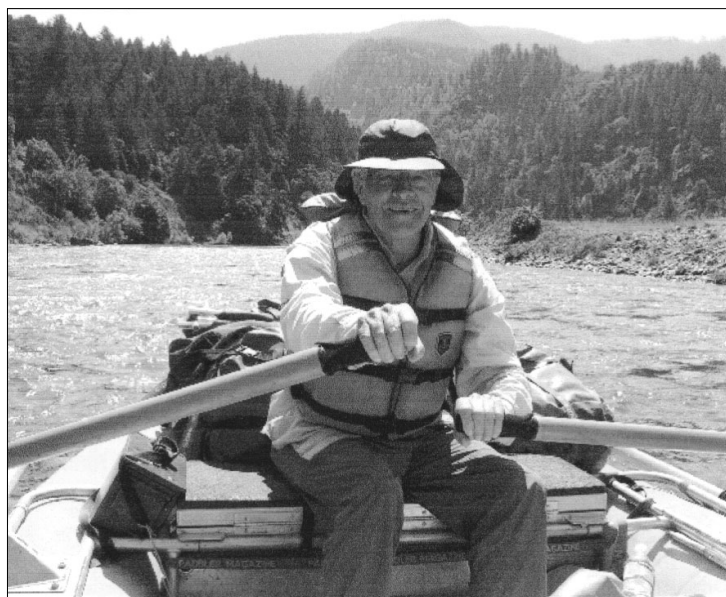
current chair needed to step down at the end of her third term. Art's wife, Helen, one of the *pro tempore* trio, recommended that Tom become the new leader. Tom energetically took over in September 1996, excited for the opportunity "to organize a program of meetings and trips that would teach me, and all those willing to exert effort and time, about the Green World."

Without competition, Tom served as chair for eight years through 2004. His nominating letter states that he had a "significant impact" on the chapter's organization, growth, outreach, and community ties. The first Saturday of the month meetings became an immersion experience with a lecture, discussion and field trip led by various guest experts that focused not only on native plants, their habitats and reproduction but also astronomy, the geology, glacial history and soils of the region, forestry practices, estuarine and riparian restoration, flora-fauna co-evolutions, and gardening. As chair, Tom arranged the programs, led field trips, taught taxonomy and plant identification classes, staffed WNPS booths at Darrington Wildflower and Upper Skagit Bald Eagle festivals, and coordinated the chapter's sponsorship of the annual WNPS Study Weekend in 2000. The community has learned from him about wildflowers, birds, invasive species, logging impacts, and indigenous practices at presentations, classes and chance encounters.

Moreover, Tom encouraged members to pursue their own interests, whether it was gardening, propagation and plant sales, plant walks in parks or on adventurous hikes, educational outreach, fieldwork, or writing. In 1995, the Salal Chapter began an association with the W.S.U. Research Station and the Master Gardeners in Mt. Vernon. Since then, members have designed and installed a multi-zoned native plant demonstration garden. Sales of native plants support that project. The chapter newsletter, *The Potent Teller*, added publishing online in 1999. Tom's column, "Chairman's Thoughts," introduced readers to a vast array of topics and ideas, intertwining and cross-linking concepts as disparate as immigration policies and xenophobic attitudes to clear-cutting forests and exotic invasive plants. At every opportunity, Tom would stress the importance—yea, the necessity—to connect with those in the decision seats to express one's opinions and to vote as if the Green World depended on it.

For the present, Tom keeps busy learning and doing. He will serve as chapter botanist a while longer. He looks forward to the concentrated learning curve provided by study weekends and botany intensives held in various habitats across the state sponsored by WNPS, the North Cascades Institute and others. In January 2005,

La Conner's mayor appointed Tom to the city's Parks' Commission. Admitting he mostly infused enthusiasm to "get stuff done" like the renovation of Pioneer Park, he has accepted a second year's term. The La Conner Regional Library Board, hoping to attract more male readers, asked Tom to advertise the formation of a new book club in 2005. Six men and six women in their 30s to 80s now meet regularly and help stretch understanding and imagination in each other.



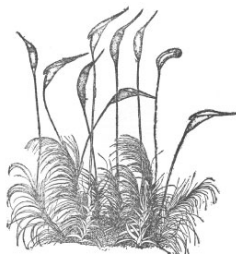
Tom Corrigan rafting on the Rogue River in 2004. PHOTO: KIMBERLY CORRIGAN

Boats and travel are Tom's other lifelong passions. He built three while in high school. As his three sons and one daughter were growing up, the family explored Pacific Northwest waters on a 30-foot cruising sailboat when not on hiking and camping vacations. They entered several races including the Swiftsure classic. Canoes replaced the sailboat in the 1980s. The Sea Scouts benefited when Tom donated a 22-foot sailboat he had designed and built. This May, he plans to launch a 22-foot ketch as soon as finishing touches are completed. Tom and Barbara enjoy traveling, especially if to a bird festival or interesting floral habitat.

In closing remarks his nominators said, "because of Tom's leadership, contributions, and extensive contacts, the Salal Chapter members were introduced to many fascinating plants, habitats, and ideas that we otherwise might have never known." Just as Tom introduced his chapter members to the vast diversity of nature, he hopes the WNPS board "will commit to a long-term plan to

encourage diversity in our organization and reach out to people of all colors and ethnicities to join our Society. We need the help of everyone to create an environmental ethic that is relevant and inclusive to achieve our goals with the cooperation of all people.” If asked how WNPS might accomplish that global aim, Tom would no doubt remind us that we each have a responsibility and that our individual and community voices and votes are necessary to make positive changes. The Green World and WNPS thank Tom for his life’s philosophy and example: be hopeful, cooperate, study the science AND take action.

* The Berry Plan, sculpted in 1954 by Assistant Secretary for Health Affairs, Dr. Frank B. Berry, governed the Armed Forces Reserve Medical Officer Commissioning and Residency Program. While U.S. armed forces enjoyed a peaceful lull between Korea and Viet Nam (1954 to 1963), the Direct Commission still sought medical, legal, technical, and ministerial graduates to serve the enlisted forces and their dependents. Under the Berry Plan, physicians, surgeons and dentists were offered financial aid and duty deferral thereby allowing their residencies to progress uninterrupted—with one hitch: switching specialties was not allowed as that extended time in training and delayed professional payback obligations.



Don Knoke

In recommending Don Knoke as a 2006 WNPS Fellow, a nominator wrote that Don’s “willingness to donate his time and energy to WNPS, the University of Washington Herbarium, the Nature Conservancy, the Audubon Society—and probably to other causes I am unaware of—is outstanding.” Indeed! Don’s fifteen years of enthusiasm, knowledge, legendary stamina, and dedication since joining WNPS in 1991 have inspired many and benefited WNPS in lasting ways.

Don believes WNPS is moving in the right direction and has contributed significantly to the knowledge about and appreciation of our state flora. Thanks to his efforts beginning in late 2001, visitors to WNPS’s web site may now find over 530 plant lists for specific sites and hikes, arranged by county—over 100,000 plant entries in all! Not only did he convert 25 years of lists from members into a computer database, he adds new entries and updates existing ones from his own forays and from the continuing input of others.

Whenever the annual WNPS Study Weekend has convened east of the Cascades, Don has led a hike to rave reviews (Ellensburg 1996, Winthrop 1999, Snoqualmie Pass 2001, Dry Falls 2002, Richland 2003, Columbia Gorge 2005). He has participated in the high-country backpack field trip every year except one since 1994, often with son Stu along. Don has enjoyed Botany B.C. and Botany Washington excursions, often as a hike leader. In 2002, Don joined other WNPS members for baseline flora surveys on lands being purchased by The Cascades Conservation Partnership to create continuous corridors of wilderness from Stevens Pass to Mt. Rainier.

His keen abilities to name or key just about every plant encountered has also benefited the U.W. Herbarium. In 2003, Collections Manager David Giblin handed Don a roster of the plants in the herbarium from Kittitas County and asked him to find a specimen of every plant not recently documented. To date, Don has collected about 200 species, including a few not previously reported for the county, though many remain to be located. Last winter, he started writing taxonomic plant descriptions for the herbarium’s Image Collection, featuring photos by Ben Legler et al., while during the winter prior he notated habitat and range for the 1,000 species then posted. (See the Image Collection web site at <http://biology.burke.washington.edu/herbarium/imagecollection.php>.) Now with 2,000 species and more being added, he’s not sure that he’s gaining on these tasks. Missing only one foray since 1997, Don has been a vigorous volunteer on the herbarium’s



Don Knoke on the 1997 U.W. Herbarium Foray to the Blue Mountains. PHOTO: ALAN YEN

annual collecting weeks to locations in Okanogan, Idaho's Bitterroot Mountains and Mt. Rainier. In 2004, Don assisted in a joint effort between the herbarium and The Nature Conservancy (TNC) that nearly doubled the species documented at Ebey's Landing Preserve on Whidbey Island (from 115 to 221 species). Don also offered his planting skills when helping TNC with its reintroduction program for golden paintbrush, the state threatened *Castilleja levisecta*.

David Giblin is also putting aside ongoing foray collections of Asteraceae, Don's favorite plant family, for him to identify and catalog. Some in that family, *Artemisia* (Mugwort, Sagebrush, Sagewort, Wormwood), still have Don guessing. In the family Apiaceae, Don confesses *Lomatium* (Biscuit-root, Desert-parsley) is "fascinating" and "can be challenging." One plant he found near the Cle Elum Ridge is possibly a new species of *Lomatium*. Of the experts examining the specimen to date, no one can name it and it does not appear to be in any key thus far published. Just this May, Joan Frazee asked Don to come check out another puzzling *Lomatium* near Leavenworth.

To share his passion with folks outside of WNPS, Don has prepared a display of 100 fresh wildflowers and led field trips at the annual Washington State Audubon Camp-out at the Boise-Cascade campground on the north fork of the Wenas Creek since 1996—assuming a labor of love that Mary Fries of WNPS had volunteered to do for years. Don and his wife, Ruth, also help monitor the Vredenburg Bluebird Trail for the Yakima Valley Audubon Society.

So how did this respected botanical expertise evolve? Born into a third-generation Timothy hay farming family in Thorp, Washington in 1920, Don was ever curious about the plants and wildlife around him, especially birds. An uncle who taught biology at Bellevue High School first took Don, age 9, to Hayward Hill near the farm to admire the spring flowers, a trek that remains an annual treat to this day. Don has discovered 270 species on Hayward Hill.

Don attended Central Washington University (then known as Central Washington College), playing clarinet in band and orchestra and alto sax in a dance band. He transferred to the U.W. in his junior year in 1940, and majored in chemistry. In the spring quarter of 1941, Don along with two chemistry students and an oceanography professor shipped to Bristol Bay for the U.S. government aboard the Coast Guard cutter *Red Wing* to measure water salinity, dissolved oxygen, temperature and nitrites where Japanese boats were harvesting salmon.



Don Knoke and others on a collecting trip to Swakane Canyon. Left to right: Peter Zika (lying down), Don Knoke, Richard Olmstead, Steve Hahn, David Giblin, and Ben Legler (and dogs Sammy and Pico). PHOTO: BEN LEGLER

Returning to the U.W. in the fall quarter, Don was drafted two weeks after Pearl Harbor. To defer service and graduate uninterrupted, he had to take extra classes plus attend summer school his senior year. Having met all chemistry requirements, he heard of a summer camping trip called "Botany 135" that would complete his needed 15 credits—taught by Dr. C. Leo Hitchcock. They camped beside three rivers in Eastern Washington, keyed plants six days a week, and played touch football or softball in the evenings. Don had coaxed another student into taking the course: Ruth later became his wife.

