



The Understory

Newsletter of the Seattle Urban Nature Project
A Community Resource for Urban Forest Restoration

March 2006
Volume 2, Issue 2

Llandover Woods - Past and Present

Llandover Woods is a beautiful ten acre forested open space in Northwest Seattle, prized for its serene setting and abundance of wildlife.

Over the course of the past six months, SUNP has been working with the Friends of Llandover Woods (FoLW) to conduct vegetation surveys and develop management recommendations that will help FoLW to accomplish their restoration goals.

An important product from this effort is the Llandover Woods vegetation management plan, which will be available at our website in April. SUNP is also providing outreach tools for FoLW, including a brochure and fact sheets that identify native and invasive plants, local wildlife, and the activities of the group. A map of the area which includes trails and habitat types was also created for FoLW. This effort is funded by a grant from the Seattle Department of Neighborhoods. *(continued on page 3)*

Native Plants of Seattle



Red flowering currant
(*Ribes sanguineum*)

Citywide Habitat Assessment—Part I

In 2005, SUNP launched a new citywide habitat monitoring program, known as the Citywide Habitat Assessment (CHA). The aim of this effort is to provide long-term monitoring of Seattle's forests. This project will help resource managers and the public to better understand the condition of forest types in the city, and generate recommendations for action to restore and protect this valuable resource.

The program builds on the habitat data collected during SUNP's original 1999-2000 survey. That effort delineated and quantified the kinds of habitats that were present on Seattle's public land. It also illustrated the extent that non-native invasive species have invaded public spaces across the city.

During the initial survey, forested areas of the city were categorized into one of eight forested habitat types based on the general attributes and composition of the trees. These habitat types are described in detail in a 1994 publication issued by the Seattle Parks and Recreation titled "Urban Wildlife and Habitat Management Plan."

(continued on page 4)

SUNP on the Web

www.seattleurbannature.org

- SUNP services
- Habitat maps of Seattle
- SUNP Publications
- Get a SUNP mug or t-shirt!
- SUNP invasive plant fact sheets
- Donate to SUNP with Paypal



SUNP Party a Success

Over forty people attended SUNP's first ever house party. Special thanks to hosts Allison Riese and Kevin Traywick and party organizers Louise Alexander and Ann Lenartz. Over \$1,000 was raised to help SUNP provide technical services to community groups working to restore urban forests in the Puget Sound region. *(photos, page 2)*

SUNP Wins SDOT Contract

Seattle Urban Nature Project will partner with the Seattle Department of Transportation to survey the vegetation on 524 parcels of SDOT property across Seattle. This information will help SDOT managers to better schedule on-the-ground maintenance activities.



SUNP staff Ella Elman and Nelson Salisbury with Win Abelsen of SDOT.

SUNP House Party



*Allison Riese and Kevin Traywick,
SUNP Party Hosts*

SUNP's first ever house party was a big success, with over forty people enjoying refreshments at the house of Allison Riese and Kevin Traywick, our fantastic hosts.

The party was an opportunity to share SUNP's mission and accomplishments with a variety of friends and colleagues. SUNP Board Members Louise Alexander and Ann Lennartz were instrumental in organizing the event. Board members and staff helped by donating food and drink for the party.

Over \$1,000 was raised at the party. These funds will help SUNP provide technical assistance to communities in Puget Sound working to restore urban forests. SUNP T-shirts, mugs, and a poster-sized map of Seattle were raffled off to the crowd. Thanks to everyone who came to support Seattle Urban Nature Project!



Above: Joanna Nelson of Cascade Land Conservancy, with Ben Cate and Ann Lennartz, SUNP Founder.



Above, left to right: Party Host Kevin Traywick with Todd Kluger and Eric Neibler.



Left: Jeremy Jones of Earthcorps and Donna Kostka of Heron Habitat Helpers.



Below: Kintea Bryant, Cheryl Wotus, and Sara O'Brien.



Below: Partygoers enjoy the spread provided by SUNP and volunteers.

SUNP Donors

Seattle Urban Nature Project would like to thank those people who donated to the organization in the first quarter of 2006.

SUNP relies on the support of donors to provide technical services to community groups, government and other organizations working to improve urban forests.

A donation to SUNP is tax deductible. If you would like to support SUNP, please see the information on the last page of this newsletter. You may also give by credit card at www.seattleurbannature.org.

Thanks for your support!



New Additions to the SUNP Family!

Congratulations to SUNP Ecologist Nelson Salisbury and his wife Sok Pok, on the birth of their new child, Preston Yoeun Salisbury (pictured at left). He was born 7 lbs and 9 oz on February 19th. Big sister Kayla can be seen on page seven, modeling her SUNP t-shirt!