Don graduated magna cum laude, earning a Phi Beta Kappa key, and enlisted in the Navy. From 1942 to 46, Don served as a DC-3 pilot transporting people and cargo from Point Barrow to San Diego and points in between. While stationed in Olathe, Kansas, he keyed out 175 local flora with help from a library book. Later at Sand Point Naval Air Base in Seattle, Don would help Hitchcock at the U.W. between flights.

Don eventually assumed management of the farm first tilled in 1881, and raised one son and three daughters. Don tells how he and his dad grew corn for U.W. genetics professor Hershel Roman during those first three years after the Navy. With the help of Hitchcock and his colleague, Clarence Muhlick, they planted an experimental acre. Jim Nishitani and a few other U.W. botany students stayed with the Knoke family in order to cross-pollinate the corn varieties by hand and analyze the results in a lab in their basement.

To keep up his botany skills, Don would key out local plants using Peck's *Manual of the Higher Plants of Oregon*

until the Hitchcock & Cronquist volumes were published. He even found a few noxious weeds new to the county. In June 1949, Don teamed with Hitchcock and Muhlick on a two-week trip to collect *Lathyrus* (wild pea) from Oregon to San Diego and east to Utah and Arizona for a monograph on the genus later published in 1952. One species, found close to the north terminus of the Bright Angel Trail, forced them to cover 13 difficult miles, descending from the north rim of the Grand Canyon and scrambling up the south, because their ride waited on the other side.

Another tie to “Hitchy” was bird hunting. After Botany 135, Hitchcock came to the farm every fall for pheasants, gray partridge and California quail, even while Don was in the Navy. Of Hitchcock, Don remarks “he was pretty handy with a 12-gauge shotgun.” He rates his own first hunting efforts with homemade slingshots at age 8 as “not effective.”

Target rifle shooting was quite popular after World War II. In 1949, an Ellensburg-area group formed the Kittitas Valley Rifle and Pistol Club, an affiliate with the National Rifle Association (NRA). From 1952, Don was secretary for 10 years, then secretary-treasurer until 1991 when he and Ruth started spending winters in Coupeville. As secretary, he organized and reported on many NRA-sanctioned tournaments, including three Washington State Pistol Championships. Appointed as a NRA Referee in 1952, he officiated at events until 1980 and remains a life member of NRA.

It was a 1991 WNPS hike to Steamboat Rock led by Mae Morey announced at a Kittitas Audubon meeting that lured Don into becoming a member. Nearly fifty years after the summer course with Hitchcock, Don joined WNPS and swears he knew just a little about identifying plants. His passion and persistence have earned him high acclaim for his avocation since retiring from the farm in 1994. Besides leading hikes, speaking at meetings, and contributing to the *Sagebrush Sentinel* newsletter, Don has served as WNPS’s Central Washington Chapter’s secretary-treasurer since 1996 and field trip chairman since 2002. His articles on *Eriogonum* and *Phacelia* of central Washington were published in *Douglasia*, as have been reports on Study Weekend hikes he has led or attended. During winters now on Whidbey Island, Don participates in Salal Chapter activities and gave a slide presentation on Hart’s Pass.

When the topic of his nearly 86 years yet spry pace and busy schedule comes up, Don chuckles and says he didn’t “recognize who all the old folks were at his 50th high school reunion—and that was 18 years ago!” As to

his future, Don says, “When you’re my age, you shouldn’t plan too far ahead. I just hope to continue what I’m doing for a few more years.” So do we, Don, so do we.

Richard Tinsley

A boy’s love for Western Washington’s forests has been a boon to the success of the Central Puget Sound Chapter (CPS). In naming Richard as a 2006 Fellow, the WNPS Board honors his nearly ten years of “steadfastly staffing the WNPS book sale booth at chapter meetings, stewardship classes, garden



Richard Tinsley. PHOTO: VICKI WESTBERG

shows, fairs and festivals, fundraisers” including plant sales and special events. “This entails an unromantic but extraordinary effort carting” crates of books from storage to venue to home and back again over and over. “His practical contribution has provided not only a significant source of funding for the CPS chapter (over \$55,000) but has also made information about native plants readily accessible” to members and the public alike.

But that is not his only contribution. Richard has donated over a thousand hours to restore Paramount Park Natural Area, Thornton Creek Watershed, and now South Woods in his city of Shoreline. He has missed only two King County native plant salvages since 1996. He’s routinely a volunteer at ivy, blackberry and Scot’s broom removals. For six years, he led “Sunday at One” plant identification tours for the Arboretum, cheerfully continuing 3-5 hours beyond the one-hour limit if anyone wanted to. He stepped in to coordinate walks for the Darrington Wildflower Festival when the local organization was understaffed. To help members stay informed, he has posted key issues and resources on the WNPS list-serve and collected signatures for environmental ballot measures. Richard has volunteered at many chapter events, including helping Mike Marsh and others revive the CPS annual spring plant sale in 1998.

The middle son of seven children, Richard was born in Iola, Kansas in 1944. At age seven, the family moved to

Federal Way. His dad's idea of fun was to drive through the mountains. Richard, instead, fell in love with walking in the hemlock, cedar and Douglas-fir woods around his home. The family returned to Kansas because an older brother was too sick here. His mom grew roses and vegetables. Richard remembers digging, transplanting and tending to a box turtle.

In high school, Richard decided he wanted to work outdoors. He worked a year before starting college and another year during his college studies before graduating from the University of Missouri in forest management. In 1969, he returned to a stunned, SST-contract-cancelled Seattle. In the "Will the last person leaving Seattle please turn out the lights" economic downturn, there were no job openings in forestry. He joined the U.S. Post Office, handling mail at the main airport terminal, and moved into building maintenance. Today, he's primarily responsible for painting out graffiti on blue and olive mailboxes—one step ahead of city law requiring immediate removal and one step behind taggers.

Richard continued his environmental studies in 1970 by taking a class on wildflowers at Highline Community College, relying on Gilkey's text. He also learned outdoor survival skills from the Mountaineers. Although WNPS formed in early 1976, he didn't hear of it until 1992 when enrolled in Sarah Gage's class on native plants at Edmonds Community College. He joined WNPS and later signed up for the first Native Plant Stewardship training in 1996. Steward coordinator Tom Johnson asked Richard to think about taking over the sale of books, sweatshirts and mugs then managed by Scott Moore. Ever since, Richard has handled books sales for the CPS chapter. In 2005, time off for a ruptured Achilles' tendon in February and surgery to implant six stents after a small heart attack in April has been the only interruption to his dedicated service.

When Richard moved to the Shoreline area in January 1991, he noticed a local woodsy but overgrown park that "could be nice." Calling King County to see if there were any plans for improvements, he learned that the upper area was to be converted into sports fields and a skateboard park. On the table was a 1989 open space acquisition request to King County by the Paramount Park Neighborhood Group (PPNG) to purchase the lower, boggy area. Meanwhile, the PPNG had filed and won a legal appeal in 1990 to stop the owner's bulldozing and filling that would have degraded the wetland. In early 1991, Richard joined the neighborhood group that persisted until the county finally purchased the 3.5 acres of wetlands in 1993. The city of Shoreline assumed

ownership of the Paramount Park Natural Area from King County after the city incorporated in 1996.

Richard, as a member of the PPNG, helped with the cleanup and restoration efforts that eventually led to a King County Water Works grant in 1998. Two ponds, connected by a stream and with a drainage outlet to Little's Creek in the Thornton Creek watershed, were created. The wetland system now supports chorus frogs (Pacific tree frog, *Hyla regilla*). In a subsequent creek inventory, Richard says Shoreline declared it the best natural waterway they had, even though it was all man-made.

Janet Way, co-founder of the PPNG, "roped" Richard into joining the Thornton Creek Watershed Management Committee in 1997. The committee conducted studies for three years and published a watershed characterization report in November 2000, recommending restoration plans to Seattle and Shoreline governments. Seattle approved a capital improvement program for its portion and moved ahead. Janet is now a Shoreline councilwoman.



Richard Tinsley discusses the restoration effort at South Woods in Shoreline. PHOTO: VICKI WESTBERG

Richard has stayed involved and continues to serve on the watershed oversight committee created a couple of years ago that meets every two months.

A Shoreline parks bond approved by voters this May will add 12.6 acres to the three acres acquired last December to complete the city's protection of South Woods, an urban forest tract adjacent to the southern perimeter of Shorecrest High School. Richard has been part of the eleven-member preservation committee that promoted

the bond, is tackling the invasive plants, and planning the woodland's restoration. He is thrilled to have found a lone Pacific yew, amelanchier, and patch of rattlesnake plantain amongst the weeds. The 2006 park bond also funds the purchase of Kruckeberg Botanical Garden's four acres. (See www.savesouthwoods.org for more information.)

Richard was excited to learn about the native plant salvages run by King County's Department of Natural Resources in 1996 when the first class of WNPS stewards visited the holding nursery in Redmond. Greg Rabourn has led the three fall and three winter salvages since 1997. Greg says "Richard's amazing! He's missed only two salvages since 1996 (when recovering in 2005). We have a standing joke around quitting time when it's dark and we're packing up: 'It's time to go get Richard.' I have to go deep into the woods to drag him out. I'd like to put a tracking bracelet on him!" On homeowner days when folks may collect for themselves, Richard helps with winter twig identification and reminds people to dig some for the county and leave the Scot's broom alone. Many of Richard's rescued natives have gone to Paramount Park and the CPS plant sales. In December 2002, King County Executive Ron Sims declared Richard along with Janka Hobbs, Val Moore, Rick Thompson and Janet Wall (all WNPS members) as Earth Heroes for their exceptional salvage and ecological efforts.

From his first WNPS Study Weekend May 6-8, 1994, at Girl Scout Camp Arrowhead in the Columbia Gorge, he remembers the bargain price of \$25 for the weekend and Joan Frazee's cinnamon raisin bread French toast. It was there that state forest botanist Laura Potash recruited WNPS members to lead wildflower walks at the new Darrington Wildflower Festival in June. Richard led walks every year for the 12 years the festival was held. For the final three years, he stepped forward to coordinate the short walks and overnight hikes, recruiting WNPS stewards when the festival's staff was shorthanded.

When at Edmonds Community College in 1992, Richard heard of an opportunity to study with Dan Hinkley (of Heronswood fame) at a branch campus in Japan. The botany class fell through. Instead, Richard and twenty others flew to Kobe for a class in Japanese culture during the fall quarter. Upon offering to host a traditional foods potluck in his spare quarters, Richard was asked to cook a meat loaf. Without an oven, he made his mom's recipe of two parts burger, one part sausage, onion, crackers and egg in an improvised double boiler made of a pan steaming in a skillet of water. The Japanese students asked for second helpings. Several of the Kobe students

visited Edmonds Community College the following year and they stayed in touch for a few years.

Richard applauds the conservation and restoration work being done by WNPS stewards. As to the future, he hopes communities will do a wiser job focusing resources on respecting and restoring their urban forests. He strongly believes that ivy, blackberry and Scot's broom could be eliminated if cities and counties committed to that goal. For example, he points to last year's failed Mercer Island ballot measure to eradicate English ivy. At an ivy pull, one woman groaned that if she'd known how hard it is to get rid of ivy, she'd have voted for the funding.

At home, Richard has brought his beloved Pacific Northwest forest to his backyard. He has three 20-foot tall Madrones, his favorite native plant, two of which were transplanted from the ditch at his Federal Way home. Under a couple of mature conifers, he has planted camas, tiger lilies, trilliums (salvaged), amelanchier, ninebark, ribes, snowberry and ferns. Switching to four 10-hour days at his job, he hopes to have more time to work and walk in his favorite woodlands.