SUNP also sends congratulations to Bryan Baker, SUNP Board Member and his wife Rebecca on the birth of their new son, Clyde Eli Baker. Clyde was born on March 7, 2006 and weighed in at 7 lbs and 6 oz.

Llandover Woods Results (continued from front page)

Llandover Woods history

Llandover Woods has an interesting history, complete with a dramatic threat from development and a timely reprieve. Like much of Seattle, Llandover Woods and the surrounding area was clearcut in the early 1900s. The Highlands neighborhood in Shoreline, which abuts the north side of Llandover Woods, was developed starting in 1903. Fifteen acres adjoining Llandover Woods were preserved as a forested buffer, creating a large wooded corridor. Other development around Llandover Woods took place in the 1940s and 1950s when surrounding communities were created. Additional forested habitat is provided by the railway and coastal rights-of-way to the west. Carkeek Park to the south and Richmond Highlands and Innis Arden Reserves to the north combine to create a considerable natural system.

In the early 1990s, development plans targeted Llandover Woods, first with a plan for 23 lots, and subsequently with a revised plan for nine lots. The proposed project would have put a road through the middle of the woods, where the existing trail now lies. A roadbed was developed and several areas of Llandover Woods were cleared for building. In 1994, neighbors learned of the project and asked the City of Seattle to purchase the property. On June 7, 1995 the City bought seven of nine proposed lots and preserved Llandover Woods for use by the community and the public.

Current conditions in Llandover Woods

Today, Llandover Woods is a mostly intact second growth forest, dominated by Douglas fir (*Pseudotsuga menziesii*) trees with a substantial big-leaf maple (*Acer macrophyllum*) component in the midstory. Many of the Douglas firs have grown to considerable size and some are close to 200 feet tall.

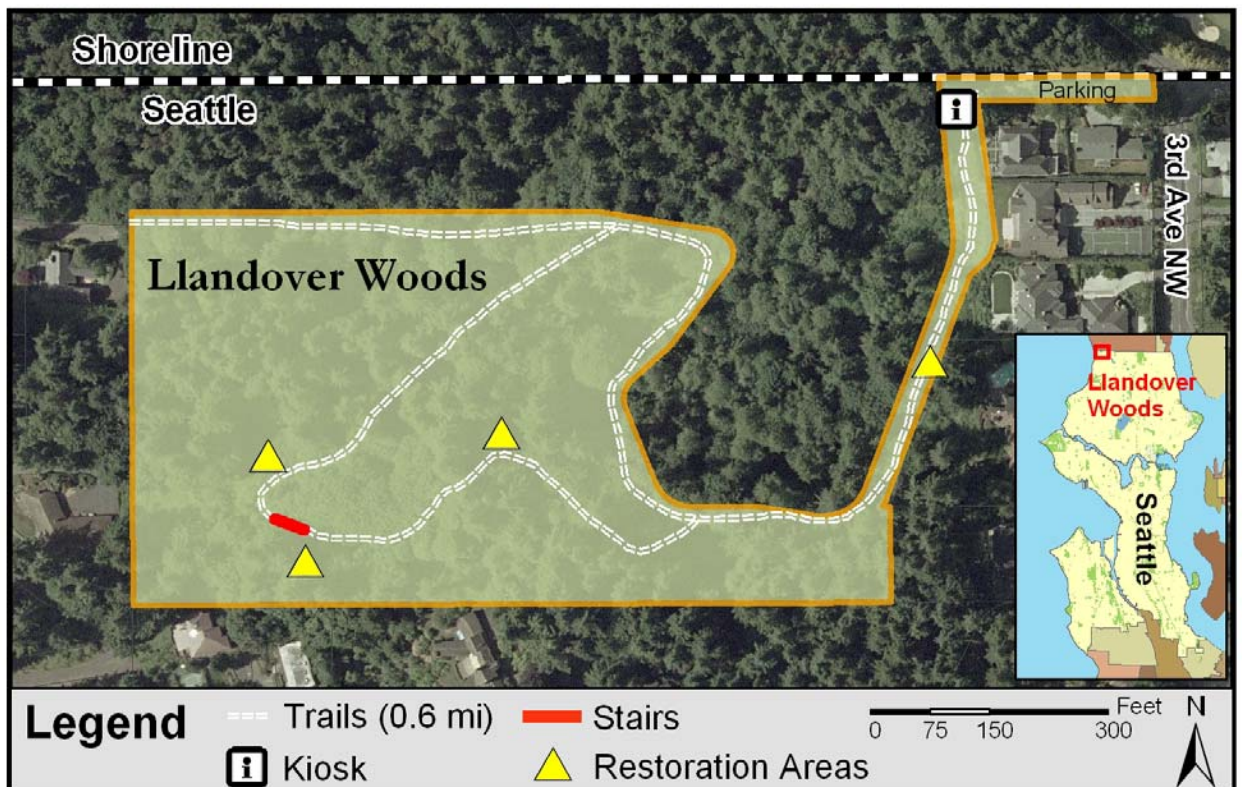
(continued on page 4)