On being named a WNPS Fellow, Richard says he's more of a follower than a leader and spun out a long list of notable others he'd choose. Honored not only for his work on projects, Richard's dependability and dedication humbly serve as a role model and inspiration to all who are fortunate to meet him.

Fred and Ann Weinmann

When you have a duo as dynamic and dedicated as Fred and Ann Weinmann, each chosen as an outstanding individual WNPS Fellow for 2006, where does one begin? What to include and thereby omit? One nominator seemed to have struggled with the same questions. "Each of them has done so much for WNPS, so much for Washington's native plant flora, and so much to educate others that we couldn't get it into a one-page letter," they explained as to why seven pages of documentation were attached.

Fred's replies to interview questions come out as "we," and he apologizes that "it is not possible to distinguish some of our joint activities. Ann and I work on all aspects of them together with no one person being the I of it." Ann unequivocally names Fred as her closest friend and essential project partner. When Fred says he has "been married to WNPS since 1976" that means so has Ann.

WNPS has truly been a beneficiary of their combined and individual commitments, initiatives, professional skills and gifts since they joined with the first 100 charter members.

Before WNPS

A *Douglasia* profile of the couple in 1999 let readers in on their roots, romance and some of their accomplishments up to that time. That article opened with a bit of WNPS trivia: Ann and Fred met while both were taking Dr. C. Leo Hitchcock's class on Northwest flora at the University of Washington. They married in 1968. Not wanting to portray Hitchcock here as cupid (or cross-pollinator), it seems to be a fortuitous coincidence that, of this year's five WNPS Fellows, both the Weinmanns and Knoles wed after studying botany with him.

Ann grew up locally. She graduated from Sammamish High after her family moved from the Matthews Beach area of Seattle when she was six to a 40-family community in rural Bellevue called Hilltop. "Exploring the woods, trekking into the Coal Creek valley and riding on horseback alone to Cougar Mountain via the powerline" are fond memories of her youth.

Two neighbors, her father's love of rhododendrons and family camping trips cultivated Ann's early interest in nature. She worked for one neighbor, sorting and helping assemble pods and other dried materials collected from around the world into elaborate dried floral arrangements. Vic Scheffer, another neighbor, expanded her knowledge of plants and introduced her to birds.

Majoring in biology with an emphasis on botany, Ann graduated from Whitman College in 1966. Her key professor, Edward Anderson—a cactus expert—became mentor and friend. She babysat his children and tended his peyote collection in the attic of the biology building. She continued her study of botany for two quarters at the U.W. where she met Fred in Hitchcock's class. Once their son started school, Ann researched hemophilia defects as a molecular biologist at the Puget Sound Blood Center for 25 years.

Fred was born amidst the farmlands near the south-

central border of Minnesota in East Chain, a tiny township of 350 people. Though his small high school has been demolished, Fred has remained best friends with Mike Wolter, a retired California fish and game officer, ever since playing football and basketball there. They still paddle canoes together on occasion.

As a biology major at Hamline University in St. Paul, Fred took his first botany class during his junior year. Prior to this, Fred's primary interest in the natural world had been to explore the lakes and streams of northern Minnesota and southern Ontario by canoe. That botany class proved pivotal in several ways: Fred started a two-year Master of Science in botany at the U.W. in 1966, met Ann in Hitchcock's class, and became even more enamored with water. The *Douglasia* article told how his "fascination with the sea led to scuba diving, marine algology, and research for a master's thesis on Amchitka



Ann Weinmann on *Carex* field trip.

PHOTO: ALAN YEN



Fred Weinmann in the Siskiyou 2002.

PHOTO: ALAN YEN



Dr. Fred Weinmann examines a sedge closely.

PHOTO: PEG PEARSON

Island, Alaska.” Fred also was a teaching assistant for the botany department from 1966 to 1967.

Fred says that his “commitment to the science of environmental protection began in 1969 when the word *Environment* was on the front cover of Time, Newsweek and even Fortune magazine.” His more than thirty-years involvement with wetlands and botany began at a critical time when natural resources management was significantly changing at all levels.*

In the nascent Environmental Engineering program at the U.W., Fred pursued his doctorate in ecology and water quality, emphasizing impacts to the health of intertidal marine communities. He worked as a marine botanist for the Washington Department of Natural Resources in addition to his research. After receiving his Ph.D. in 1973, Fred launched into environmental planning and wetland assessment, delineation and restoration for federal, state and private projects. The *Douglasia* article relates that, when the federal government began regulating wetlands in 1974, no one else at the Seattle Corps of Engineers knew much about plant life except Fred so he became the “wetland expert,” partnering botany with his ecology work.

Fred’s career began with one year as a marine botanist for the Washington State DNR in 1972 while completing his Ph.D. Eleven years with the Seattle District of the U.S. Army Corps of Engineers followed, first as a wetland ecologist and planner and then as supervisor of the Estuarine Studies Unit from 1978-85. After working in 1986 with the Puget Sound Water Quality Authority, Fred returned to the Seattle Corps as Chief of the Environmental Resources Section. Fred closed out his career with the Environmental Protection Agency, functioning as Region 10 Wetland Ecologist for five years and, finally, as National Wetland Ecologist from 1995 until his retirement in 1998.

After 15 years of scientific analysis and watershed planning, Fred devoted his final 15 years to developing workshops and classes in botany and wetland identification, ecology and management. Whether to university students, government staff, tribal nations, or local groups, he teaches enthusiasm and solid science equally. His academic connections have included being on the advisory board for the U.W.’s Wetland Ecology and Management Certificate Program. Fred’s career also found him organizing, chairing, presenting or participating at numerous wetland symposia and workshops. His work is published in numerous technical proceedings.

Nationally, Fred participated in drafting Clean Water

Section 404 implementation guidelines for the Corps (1977) and worked on developing and reviewing wetland assessment and functional values procedures over the years. Regionally, he led the organization of a workshop on wetland restoration (1992) and co-planned a technical conference on mitigation, creation and rehabilitation (1986). Fred was a member of one national and three regional panels (Northwest, Intermountain and California) that developed a comprehensive list of plant species found in wetlands. In 1980, he helped establish the Society of Wetland Scientists. He served as program chair for the PNW chapter’s annual meeting in 1991, as chapter chair 1995-96, and as the national meeting’s program coordinator in 1984.

WNPS and the Weinmanns

It was a note to Fred’s Corps office from Dr. Art Kruckeberg in the spring of 1976 that introduced Fred and Ann to WNPS. They immediately joined as charter members. Shortly after, a mimeographed postcard arrived announcing the second WNPS field trip of the summer to Harts Pass in late August. Ann and Fred joined 20 others as U.W. professor Melinda Denton led the hike. “Barky” (Dr. Julian Barksdale) filled them in on the area’s geologic history. On nearby Slate Peak, they were fortunate to see a rare *Dryas octopetala* and find a few fossils. On the way home, several in the party stopped to help Joe Witt collect seeds from the lower Methow valley for the U.W. Herbarium. Ann and Fred were hooked.

When looking back over the Weinmanns’ 30 years of membership, it is readily apparent that WNPS has benefited greatly from the synergism of their marriage, careers and natural world interests. Fred clarifies his contributions by explaining: “I have participated in the administrative aspects of WNPS because it is important but difficult to find enthusiastic volunteers. On the other hand, I have led field trips, developed checklists, and conducted the Washington State vascular plant checklist project because it is what I do.” While an enumeration of their WNPS activities is impressive, please take note that the Weinmanns have shared their energies and talents with a dozen or so other organizations and endeavors for all thirty years. We are talking thousands of hours for WNPS and an unknown but likely greater number of volunteer hours elsewhere!

One criterion to be a WNPS Fellow is to make significant changes to the Society. Fred has been an innovative leader for a decade. Having just completed two years as state

president, he guided the board through the challenge of crafting a strategic plan prioritizing invasive species and the sensitive ecosystems of Garry oak prairie and shrub-steppe. Governors Locke and Gregoire declared three annual Native Plant Appreciation Weeks. As president, he initiated and is closely involved in an ongoing effort to document the state's invasive species at the U.W. Herbarium. Fred was elected as a WNPS Director in 2001, Vice President in 2002, and President 2003-05.

He remains a WNPS Director and volunteers on the Editorial Board that oversees the publication of *Douglasia* and special print projects. Fred's active support in 2002 to create paid positions for managing and layout editors after 26 years of relying on volunteers has resulted in a smooth and efficient process. In a Financial Advisory Committee meeting, he proposed the production of a limited edition botanical print and a native plant calendar, due for 2007, to boost WNPS revenues and broaden visibility.

At the chapter level, Fred was elected Central Puget Sound (CPS) Chapter Botanist in 1997 and Chair 1998-2000. For the following two years, he remained active on the Board as Immediate Past Chair and Board Member Emeritus. As an advisor to the WNPS stewardship program since its inception in 1996, he has taught sessions and led field studies. Both Fred and Ann have supported the annual CPS plant sale by donating salvaged and propagated natives along with their horticulture knowledge and helping hands. Fred and Ann were education committee members and convinced CPS in 2000 to staff an outreach booth at Issaquah Salmon Days each year. Since moving to Port Townsend three years ago, Ann and Fred have joined the Olympic Peninsula chapter, leading hikes and arranging Appreciation Week activities.

It would not be field trip season without Ann and Fred as guides. Of course, wetlands are on their hit list. Both have led hikes for chapters and at study weekends throughout the state. In 2002, Fred co-led four of the six flora surveys WNPS collaborated with The Cascade Conservation Partnership, inventorying for the first time the privately-held lands that were soon to be publicly protected. Fred and Ann coordinated the CPS Chapter's sponsorship of the 2001 WNPS Study Weekend and 2003 Botany Washington, both at Hyak.

A fruition of their many hikes is their contribution to WNPS's plant lists. The 530 plant lists in the database converted to digital and maintained by Don Knoke are available to everyone online. Living in Jefferson County for just three years, Ann and Fred have made about 150

trips to inventory the plants around them, amassing a county list of 600 species. Their teamwork has originated many new lists for WNPS and amended others.

Fred and Ann both promote understanding and appreciation of native plants with their many published articles. For CPS, Fred has written articles, hike-of-the-month descriptions, hike flora reports, and book reviews. Since 1990, *Douglasia* has printed 30 pieces written by Fred, including articles on botany, biographies, book reviews, Study Weekend reports, WNPS goals, and his president's messages cheering WNPS successes and encouraging involvement.

Conservation

The Weinmanns were behind the lasting legacy of the 116-acre Hazel Wolf Wetlands Preserve. As initial advocates for preservation in the early 1990s, they assisted the King County Office of Open Space in securing a \$2-million grant from the Washington Wildlife and Recreation Program to buy what was known as Saddle Swamp on the Sammamish Plateau. Fred provided technical expertise. Ann represented citizens in the land acquisition negotiations throughout a successful but lengthy legal battle to ensure maximum public access to the preserve. She fostered stewardship through the Youth Education Program at nearby Skyline High School. Ann was also involved in collecting and maintaining data, such as plant lists and amphibian surveys. Fred teamed with three others to win a \$1.7-million grant to purchase an additional 100 plus acres that includes 1,200 feet of shoreline on Beaver Lake. This Beaver Lake Natural Area Preserve expands the Hazel Wolf Wetlands Preserve.

As a tribute to her tenacity, the main trail is named after her—Ann's Trail. The Cascade Land Conservancy owns and manages the preserve. Ann is the keeper of original documentation showing how the land went from private ownership into conservation easement and public access. The preserve's establishment is recognized as a model for future preservation of natural resources threatened by expanding urbanization.

The Weinmanns helped advance the creation of the Cougar Mountain Regional Wildland Park and Tiger Mountain State Forest in several ways. Through their life membership in the Issaquah Alps Trails Club, they led countless native plant walks to broaden public appreciation and support. Fred served on the trails club board and Ann volunteered as hike coordinator

for years. Since first acquisitions in 1983, the Wildland Park has grown to over 36 miles of trails on 3,082 acres, and is now King County's largest park. Tiger Mountain State Forest, with 80 miles of trails for hiking, mountain biking and horseback riding on over 13,000 acres, joins the Wildland Park in the Mountains to Sound Greenway corridor of wilderness. Having prepared species lists for these regions, the Weinmanns later co-authored a guide book with Harvey Manning.

Within the Cougar Mountain Regional Wildland Park, Fred and Ann worked tirelessly to restore a 1920s coal miners' baseball field into the Red Town Meadow of native species. From 1995 to 2003, Ann helped coordinate planting and maintenance work parties. She propagated and grew many plants for the restoration effort. With a WNPS stewardship grant from the CPS Chapter, educational signage was installed.

The restoration of the Hylebos watershed, which includes 18 square miles, 35 stream miles along three main tributaries, 250 acres of wetlands and dozens of lakes from Federal Way to Commencement Bay, was one of King County's first basin projects in the late 1980s. Contributing both professional and personal time, Fred assisted in the assessment and restoration efforts, particularly for the Hylebos Wetlands. Fred assisted with another conservation success at Spring (aka Otter) Lake Bog near the remnant rocky bald of Echo Mountain on the south side of Tiger Mountain. Fred was also involved in protecting Rattlesnake Ledge five miles south of North Bend, which has a notable diversity of flora due to the convergence of many soil, water and altitude conditions.

In a new Olympic Peninsula chapter project, Ann and Fred are actively involved in restoring the unusual plant communities of the Point Wilson strand at Fort Worden State Park. They both are on the board of directors of the non-profit Friends of Old Fort Townsend State Park. As the secretary-treasurer, Ann has been leading walks

and doing a flower-of-the-month poster for park reader boards to educate the community about native plants. She and Fred often lead trail maintenance and invasive species removal work parties. Encouraging conservation through other venues, both Fred and Ann teach plant identification in classes and field study at Port Townsend Marine Science Center.

Research

Besides generating plant lists from their many hikes, Ann and Fred have assisted the U.W. Rare Care Program in monitoring the state's Natural Heritage Program's rare and threatened native plants. In Jefferson County, their frequent forays have discovered several new locations of rare species. They also collect voucher specimens for the U.W. Herbarium, both of native plants and, under a current initiative, of invasive species.

Through his work, Fred led two major vascular plant checklist projects: a King County checklist of 1,174 species published in 2000 and a preliminary state list of 4,000 species in 2003. Ann and Fred's list for the Issaquah Alps assisted with their protection as parklands. That list also served as the basis for Ann and Fred's co-authorship with Harvey Manning in 1995 of *The Flowering of the Issaquah Alps*, a comprehensive inventory

of plant species located in and around Grand Ridge and Cougar, Squak, Tiger, Taylor, and Rattlesnake Mountains and along streams flowing from these areas into the Snoqualmie River, Lake Sammamish and Lake Washington. Noted earlier was his work to collect wetland species data.

Fred's favorite ecosystems are, unsurprisingly, wetlands—particularly salt marshes and bogs. Ann, too, is drawn to the primeval and mystical quality of bogs and wetlands. In 1984, Fred led a research team to publish



Fred Weinmann prepares plant specimens.

PHOTO: DAVID GIBLIN

Wetland Plants of the Pacific Northwest for the U.S. Army Corps of Engineers, Seattle Office. He was a contributing author and photographer in *A Field Guide to the Common Wetland Plants of Western Washington and Northwest Oregon* by Sarah Spear Cooke, Ed., 1997.

Fred's favorite plant genus is *Carex*: "Sedges uber alles!" So it is no wonder that he and Ann have spent an enormous effort to catalog *Carex*. On August 1, 1998, they organized "Carex Big Day." Eight intrepid sedge-heads left Issaquah, searched around Snoqualmie Pass and over Blewett to Stevens Pass and home again: 36-37 sedge species were collected including the rare *C. pauciflora* and *C. buxbaumii*, both on the state's sensitive list. In 2005, he organized and hosted a *Carex* foray on the Olympic Peninsula that included botanists from around the Pacific Northwest. Fred is a co-author of a book in progress on the sedges of Washington and Oregon.

Awards

Because of their persistent efforts on behalf of the Hazel Wolf Wetlands Preserve, Ann and Fred received three important regional awards. They were nominated in 1999 for the state's annual Jefferson Award, a recognition program of the American Institute for Public Service that honors ordinary people doing extraordinary things. Seattle Audubon Society (SAS) honors one outstanding conservation and education effort annually. In June 1999, Ann and Fred received SAS's Conservation Award for their dedication and hard work for the wetlands and for compiling the natural history baseline for the project. As unpaid citizen advocates over several years of negotiations, the Weinmanns had helped draft the creative solutions that united disparate constituencies in saving Saddle Swamp. In May 2002, the Cascade Land Conservancy bestowed its annual Community Service Award on Ann and Fred for their wetlands preservation work, including more than a dozen years involvement with the Hazel Wolf Wetlands.

From the EPA, Fred received the Distinguished Career Award and the Edward Heinen National Wetlands Protection Award (1997). In 1997, he was given a Lifetime Service Award for wetland stewardship from the Pacific Northwest Chapter of Society of Wetland Scientists, who honored him further by establishing the Frederick C. Weinmann Award for Public Service. The National Academy of Sciences invited Fred to provide testimony at a National Research Council Committee's hearing on characterization of wetlands. Fred was honored when

asked to join the administration's Ecosystem Management Assessment Team to contribute to President Clinton's Westside Forest Plan for the Pacific Northwest. Fred was chosen in 1998 as one of nine regional and national experts to serve on the U.S. Army Corps of Engineers Environmental Advisory Board. That group first met in Washington, D.C. in April 2001 to systematically examine Corps programs and make recommendations to the Chief of the Corps.

Future

Ann and Fred will never run out of stuff to do. Volunteering for Habitat for Humanity, Jefferson County Land Trust, Washington State Parks, North Olympic Salmon Coalition, Port Townsend Marine Sciences Center, and Admiralty Audubon Society in addition to WNPS keeps their schedule full but not so much that they cannot squeeze in many, many field trips appreciating native plants. At least they have shut down a ten-year nursery operation of planting and raising several thousand rhododendrons. They kept the species; the hybrids they sold to nurseries or neighbors.

As the Society has remained true to its mission and is very good at what it does, Fred hopes WNPS will continue to support diverse interests in native plants while being firmly grounded in the science of botany. He cautions that our most important commodity is our credible reputation, which is earned through technical and scientific excellence. Wouldn't it be fabulous, Fred muses, "if the right organization or foundation finds out about us. We might get a big endowment—like a million or more! I am sure we would use it professionally, carefully and wisely. With sufficient resources, we would team up with the U.W. to be a full service, one-stop information center on the plants of Washington. That is my dream." Ann's more immediate hope is to infuse into their new community the same interest, dedication, and love of native plants—big and small—that they left in Seattle.

Until then, Ann and Fred will pursue collecting a specimen of every plant in Jefferson County that the U.W. Herbarium needs. Then there's the task of digitalizing 12,000 slides of native plants and wetlands from around the world (they tossed 8,000 when moving). It's Fred's habit to keep his nose in books, some challenging and the remainder diverting, on a weekly basis. They want the Quimper Botany Fellowship study group to stay active.

Continued on page 17

Kah Tai Prairie Preserve

by Dixie Llewellyn, WNPS Olympic Peninsula Chapter

The Kah Tai Prairie Preserve, a small 1.4-acre patch of land, has been the focus of the Olympic Peninsula Chapter of the WNPS since it was first recognized by Gerry Bergstrom in 1986. The Kah Tai Preserve was created in 1987, and 90 different species of native plants were identified, 27 of which were prairie indicator species. Now 20 years later—not even a blink of an eye in geologic time—we are still determined to save this postglacial relic, a splendid natural spot in the middle of Port Townsend.

The Kah Tai valley once consisted of open prairies and estuaries, resulting in prime locations for people, houses, and golf courses; development quickly altered the landscape. In the words of James McCurdy, a native son of Port Townsend pioneer parents, the Kah Tai valley

once contained “myriads of wild flowers transforming the valley floor into a many-hued carpet.” The only reason this remnant prairie escaped development was benign neglect; what remains is a colorful throw rug that we are nurturing and guarding. The prairie is encapsulated within the Port Townsend Golf Course by mowed fairways, greens, and a parking lot. “Many-hued” golf balls intermingle with the prairie natives of blue camas, golden buttercup, purple mission bells, and cream-colored death camas.

To create and protect the Kah Tai Preserve was a battle. It took dedicated plant lovers years to convince the City of Port Townsend, the owner of the property, of its value as a disappearing natural wonder of Port Townsend. Even after the preserve was established, several “accidents” reduced the size of the prairie. A 2-foot deep by 8-foot wide utility trench was excavated through the middle of the prairie, and the golf course road needed to be widened. The Port Townsend Golf Course would have preferred a new putting green to the spot that looks like an unmowed weed patch in the fall. Through volunteer labor and help from the City of Port Townsend, the ditch has been filled with native valley soils that are known to support prairies, including Townsend gravelly loam (TnC) and mollisols, a

deep dark topsoil common in grasslands, steppes and prairies. Regular work parties focus on stabilizing prairie plant communities and diligently battling the ever-changing weedy invaders within this ditch.

Prairie preservation has also included active seed collecting and growing and returning prairie species to impacted areas. The City has mowed specified shrubby sections of the prairie since 1997. Even though the shrubs are mostly native, they are not the desirable species at the prairie. Ongoing projects include garbage and golf ball collection, and weeding thistles, nonnative grasses, California poppies, tree lupine, and Scot’s broom. A rusty car in Port



Camas flourish after a controlled burn at the Kai Tai Prairie Preserve.

PHOTO: DIXIE LLEWELLYN



Chocolate lily and death camas. PHOTO: DON PAULSON

Kai Tai continued from previous page

Townsend once read “RUST NEVER SLEEPS”; at the prairie “INVASIVE GRASS NEVER SLEEPS,” and will probably always be a challenge to control.

Under the guidance of Peter Dunwiddie from The Nature Conservancy, we conducted a controlled burn in 2000 to eradicate the shrub layer. The burned portion of the prairie responded the following year with a remarkable burst of camas; were they hiding all this time beneath the shrubs?

Presently the prairie is accepted and appreciated by the golfers in the spring. The City of Port Townsend is extremely helpful to always mow in the fall, and volunteers still arrive regularly and cheerfully to weed, plant, and pull. The prairie even received an award from the historic society, one usually given to owners who lovingly restore their 100-year old structures—not bad for a 10,000-year-old garden.

Most of all, this patch of prairie represents the magic of spring. We must continually battle the determined nonnative grasses, but somehow, on a quiet day, when I visit the Prairie and sit on a lichen-covered rock amid the blue and gold flowers dotting the landscape, I think we are winning.

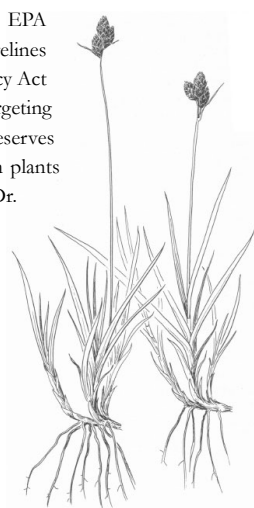
AK

Weinmanns continued from page 15

Ann has taken up a Port Townsend “thing”—rowing—and Fred looks forward to more canoeing at their remote cabin on an island in Ontario. Fred hopes to run a 10K race in fewer minutes than his age every year until he expires. At the top of their list, they hope to do one thing that is enjoyable each day.