Sharp-shinned hawk in the area surrounding Llandover Woods

(Photo by Glenn Austin)

Llandover Woods Open Space and Vicinity



Llandover Woods (continued from page 3)

Three habitat types are found in Llandover Woods: conifer forest, conifer/deciduous mixed forest and deciduous forest. These diverse habitats are home to over 55 different plant species and over 30 animal and bird species.

Much of the conifer forest is located on steep, sandy slopes in the southern portion of the woods. The mixed/deciduous forest is located on flatter terrain in the northern section of Llandover Woods, and remains moist throughout the year. Many moisture loving species such as salmonberry (*Rubus spectabilis*), stink currant (*Ribes bracteosum*) and Pacific waterleaf (*Hydrophyllum tenuipes*) are found in this forest type.

Several interesting results were discovered during data analysis of the survey. Almost no conifer regeneration is present in Llandover Woods. In addition, very little coarse woody debris (downed wood) and few large-diameter snags (dead standing trees) are present in the forests. Downed wood is important for regeneration of coniferous species such as western hemlock (*Tsuga heterophylla*) and western red cedar (*Thuja plicata*), which often establish on dead wood. Large-diameter snags support numerous wildlife and bird species and are a vital part of a mature forest system.



Red elderberry

These findings suggest that stewardship activities such as the planting of conifer seedlings and the maintenance and augmentation of dead wood are necessary in Llandover Woods. Additional issues of concern identified by the vegetation management plan include social trails which bisect and trample habitat, dog fecal waste on and around trails and invasive plant infestations in some areas of the woods.

There are four active restoration areas within Llandover which are being maintained by FoLW. Three of these areas were identified by FoLW prior to the vegetation surveys. One additional area was discovered during the surveys when SUNP located the property boundary. These areas were cleared for the proposed development in the early 1990s and were subsequently colonized by invasive plants such as Scotch broom (*Cytisus scoparius*), Himalayan blackberry (*Rubus discolor*), English ivy (*Hedera helix*) and evergreen blackberry (*Rubus laciniatus*). In addition, a large infestation of privet (*Ligustrum spp.*) and common periwinkle (*Vinca minor*) was located extending into the woods from an adjacent private property.

Several invasive tree species were found scattered throughout Llandover Woods, most likely a result of seeds dispersed by birds. These species include English holly (*Ilex aquifolium*), cherry laurel (*Prunus laurocerasus*), European mountain ash (*Sorbus aucuparia*) and one-seed hawthorn (*Crataegus monogyna*). The invasive horticultural shrub Cotoneaster (*Cotoneaster spp.*) was also found. There are also populations of herbaceous invasive plants including herb Robert (*Geranium robertianum*), wall-lettuce (*Mycelis muralis*), nipplewort (*Lapsana communis*) and creeping buttercup (*Ranunculus repens*), mainly along the trails.

The Friends of Llandover Woods have taken on the challenge of restoring the native habitats and improving trail conditions within the open space. With the help of photo monitoring points set up with SUNP, they will be able to monitor their progress towards restoring Llandover Woods and making it an even more beautiful and intact community resource.

SUNP and the Friends of Llandover Woods have built a strong relationship over the course of this project. Glenn Austin, leader of FoLW believes that the rigorous scientific approach used to conduct the survey and develop the restoration plan will give his organization a clear direction for restoration and monitoring for years to come. The report will be available on-line at www.seattleurbannature.org in April 2006. For additional information, please contact Ella Elman at ella@seattleurbannature.org.

Citywide Habitat Assessment (from front page)

The Citywide Habitat Assessment examines the structure and composition of Seattle's forests. In other words, what do Seattle's urban forests really look like? How are Seattle's deciduous forests similar or different from conifer forests? What types of species make up different forest types? Are there measurable differences in the types and intensities of invasive species present in different types of our urban forests? This information will help managers and community groups within the city to better manage Seattle's natural areas. In addition, the ability to assess the health of these forest types over the long-term will help determine if current management approaches are successful and where addi-

tional resources should be targeted.