We at WNPS have been blessed to receive their gifts of knowledge, leadership, friendship and inspiration. Thank you, Ann and Fred.....*now about that fabulous endowment plan.....*

* Major 1970s regulatory changes included: the EPA (1970), Washington Dept. of Ecology (1970), WA Shorelines Management Act (1971), WA State Environmental Policy Act (SEPA-1971), federal Clean Air and Clean Water Acts targeting point source pollution (1972), and Natural Areas Preserves Bill (WA-1972). A preliminary list of rare Washington plants collated in the early 1970s by U.W. Herbarium curator, Dr. Hitchcock, and presented in 1974 to a Smithsonian Institute workshop by Dr. Art Kruckeberg, led to the first federal plant candidates for protection under the 1973 Endangered Species Act, including some Washington state taxa. For more history, see www.epa.gov/history.



AK

Go native in garden ponds and aquariums

by Washington State Department of Ecology

The recent popularity of water gardens and ponds may be spawning an unexpected problem.

While adding beauty to a landscape, non-native water plants may overrun your aquarium or pond and become an undesirable pest. There is a real danger that these plants may spread to the wild and displace water plants that are native to our region.

But don't despair. A new online publication offers tips on how to identify and find plants native to the Northwestern United States to be used in decorative ponds and aquariums. Detailed information is available on the Washington Department of Ecology web site at: <http://www.ecy.wa.gov/biblio/0603004.html>.

According to the Ecology brochure, using native plants makes good sense: they are adapted to the local climate, which means they require less maintenance, they will not become invasive pests if released in the wild, and many are very attractive and make good habitat for aquarium fish in tanks or good habitat for wildlife when used for outdoor ponds or landscaping.

The online brochure offers color photographs and a list of suitable plants, and information on how they may be found or propagated. In addition, the pamphlet identifies plants that are listed as noxious weeds in the state of Washington, and should be avoided.

“Unfortunately, we’re seeing more and more plants invade our lakes and ponds, choking out the natural habitat,” explained Jenifer Parsons, a native plant specialist for Ecology. “While it takes a bit of extra effort, using native plants in our aquariums and aquatic gardens will go a long way toward protecting our native species.”

AK

91st Division Prairie, Fort Lewis: A step back in time

by Rod Gilbert, WNPS South Sound Chapter

Perched high above the Nisqually River, a few miles south from where it enters the Puget Sound, lies a biological jewel: The 91st Division Prairie on Fort Lewis. It is the largest native prairie that remains in Washington and it's readily identifiable from satellite photography. It spans approximately six miles across and two miles from north to south, covering nearly 7,000 acres.

The Nisqually River borders its western boundary, with steep bluffs dominated by towering old growth Douglas-firs and massive big-leaf maples, and lush riparian habitat dominated by large black cottonwoods and red alder. Several ephemeral springs gush from the ground along the bluffs, rapidly draining the gravelly prairie soils above. A thin band of Garry, also known as Oregon white oak, and the only native oak to grow in Washington, snakes around the top of the bluff at the Prairie's edge, precipitously overlooking the scenic river valley below.

At the southeastern corner of the Prairie near Roy, Muck Creek meanders westward along the southern perimeter where it soon cuts downward to meet the Nisqually River. Prairie fires rarely descend these steep banks and some of the oldest trees on Fort Lewis (450-plus-year-old Douglas-firs) line the Creek's last few miles.

To the east lies the only naturalized stand of Ponderosa pine in Western Washington, with the oldest known tree around 400 years old. It's one of the few areas where the Western Gray Squirrel (State Threatened) can still be found west of the Cascades in Washington. South of the pine savannah is a large complex of wetlands surrounding Chambers Lake that are encircled by a band of Oregon ash and oak, and Douglas-fir forest.

Along its northern perimeter, two large glacial till deposits rise above the Garry oak savannahs and flat prairie below. Here the Prairie is channeled between the two until it would have historically opened up and extended north and east through Lakewood and Spanaway to South Tacoma.

At the southern extent of these two deposits lies Lake Nisqually, which extends southward about a mile into the Prairie. Its west banks are largely devoid of trees and shrubs, and the introduced grasses, (primarily a transition from *Poa pratensis* to *Phalaris arundinacea*) grow down to the wetland edge. Fires, driven by westerly fall winds, ensure little gets established and the open western edge

resembles what prairie wetlands historically looked like before fire suppression. On the eastern bank, a pencil line of Oregon ash marks the usual high water line, behind which are pockets of oak savannah, which pepper the undulating slopes to the prairie above. Oak savannah is the rarest of oak community types in the absence of fire, and today it only occurs in the 91st



Looking NE across 91st Division Prairie, where Muck Creek tumbles into the Nisqually River (lower center-right). PHOTO: ROD GILBERT

Division Prairie. In some dry years, Lake Nisqually itself burns as it slowly dries up through the summer. The lake has all the characteristics of a water howellia wetland (*Howellia aquatilis*, which is federally listed as Threatened), though I haven't been brave enough to survey for it on foot. A small grassy knoll separates smaller Lake Farnsworth to the south, and Soras, American Coots and Virginia Rails can be heard calling persistently from both wetlands during the spring and summer.

In the center of these biologically-diverse boundaries lies the 91st Division Prairie, though on Fort Lewis it's better known as the Artillery Impact Area (AIA) and it's used by the Army for live artillery training. Access to it is either banned or strictly controlled due to the obvious dangers of cross-fire or stepping on unexploded ordinance. Despite all the artillery-related disturbance, or rather because of it, it's home to some of the rarest prairie plants and animals in the south Puget Sound (SPS) prairies. However, most jewels have flaws, and this prairie, like all other prairies, has areas that are dominated by weeds. Prairie quality in the AIA can

change quickly from areas dominated by invasive annual grasses with little Roemer's fescue (*Festuca roemerii*) or native forb cover, to extensive swaths of very high-quality prairie covered with *Balsamorhiza hillebrandii*, *Lupinus albicaulis*, *Potentilla gracilis*, *Lomatium triternatum*, *Erigeron speciosus*, *Dodecatheon hendersonii*, *Zigadenus venenosus*, *Eriophyllum lanatum*, and *Sisyrinchium idahoense*, to name a few of the 90-plus native prairie plants that can be found on Fort Lewis.

Fire and plants

For the last few thousand years, humans burned the prairies of Western Washington to encourage the growth of plants used for food and medicine. The Nisqually and other local tribes used this area for hunting and gathering during the spring and summer months. Winter homes were established along the Nisqually River and Muck Creek to process the salmon during the fall and winter runs. Elk, bear and deer that grazed in the open prairie landscape provided additional protein to their diet. Acorns and camas bulbs (both *Camassia quamash* and *C. leichtlinii*) provided much of their starch and were highly valued in trades with other tribes.

However, starting in the 1840s and especially during the 1850s with the passage of the Donation Land Claim Act, much of their land was taken and settled on by Euro-American pioneers. Burning the prairies was soon prohibited, and what wasn't developed into towns or agriculture slowly converted to Douglas-fir forest, or became degraded by Scot's broom and introduced pasture grasses. Today less than 5 percent of the original prairie landscape remains, much of which occurs on Fort Lewis.

Upon the U.S. entering World War I in 1917, Pierce County donated land (most of it prairie habitat) to the military to build an Army base. The Nisqually Tribe and homesteaders were forced off the land, and 91st Division Prairie soon became an artillery training area. During the past 90 years it has received various amounts of military use, but for the most part, humans and range animals have been



Oak savannah with encroaching Douglas-fir. PHOTO: ROD GILBERT



Looking north across Nisqually Lake. PHOTO: ROD GILBERT

excluded from it.

It's the Fort's policy not to fight artillery-caused fires in the AIA for safety reasons, so the fires burn until they die out or they encounter the fire-break road that encircles the Prairie. Due to its frequent fire history, the AIA probably best represents what pre-Euro-American settlement prairie might have looked like. However, despite the frequent fires, Douglas-firs continue to encroach, often becoming established in artillery craters where fire can't reach them before they mature enough to become fire resistant. Aerial photographs dating back to the 1940s clearly document their advance across the Prairie.

Moss and lichen never form an extensive cover in the AIA as they can on other SPS prairies which burn less frequently, so there's never a thick thatch layer. Fire temperature and intensity in the AIA is considerably less than on prairies covered with introduced perennial grasses and Scot's broom, and the fires are often very spotty and frequently fizzle out. It usually takes several artillery-related fires to burn the whole Prairie. With its frequent fire regime, there's a con-

siderable amount of open ground between the tidy bunches of Roemer's fescue, a gravelly space where prairie forbs can germinate. Scot's broom and colonial bentgrass (*Agrostis capillaris*), the scourge of other prairies, are rare in the AIA. The most commonly encountered introduced grass is the tiny annual sweet vernal grass (*Anthoxanthum*

aristatum), which often dominates large swaths of prairie, apparently displacing natives and other weeds alike. Historic use does not appear to be related to its dominance and it behaves much like cheatgrass east of the Cascades: it fuels early spring fires that have a significant detrimental effect to plants and other organisms. The grass is responsible for fueling mid-May fires recently that likely wiped out one of only two populations of the Taylor's Checkerspot butterfly (State Endangered, Federal Candidate) which were either eggs or just emergent larvae at the time.

Fire or some other types of disturbance in the prairies are usually required for most annuals to maintain viable populations. Mazama Pocket Gophers (State Threatened, Federal Candidate) play an important role in turning soil and creating areas for seeds to germinate. Many prairie plants, mostly annuals, have already been extirpated from the SPS prairies due in part to fire suppression. Several more annuals are now very rare but still persist, primarily in the AIA on Fort Lewis, usually occurring near oak woodlands or swales. These include *Trifolium tridentatum*, *T. microcephalum*, *Linanthus bicolor*, *Clarkia amoena* v. *lindleyi*, both *Arabis glabra* and *A. eschscholtziana*, *Plectritis congesta*, *Collinsia grandiflora*, and *Minuartia michauxii* var. *michauxii*. A rare annual figwort, *Nuttallanthus texanus*, may now be extirpated from the Fort as it has not been seen in several years at its only known location.

Several rare perennial prairie plants can also be found in the AIA. A tiny population of *Dichelostemma congestum* and a few widely dispersed individuals of *Silene douglasii* still occur, neither known to occur on other SPS prairies. *Triteleia grandiflora* var. *howellii* barely persists at the edges of oak woodlands, and occasionally in high-quality prairie. Two other lilies, *Triteleia hyacinthina* and *Brodiaea coronaria*, are



A black bear wanders idly through a sea of western buttercup (*Ranunculus occidentalis*) across the 91st Division Prairie. PHOTO: ROD GILBERT

more common in the AIA than on other prairies. It also contains the only known occurrences for *Camassia leichtlinii* and *Asclepias speciosa* on the Fort, though the latter was likely introduced on the tracks of training vehicles returning from the Yakima Training Center.

The only viable populations of *Armeria maritima* on the Fort are conveniently located near the largest remaining population of Taylor's Checkerspots, on which they love to nectar. Other Checkerspot nectar sources include the prairie endemic *Balsamorhiza deltoidea*, *Lomatium triternatum* and *Camassia quamash*, though common camas is far less prolific in dry gravelly prairie than it is in moist/riparian prairie. One of the larval host plants for the Checkerspot is *Castilleja hispida* which is only found at a few locations on the Fort and comes in every shade of color from butter yellow through deep red. There was some speculation that these mixed-color paintbrush might be hybrids with *Castilleja levisecta*, which was historically collected on "Roy Prairie," (potentially in the southeast corner of the AIA on the more loamy Nisqually soils though the exact location isn't known), but recent tests appear to disprove that hypothesis.

Lotus nevadensis, a common forb in the understory of the eastern slopes of the Cascades in Ponderosa pine and Garry oak communities, is now very rare, occurring only in the gravelliest soils, often related to disturbance. Other rare perennials that are found only in the AIA on the Fort include *Gaillardia aristata* which likes to grow in the gravelly open soils, while *Potentilla glandulosa* prefers more mesic soils. Interestingly, *Seriocarpus rigidus*, a prairie endemic, is rarely encountered in the AIA, while it can be locally common on other prairies.

Weather plays an important role in flower production. In some years certain species will flower profusely when conditions are right, while other years flower production can be scarce. In 2005 the southwestern swales of Nisqually Lake turned to a carpet of deep blue camas, clearly visible from nearly a mile away. This year at the same location there was little camas flowering though the cover of its leaves was so dense it mostly crowded out the invasive grasses. The same has been true for *Triteleia hyacinthina* and *Lupinus lepidus*, each flowering profusely in some years but not others. A huge patch of *Lupinus lepidus* was so extensive one year, its sweet scent filled the air a half-mile away.

Butterflies and birds

In addition to the Taylor's Checkerspot, three other rare butterflies occur in the AIA. The Mardon Skipper

(State Endangered, Federal Candidate) uses Roemer's fescue as a larval host and primarily *Viola adunca* and two vetches, *Vicia sativa* and *V. americana*, as nectar hosts. The Puget Blue (State Species of Concern) is a prairie endemic and closely associated with *Lupinus albicanlis* as both an oviposition and larval host, while it nectars on several species. The only population of Oregon Branded Skippers (State Monitor) at Fort Lewis was likely saved by using tansy ragwort (*Senecio jacobaea*) and bull thistle (*Cirsium vulgare*) as the only available nectar source on the opposite side of the road after fires had completely burned their regular prairie nectar plants.

The AIA is also used by many grassland birds, including several uncommon or very rare species. Streaked-Horned Larks (State Endangered, Federal Candidate) and Oregon Vesper Sparrows (State Candidate, Federal Species of Concern), both west-side subspecies of their more common east-side kin, occur in a few locations across the Prairie. Both Horned Larks and Common Nighthawks like to nest in gravelly areas, often created by artillery or other military disturbance. Western Meadowlarks sing happily through the sound of artillery practice to the joy of those that have to share the Prairie during such occasions. Western Bluebirds and less frequently, Lazuli Buntings, are seen at the Prairie's edge among the oaks. Sage Thrashers and both Eastern and Western Kingbirds are occasionally observed. Sandhill Cranes no longer overwinter on the flood plains of Muck Creek, though they're still seen as flyovers. Lewis' Woodpeckers and Slender-billed White-breasted Nuthatches, both now extirpated from the SPS, would have historically occurred in the surrounding oak and ash woodlands. Bald Eagle (State Threatened, Federally Threatened) numbers have increased dramatically over the years along the stretch of the Nisqually River and Muck Creek that borders the AIA: over 250 were counted during winter surveys in 2005.

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My job frequently requires me to work all around the AIA, which I always relish, because thanks to the fact that it has been an Artillery Impact Area these past 90 years, I get to peek into the past and witness some of the rarest ecological and biological treats that were once common across the south Puget Sound prairie landscape.



A Taylor's Checkerspot nectars on Sea pink (*Armeria maritima*). PHOTO: ROD GILBERT

Rod Gilbert is Vice Chair of the South Sound Chapter and a biologist with the Fort Lewis Fish and Wildlife Program. More photos of SPS prairies, and plants and animals can be found at: <http://www.pbse.com/rodg>.

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Plant lists available online

Before you set out on your next hike, check out the "Native Plant Lists" link at the WNPS web site www.wnps.org. Here you'll find plant lists from more than 500 sites throughout the state, compiled by some of the most respected names in Washington botany. Updates will be done once a year and members are invited to contribute their own lists. If you have suggestions about the plants lists or would like to contribute a plant list, please contact Don Knoke at donknoke@yahoo.com.

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Mini-Key to Washington Willows (*Salix*)

Dana Visalli/Methow Biodiversity Project, PO Box 175, Winthrop, WA 98862

Key is not dichotomous; read through numbered choices until appropriate statement found, then continue same process in the numbered sub-sections. Willows are highly variable; many species are entered in more than one category below. Take particular note of underlined passages. Numbers in parentheses at end of each species description is page number in Brayshaw's *Catkin-bearing Plants of BC*, which has good drawings.

Abbreviations: b= floral bract, p= pale, d= dark (dark brown or black), h= hairy, g= glabrous, b d/h= bract dark/hairy, y= yellow, grn= green, c= capsule, ch= capsule hairy, cg= capsule glabrous, ch/g= capsule hairy or glabrous, t= twigs (this year's growth), th= twigs hairy, tg= twigs glabrous, th/g= hairy or glabrous, lan= lanceolate, ellip= elliptic, ES/WS= occurs only east/west of the Cascade Crest. **Common names:** alba= golden or white, amygdaloides= peachleaf, arctica= arctic, barclayi= barclay, bebbiana= bebb, boothii= booth, brachycarpa= short-fruited, candida= sage, cascadenis= Cascade, commutata= undergreen, drummondiana= drummond, exigua= coyote, farriar= farr, fluvialis= river, geyeriana= geyer, glauca= glaucous, lasiandra= whiplash, lasiolepis= arroyo, lemmonii= lemon, piperii= piper, maccalliana= maccall, myrtilifolia= blueberry, melanopsis= dusky, nivalis= snow, pedicellaris= bog, petrophila= rock, planifolia= plane-leaved, pseudomonticola= mountain, reticulata= net-leaved, rigida= Mackenzie, scouleriana= scouler, sessilifolia= sandbar, sitchensis= Sitka, tweedyi= tweedy. **Synonyms:** S. farriar/hastata, lasiandra/lucida, pendulina/babylonica, petrophila split from arctica, piperii/hookeriana, rigida/prolixa.

1. Single-stemmed trees >4 meters tall

- A. Leaves hairy at maturity, above and/or below
 - S. alba**- lvs lanceolate, to 10cm, serrate, acuminate, twigs bright yellow, bract pale/hairy near base, cg, th/tg, moist low elev (32)
- B. Leaves glabrous at maturity, or nearly so
 - S. amygdaloides**- lvs lanceolate, tip long acuminate, to 10 cm, pale yellow-grn above, stamens 3-9, bp/h, cg, tg, low elev ES (32)
 - S. lasiandra**- to 30', lvs narrow, lan to elliptic, to 15cm, w 2 glands at base, stamens 2, by/h, cg, th/g, low/mid, rivers/wet (76)

2. Dwarf alpine sub-shrubs (lvs all +/- entire, all can be glaucous below, all can be hairy or glabrous [nivalis always glab above])

- S. arctica**- to 3 dm high, lvs elliptic to obovate, 1-8 x .5-6cm, catkins to 9cm, style .6-2.2mm, bd/h, ch(cg), tg (36)
- S. cascadenis**- 1-4 cm high, lvs small, lanceolate to elliptic, 9-26 x 3.8-7.5mm, style .3-1mm, bd/h, ch(cg), th (52)
- S. nivalis**- 1-4cm high, lvs small, elliptic to obovate, 6-22 x 4-15mm, style .2-4mm, by-grn/hairy within, ch, th/g (100)
- S. petrophila**- 2-10 cm high, lvs oblong to elliptic, to 4.5 x 2cm, style .4-1.6mm, bract p/h, ch, th/g, close to S. arctica, rare (36)
- S. reticulata**- 3-15cm, lvs obovate to circular, 1-6.5 x .8-5cm, wrinkled-veiny above, reticulate below, by-grn/h(g), ch, tg (100)

3. Leaves very long and narrow, never over 2 cm wide, usually grow as colonial shrubs, occasionally become small trees

- A. Leaves glaucous below, usually more or less hairy
 - S. exigua**- to 25', lvs to 16x1cm, serrulate or entire, style & stigma .2-.5mm, bp/h, ch, th/g; rivers/lakes, low/mid elev, ES (60)
 - S. fluvialis**- to 18', lvs to 15x1.5cm, serrulate, style & stigma .8-1.5mm, bp/h, ch, th, sandy shores only on lower Columbia.
 - S. melanopsis**- to 16', lvs oblong or ellip, to 8.5x2cm, serrulate, style & stigma .2-.5mm, bp/h(g), cg, th/g, on rivers, low/mid (60)
- B. Leaves not glaucous below, S. lasiandra leaves glabrous, S. sessilifolia leaves more or less hairy
 - S. lasiandra**- to 30', lvs narrow, lan to elliptic, to 15cm, w 2 glands at base, style .2-.8, by/h, cg, th/g, low/mid, rivers/wet (76)
 - S. sessilifolia**- to 16', lvs oblanceolate to elliptic, to 10 x 3.5 cm, style & stigma .4-1mm, by/h, ch, th; WS, rare (110)

4. Leaves hairy at maturity, above and/or below, glaucous below (twigs on all usually all hairy, but can transition to glabrous)

- A. Leaves clearly lanceolate to narrowly elliptic (all +/- shiny above)
 - S. geyeriana**- to 16', lvs lan to elliptic, to 8 x 1.4 cm, often w brown & white hairs, style .1-.3, bp/h, ch, th/g; lakes low/mid (64)
 - S. lemmonii**- to 12', lvs lan to elliptic, to 11x2.2cm, often w brown & white hairs, style .3-1, bd/h, ch, th/g; lakes low/mid, rare (74)
 - S. melanopsis**- to 16', leaves oblong or elliptic, to 8.5 x 2 cm, hairs white, style .2-.4, bp/h(g), cg, th/g, along rivers, low/mid (60)
- B. Leaves wider (not clearly lanceolate): elliptic, ovate, to obovate and serrate (see next choice for leaves that are entire)
 - S. barclayi**- to 8', lvs ellip to obov, to 9cm, long-hairy, hairy vein above, catkin to 7cm, style .6-2.5mm, bd/h, cg, th/g, mid/alp (40)
 - S. glauca**- to 12', lvs oblan to elliptic, to 10cm, long-hairy, f ament to 3cm, style .3-1.4mm, bp/h, ch, th; mesic to wet, mid/alp (66)
 - S. planifolia**- <12', lvs oblanceolate to elliptic, to 6.5cm, short-hairy, petiole grooved above, style .5-2m, bd/h, ch, th/g, mid/alp (88)
 - S. rigida**- to 16'+, lvs ellip, to 10cm, oft hair on vein above, bract minute, style .3-1mm, bd/g, cg, tg(h), low-mid strms/lakes (92)
- C. Leaves wider (not clearly lanceolate): elliptic, ovate, to obovate and entire
 - C1. Floral bract dark
 - S. lasiolepis**- to 20', lvs elliptic to oblan, 3-12 cm long, thick, edges rolled under, bd/h, cg, th, streams in low, arid areas, ES.
 - S. piperi**- to 16', lvs obovate, to 12 cm, glossy above, hairs white & rust-color below, style 1-2mm, bd/h, cg(h), th-g, coastal (70)
 - S. planifolia**- <12', lvs oblan to elliptic, to 6.5cm, glossy above, petiole grooved above, style .5-2m, bd/h, ch, th/g, mid/alp (88)
 - S. scouleriana**- lvs obovate, to 8cm, crowded at br tips, often with rusty hairs below, style to .5mm, ch, th, wet/dry forest (106)
 - S. rigida**- to 16'+, lvs ellip, to 10cm, oft hair on vein above, bract minute, style .3-1mm, bd/g, cg, tg(h), low-mid strms/lakes (92)

C2. Floral bract pale

S. bebbiana- to 30', lvs obovate, to 8cm, capsule long & thin, style .1-.4mm, ch, th, low to mid elevations in wet places, ES (44)

S. brachycarpa- to 4', lvs elliptic, small, to 4 cm, very hairy below, female catkin short, to 2 cm, ch, th dry to wet mont/alp (48)

S. glauca- to 12', leaves elliptic to oblanceolate, pale, to 10cm, female catkin to 5 cm, ch, th; dry to wet, montane/alpine, rare (66)

5. Leaves hairy at maturity above and/or below, not glaucous below (tweedyi never entire, candida never serrate, the rest either):

A. Leaves lanceolate to oblanceolate

S. boothii- to 20', lvs lan to elliptic, to 10x3cm, glossy green above, style .3-1mm, bd/h, cg, th/g, mont/alpine wet areas, ES (46)

S. candida- to 5', lvs lanceolate, to 15x3cm, dull above, long-hairy below, styles .3-1.9, bp-d/h, ch, th, mont wet areas, ES, rare (50)

S. drummondiana- to 12', lan to oblan, to 9cm, short-hairy below, twigs glaucous, style .5-1.5, bd/h, ch, th/g, mid to subalp (58)

S. sessilifolia- to 20', lv lanceolate or oblanceolate, to 12x1.4mm, midvein raised above & below, by/h, ch, th; WS, rare (110)

B. Leaves elliptic to obovate

S. boothii- to 20', lv lan to elliptic, to 10x3cm, glossy green above, style .3-1mm, bd/h, cg, th/g, mont/alpine wet areas, ES, (46)

S. commutata- to 10', lvs to 8cm, elliptic, long hairy, mid-vein above hairy, style .5-1.2mm, bp/h, cg(h), th lake/strm/tundra (54)

S. sitchensis- to 20', lvs to 12cm, obovate, satiny short-hairy below, stamen 1(most have 2), bd/h, ch, th, wet/dry, low/mont (114)

S. tweedyi- to 12'; lvs elliptic, to 10x5cm, dull green above, style 1.5-3mm, catkins at br tips, bd/h, cg, th, subalp, ES, rare (118)

6. Leaves glabrous at maturity or nearly so, and glaucous below

A. Leaves serrate

A1. Capsules pubescent

S. bebbiana- to 30', lvs obovate, to 8cm, capsule long & thin, style .1-.4mm, ch, th, low to mid elevations in wet places, ES (44)

S. piperi- to 16', leaves obovate, to 12 cm, glossy above, hairs white & rust-color below, style 1-2mm, bd/h, cg(h), th, coastal (70)

S. planifolia- <12', lvs oblanceolate or elliptic, to 6.5cm, glossy above, petiole grooved above, style .5-2, bd/h, th/g, mid/alp (88)

A2. Capsules glabrous

S. farriar- to 7', lvs elliptic to oblanceolate, to 7.5cm, pale yellow-green above, style .3-1.2, bd/h(g), th, subalp, wet to dry (68)

S. lasiandra- to 30', lvs narrowly lan to elliptic, to 15cm, w 2 glands at base, by/h, cg, th/g, low/mid, rivers & wet places (76)

S. piperi- to 16', leaves obovate, to 12 cm, glossy above, hairs white & rust-color below, style 1-2mm, bd/h, cg(h), th, coastal (70)

S. pseudomonticola- to 15', lvs ellip to obovate, to 8cm, midrib oft hairy, margin glandular-serrate, bd/h, th/g, low/mid elev (94)

S. rigida- to 16'+, lvs elliptic, to 10cm, often a band of hairs on mid-vein, bract minute, bd/g, tg(h), low-mid elev strms/lakes (92)

B. Leaves entire or nearly so

B1. Capsules pubescent

S. bebbiana- to 30', lvs obovate, to 8cm, long-tapered to base, bract narrow, style .1-.4mm, bp/h, th, low to mid-wet, ES (44)

S. piperi- to 16', leaves obovate, to 12 cm, glossy above, hairs white & rust-color below, style 1-2mm, bd/h, cg(h), th, coastal (70)

S. planifolia- to 10', lvs oblanceolate or ellip, to 6.5cm, glossy above, petiole grooved above, style .5-2, bd/h, th/g, mid/alp (88)

S. scouleriana- to 40', lvs obovate, to 8cm, crowded at br tips, may have rusty hairs below, bd/h, ch, th, wet/dry forest (106)

B2. Capsules glabrous (more acute in *farriar* and longer acuminate in *pseudomonticola*; leaf midvein oft hairy in latter)

1. Floral bract dark

S. farriar- to 7', lvs elliptic to oblan, to 7.5cm, tapered at base, pale above, bract often bicolored, bd/h(g), th/g, mid/high (68)

S. piperi- to 16', lvs obovate, to 12 cm, glossy above, hairs white & rust-color below, style 1-2mm, bd/h, cg(h), th, coastal (70)

S. pseudomonticola- to 15', lvs elliptic to obovate, to 8cm, often rounded or cordate at base, bd/h, th/g, low/mid elevation (94)

S. rigida- to 16'+, lvs elliptic, to 10cm, oft a band of hairs on mid-vein, bract minute, bd/g, tg(h), low-mid elev strms/lakes (92)

2. Floral bract light

S. lasiandra- to 30', lvs narrowly lan to elliptic, to 15cm, w 2 glands at base, by/h, cg, th/g, low/mid, rivers & wet places (76)

S. pedicellaris- to 3', lvs oblong, to 4.5x2cm, tips oft rounded, bract y/hairy within, bp/g, cg, tg, bogs, often in sphagnum (82)

7. Leaves glabrous at maturity or nearly so, not glaucous below

A. Leaves serrate

A1. Floral bract dark

S. boothii- to 20', lvs elliptic, to 10cm, not layering, stipules 3-12mm, bract .7-1.5mm, bd/h, cg, th/g, mont/alpine wet, ES (46)

S. tweedyi- to 12'; lvs broad-elliptic, to 10x5cm, dull green above, style 1.5-3mm, catkins at br tips, bh, cg, th, subalp, ES (118)

A2. Floral bract pale

S. lasiandra- to 30', lvs narrowly lan to elliptic, to 15cm, w 2 glands at base, by/h, cg, th/g, low/mid, rivers & wet places (76)

S. maccalliana- to 6', lvs lan to oblong, to 8cm, leathery w yellow midrib, coarsely serrate, bp/h, ch, low elev wetlands, rare (78)

S. myrtilifolia- to 3', lvs ellip to obovate, to 5cm, layering, stipules <1mm, bract <1mm, bp/h, cg, th/g, bogs, wet, mont/alp (80)

B. Leaves entire

S. boothii- to 20', lvs lan to elliptic, to 10x3cm, glossy green above, style .3-1mm, bd/h, cg, th/g, mont/alpine wet areas, ES (46)

S. farriar- to 7', lvs elliptic to oblanceolate, to 7.5x3.5cm, shiny or dull above, style .3-1.2mm, bd/h(g), cg, th/g, montane/subalp (88)

Essential components to managing and monitoring for *Phytophthora ramorum*

by Norm Dart (normdart@wsu.edu) and Dr. Gary Chastagner (Chastag@wsu.edu)

Phytophthora ramorum, the causal agent of sudden oak death and ramorum foliar blight, has killed tens of thousands of tan oaks (*Lithocarpus densiflorus*) and California black (*Quercus kelloggii*) and coast live oaks (*Quercus agrifolia*) along the central coast of California, and infected areas continue to expand in some counties in California. In the summer of 2003, *P. ramorum* was discovered outside of California, killing tan oaks in an isolated pocket in southwestern Oregon.

P. ramorum is currently not thought to be established in the Washington landscape, but has been detected in 33 Western Washington nurseries since the summer of 2003. In addition, *P. ramorum* was isolated three times from a seasonal stream as far as 75 feet down from an ornamental nursery in Western Washington, from which soil below containerized plants tested positive for *P. ramorum* during previous surveys conducted by the Washington State Department of Agriculture (WSDA). The three stream samples were detected in the winter and early spring of 2006 by the WSDA, using the “rhododendron baiting technique,” in which rhododendron leaves are submerged in stream water for several days. While submerged under water, spores of *P. ramorum* will colonize the leaves if they come into contact with them. Colonized leaves are then isolated from by placing pieces of infected leaves on selective media. The WSDA has intensified

monitoring of the stream and surrounding landscape and nursery on the Kitsap Peninsula for *P. ramorum*, and currently there have been no reports of any wild land plant infections.

P. ramorum is believed to be an exotic pathogen that has recently been introduced to North America and Europe. USDA Animal Plant Health Inspection Service (APHIS) has imposed restrictions on the movement of hosts of *P. ramorum* from Washington, Oregon, and California nurseries to try and minimize the unnatural spread of this disease through the movement of infected plants in the nursery industry. In 2005, 16 plant species were added to the USDA-APHIS host list (<http://www.aphis.usda.gov/ppq/ism/pramorom/>). Currently there are about 100 proven and associated hosts of *P. ramorum* from 16 different plant families. Some of the native Washington plants currently on the USDA-APHIS *P. ramorum* host list include, rhododendron, viburnum, big leaf maple, vine maple, madrone, grand fir, Douglas-fir, white fir, and pacific yew. The list of regulated hosts is likely to continue to expand in the future as new hosts are detected with increased surveys.

In 2005, *P. ramorum* was detected on plants in several Washington nurseries that had gone through a USDA-APHIS compliance program because the pathogen had been detected in these sites in 2004. Even though these



The dead crown of a coast live oak tree killed by *P. ramorum* in Monterey County, California.

PHOTO: NORM DART

nurseries had been certified to be free of the pathogen following completion of the compliance program, it is unclear if *P. ramorum* was still present at some of these sites or if it was reintroduced to the sites on infected plant material. There is a real danger that this organism will eventually spread from nurseries into Washington's natural and urban landscape if proper precautions are not taken. Such an outbreak could trigger a series of quarantines that would have very serious impacts on the state's horticulture and forestry industries. Not only would costly eradication procedures and crop destruction be required, but these industries would be severely crippled by restrictions on export and intrastate shipment of product. The destruction of infected plant material in nurseries has already caused millions of dollars in losses to the nursery industry in California, Washington, and Oregon.



Camilla leaf (upper right corner) with lesions caused by *P. ramorum*. Note that lesion grows along the midrib of the leaf, which is very typical of lesions caused by this organism. Lesions also often develop at the tip and margins of rhododendron and camilla leaves.

PHOTO: NORM DART

Diseases caused by *P. ramorum*

It is important to understand that *P. ramorum* does not affect all hosts the same way, and some hosts are potentially more important to the spread of this disease organism than others. There are two major diseases caused by *P. ramorum*: sudden oak death and ramorum foliar blight. Sudden oak death is a disease of members of the red oak group (for example, live oak and California black) and tan oaks. This disease develops when *P. ramorum* infects the stem of a tree, causing cankers, which girdle and kill mature trees. Members of the white oak group generally do not develop sudden oak death, including the Washington native Garry oak (*Quercus garryana*). Ramorum foliar blight occurs on most other non-oak hosts including conifers, broad leaf plants, and herbaceous plants. Symptoms of this disease include brown lesions or spots on leaves, and shoot-tip dieback. On certain foliar hosts such as California bay laurel and tan oak, *P. ramorum* sporulates prolifically, which seems to be crucial

for disease spread and establishment in California forests. Spores produced by these epidemiologically important hosts spread by wind-driven rain splash and mist that shower the bark of oak hosts and the foliage of other hosts below in the understory where they germinate and cause disease. To date, extensive *P. ramorum* wild land infestations have been reported in forest communities with associated epidemiologically important hosts such as tan oak (California

and Oregon), California bay laurel (California), and/or coast redwood (California). It is currently not known if other hosts can produce spore loads capable of sustaining *P. ramorum* diseases in regions of the Pacific Northwest outside of the native range of tan oak, California bay laurel, or coast live oak.

Although aerial dispersal through wind-driven rain is known to play an important role in the dispersal of *P. ramorum*, there is still a lot that is not understood about the biology of this organism. Recent laboratory and field research has shown, for example, that chlamydospores produced by this organism can persist in a diversity of soil types (sand or potting mix) for over 650 days (Nina Shishkoff, USDA Agricultural Research Service); rhododendron roots have been infected under laboratory conditions (Jennifer Parke, Oregon State University); and *P. ramorum* has been isolated from streams in watersheds that have no known wild land infections or have been managed extensively to eradicate the pathogen (Everett Hansen, Oregon State University). All of these findings force plant pathologists, regulators, and land managers to realize the potential importance of soil inoculum and root/vasculature infection in the establishment and dispersal of this organism in the native and urban landscape and within nurseries.

A new free guide called “**Sudden Oak Death and *Phytophthora ramorum*: A Guide for Forest Managers, Christmas Tree Growers, and Forest Tree Nursery Operators in Oregon and Washington**” is now available. This 16-page guide is the result of a collaborative effort between WSU, OSU, and USFS researchers and educators. The publication contains color photos of symptoms caused by *P. ramorum*, presents background, and provides important considerations for stopping the spread of this pathogen. For copies of this publication, please email Norm Dart at normdart@wsu.edu. The guide is also available as a free downloadable pdf file from OSU extension: <http://extension.oregonstate.edu/catalog/pdf/em/em8877.pdf>.

WSU research

With all that is currently not known about this exotic plant pathogen, and the potentially devastating effects it could have on the ecosystem and economy of Washington State, research and outreach on *P. ramorum* is essential to increase the effectiveness of eradication efforts and to minimize its spread, especially into our wild lands. Plant pathologist Gary Chastagner of Washington State University Puyallup Research and Extension Center has been actively developing a research and education program during the past three years to help Washington agricultural and forestry professionals cope with *P. ramorum*.

In response to industry concerns, Gary Chastagner secured funding from Washington State University to build a new quarter-million-dollar biocontainment facility at Puyallup, which was completed this winter. This facility will greatly increase the capacity of WSU to address critical research questions relating to the establishment, spread and management of *P. ramorum*. Additional funding has also recently been secured to purchase equipment for WSU Puyallup that will enable researchers to conduct molecular tests relating to the detection, spread, and genetics of *P. ramorum*.

Additionally, Dr. Chastagner initiated a research project last spring to examine factors influencing *P. ramorum* infection in Christmas tree plantations, with funding

provided by a two-year USDA Forest Service grant. Work on this project is occurring at the Black Road Christmas Tree Farm near Los Gatos, California. This is a 23-acre U-cut Christmas tree farm that was established in 1966. Conifers being grown at this site include Douglas-fir, grand fir, giant sequoia, scotch pine, white fir, and California red fir. Some known *P. ramorum* hosts in the forest adjacent to the edge of the farm include California bay laurel, madrone, big leaf maple, false solomon seal, toyon, coast redwood, and tan oak. Dieback on some of the grand fir and Douglas-

fir along the interface between the infected forest and the Christmas tree farm appears to have occurred at least four years ago. During 2005, conditions were very favorable for disease development. Preliminary results from this study indicate that most of the infected Christmas trees were within 2 meters of the edge of the *P. ramorum*-infected bay laurel forest canopy. Virtually no infection was evident on Christmas trees that were more than 5 meters away from the forest edge.

The Forest Service, Washington State Pesticide Commission, Pacific Northwest Christmas Tree Association, IR-4 program, and the WSDA Nursery Research Program are also supporting research at WSU Puyallup to determine the effectiveness of various fungicides in protecting conifers and rhododendrons from infection by

P. ramorum. This work has shown that several traditional contact materials, such as mancozeb, and the systemic material Subdue MAXX, have the potential to provide excellent control of diseases caused by *P. ramorum*. However,



Foliar blight of grand fir (*Abies grandis*) caused by *P. ramorum* in a California forest. Note that the new succulent growth is infected. PHOTO: GARY CHASTAGNER

growers and regulatory agencies are concerned that the use of fungicides may be masking symptom development, thus making it harder to prevent the spread of this pathogen on infected nursery stock. Now that the new biocontainment facility is completed at WSU Puyallup, additional studies will be conducted to determine the residual effectiveness of fungicides and whether any of them have the potential to mask symptom development on infected plants.

WSU statewide education

With funding provided by the USDA Forest Service, Dr. Chastagner has also developed a *P. ramorum* education program based at WSU Puyallup. Last summer, Norm Dart was hired to coordinate these efforts. Dart's work is focusing primarily on developing, coordinating, and presenting first detector workshops and research seminars relating to *P. ramorum* throughout Washington, as well as developing educational material to distribute throughout the state. The goal of first detector workshops is to train nursery and landscape professionals, arborists, natural resource professionals, county extension agents, and Master Gardeners to recognize symptoms potentially caused by *P. ramorum* in the urban and natural landscape and how to submit samples. Early detection is the key to reducing the risk of widespread outbreaks in Washington and to protecting Washington's nursery, landscape, and forest industries from the potentially devastating economic effects that a *P. ramorum* outbreak could have. These workshops address the sensitive nature of this disease, and train participants in how to deal with *P. ramorum* issues and the importance of providing information without causing panic.

A new web site has been set up by the WSU Sudden Oak Death Education Program, with useful handouts and links relating to the diagnosis, and management of *P. ramorum*. If you have any recommendations or comments, please direct them to Norm Dart (normdart@wsu.edu).

<http://www.puyallup.wsu.edu/ppo/education.html>



WNPS seeks Editorial Board Chair

The Washington Native Plant Society is seeking an Editorial Board Chair to head the WNPS Editorial Board. The Editorial Board provides oversight for Washington Native Plant Society publications such as *Douglasia* and the Occasional Papers.

Douglasia is published four times yearly and has been published continuously since 1976. The current *Douglasia* management structure includes a paid managing editor and paid layout editor who assume responsibility for the production of *Douglasia*. Editorial Board members are assigned specific areas of responsibility for producing or soliciting articles of a specific nature for *Douglasia*. These subject editors are responsible for review and approval of the material to be published in their subject area.

The key functions of the Editorial Board Chair:

- Provides vision and long-term planning for the production of *Douglasia* in collaboration with the Editorial Board.
- Serves as chair of the Editorial Board which is a Standing Committee of the Washington Native Plant Society. As chair of a WNPS Standing Committee, the Editorial Board Chair serves as a Director and voting member of the WNPS State Board of Directors.
- Works with a top-notch team. Our *Douglasia* staff are top-notch professionals who will make your job easy. Our assistant and contributing editors have done a good job providing material or seeking material. We just need a leader and chief collaborator—someone who has some vision for a publication of this nature, an understanding of the Society, ideas for articles which will interest our membership, and a willingness to work with a great team of people.
- Estimated time involvement: 50 hours per year, which includes travel to and attendance at three meetings during the course of the year.

For a complete description of serving as an Editorial Board Chair, contact Catherine Hovanic, wnps@wnps.org or 1-888-288-8022.



Washington Invasive Species Council is formed

by Catherine Hovanic, WNPS Administrator

Governor Gregoire signed into law ESSB 5385 which creates an Invasive Species Council in Washington. Neighboring states such as Idaho, Oregon and Hawaii have invasive species councils which play a leading role in combating invasive species.

It is hoped that a Washington Invasive Species Council will help coordinate and enhance existing programs in Washington and thereby limit the environmental and economic costs of invasives species. Planning will ensure that invasive species can be detected early and responded to quickly.

The Washington Invasive Species Coalition worked with state and federal agencies, as well as with the Governor's office to create this Council. Members of the Coalition steering committee include Audubon Washington, Conservation Northwest, The Mountaineers, The Nature Conservancy, People for Puget Sound, Seattle Audubon, University of Washington SeaGrant, University of Washington Botanic Gardens (formerly CUH) and the Washington Native Plant Society.

There are many public and private organizations with an interest in controlling and preventing the spread of harmful invasive species in Washington. The Invasive Species Council will provide a mechanism for cooperation, communication, and collaboration. It is also tasked with the development of a statewide action plan. The Council will become a joint effort between local, tribal, state and federal governments, as well as the private sector and nongovernmental interests.

Much thanks goes to Jo Roberts, long-time WNPS member, who envisioned and helped to initiate an Invasive Species Forum in March of 2003, which brought together many Pacific Northwest Foundations, Environmental Organizations, and government personnel to discuss and learn about the importance of invasive species as an environmental issue. Following that forum, the Washington Invasive Species Coalition was formed. Besides the creation of a Washington Invasive Species Council, the Washington Invasive Species Coalition has been supporting the Codes of Conduct Project at the University of Washington Botanic Gardens and working on Ballast Water issues to protect Washington state waters from the introduction of invasive species. You can learn more about these projects on the Washington Invasive Species Coalition's web site at www.invasivespeciescoalition.org.

CH



Governor Gregoire signs Invasive Species Council into law. PHOTO: GOVERNOR'S OFFICE.

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Douglasia, the quarterly publication of the Washington Native Plant Society, reaches 1,800 members of the Washington Native Plant Society (WNPS). Content is geared to botanists, gardeners and others interested in native plants. We welcome advertising for products, information, and services relevant to these audiences, of benefit to WNPS members, and to the advancement of native plants in Washington State. If you already know that advertising interests you, please visit our web site at www.wnps.org for detailed and printable ad rates and specification sheets which include information regarding printing specs and editorial deadlines.

Douglasia is a primary and tangible benefit to WNPS members. Because of the educational nature of articles, advertisers can expect “permanent” shelf life of issues distributed.

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Information for contributors

Members and others are invited to submit material for publication in *Douglasia*. Articles, book reviews, poetry, photography or illustrations are welcome. All materials submitted should relate to the study of Washington's native plants. Acceptance will be based on space and appropriateness, and materials are subject to copyediting (substantive editing with author's permission). Contributors are reminded that the *Douglasia* audience ranges from professional botanist to the interested enthusiast.

Articles Send as email attachment in Word, or a rtf (rich text format) or txt (text only) with minimal formatting please.

For plants whose ranges include California, follow the nomenclature of *The Jepson Manual* (Hickman 1993), since many species names in *Flora of the Pacific Northwest* (Hitchcock and Cronquist 1973) and *Vascular Plants of the Pacific Northwest* (Hitchcock et.al., 1955–69) have changed. For species not found in *The Jepson Manual*, follow the National Plants Database, available on the Web at plants.usda.gov or *Flora of North America*. A common name, on first use, should be followed by the botanical name in parentheses. Please provide the Hitchcock synonym for species whose names have changed.

Illustrations and photos Send as an attached jpg or tif file, with reference in the text where the photo or illustration should appear. Do not embed or paste photos or illustrations in your Word files. Medium resolution (at least 150 dpi at the size they are used) photos will reproduce better. Any photo submitted at 72 dpi will not be included. Be sure to obtain permission from the photographer, and credit the photographer. *Douglasia* has standing permission to use, with credit, illustrations from Hitchcock and Jepson. Contributors are responsible for obtaining permission for illustrations from sources other than Hitchcock and Jepson.

Email material to: gatrellk@msn.com

Deadlines for submission

Deadline	Issue	Members receive approximately
January 1	Winter	March 1
March 1	Spring	May 1
June 1	Summer	August 1
September 1	Fall	November 1

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3/23/2006 through 6/15/2006

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