A number of factors have impacted the health of urban forests since European settlement of the area, including logging practices initiated at the turn of the century. The legacy of selective timber harvest resulted in the removal of substantial numbers of once-dominant coniferous tree species. Their absence, and related reductions in the presence of downed wood, has reduced the ability of these species to naturally regenerate. Big leaf maple and red alder, whose extent was historically limited to stream banks, floodplains, and wet slopes, have become dominant species throughout much of the City's forests. In addition, urban land uses have resulted in direct impacts to the structure and function of urban forests including: intro-



Locations of sampled plots in the Conifer/Madrone Mixed Forest and Conifer/Deciduous Mixed Forest types

duction of invasive species, illegal dumping of refuse, social trail development and altered hydrologic conditions. While a few areas in the city still contain relatively undisturbed forests, such as in Seward and Schmitz Parks, the majority of Seattle's forests are in habitats recovering from some level of human-caused disturbance.

In the summer of 2005, staff sampled plots in two forest types, mixed conifer-deciduous and mixed conifer-madrone forests. Mixed conifer-deciduous forests make up 13% of the city's public forests while mixed conifer-madrone forests comprise less than 2%. SUNP plans to sample the remaining six forest types in the near future. The number of plots established in each

forest type will be proportional to the total number of acres of each type that is present in Seattle. Plots are treated as permanent and are approximately 1/10th acre in size. The following is a brief summary of our findings from the 2005 field season.

Conifer/Deciduous Forest Type

The habitats that make up mixed conifer/deciduous forests in Seattle are relatively abundant and well distributed across the city (See Map). Fifteen of the eighteen plots sampled in this forest type are located in well established park systems, with the remaining three plots occurring in less formal green spaces.

The native trees that dominate these forests are bigleaf maple, western red cedar, Douglas fir and red alder. The overstory of these forests is composed of 53% deciduous trees, 45% conifer trees and 2% Pacific madrone trees. The understory is comprised of sword fern, beaked hazelnut and creeping blackberry, with a variety of other native shrub and herb species present.

Some of the greatest threats to the structure and function of this forest type include high densities of non-native evergreen trees such as English holly and cherry laurel. These invaders currently account for more than half of all regenerating trees in this forest type. The continued invasion of English ivy and Himalayan blackberry is also of concern. English ivy is present on 89% of all plots at 28% average cover. It was recorded climbing up the trunk or into the canopy of 22% of all trees and snags in the overstory.

Conifer/Madrone Forest Type

Making up less than two percent of all forest land in Seattle, the conifer/madrone forest type is a rare occurrence in the city. In fact, during SUNP's initial habitat survey, only 12 polygons were given this forest designation. Of the 52 acres of forest in this habitat type, more than 70% (39 acres) are found in Seward Park. Five plots were established in this forest type.

Pacific madrone are found in all sample plots at an average density of 42 trees/acre. Other dominant native trees include Douglas fir, bigleaf maple, and western red cedar. The understory is dominated by salal, creeping blackberry and low Oregon grape. These forests are also being threatened by the invasion of non-native tree species like English holly and cherry laurel, as well as horticultural cherry species.

English ivy and Himalayan blackberry appear to pose a substantial threat to the diversity and function of conifer/madrone mixed forests. English ivy is present in all five sampled plots. However, due to the relatively low cover of these species in this forest type, early eradication efforts could provide constructive returns.

More details of our methods and initial findings can be found in our interim report, now available on our website (www.seattleurbannature.org). Stay tuned for further results from our study. Contact Nelson Salisbury at nelson@seattleurbannature.org for additional information.

Gold Creek Report Available On-Line

SUNP worked with the Boys and Girls Club of King County in 2004 to produce a vegetation inventory for Gold Creek Park, a forested area in Woodinville. This report is now available to the public at: www.seattleurbannature.org.



Deciduous forest in Gold Creek Park, a 35-acre property in Woodinville. The Gold Creek Lodge is operated by the Boys and Girls Club of King County.

Open Space 2100

SUNP participated in the Open Space 2100 charette, held on February 3-4th. The event brought together people from many different disciplines to develop a vision for open space in Seattle for the next century. SUNP habitat maps were used by groups as part of the planning process.



Over 350 people met to discuss the future of open space in Seattle. The effort was coordinated by the University of Washington Dept. of Landscape Architecture.

SUNP Services

SUNP offers a number of services to assist public, private, and non-profit organizations.

Ecological Services

- Habitat Mapping and Assessment
- Vegetation Inventory and Management
- Restoration Planning and Monitoring
- Vegetation Monitoring

GIS Services

- Custom Mapping of Project Sites
- Mapping for Grant Reporting Purposes
- GPS Data Collection
- Printing Large Size Maps or Posters

Training and Education

- Habitat Survey and Assessment Methods
- Monitoring Restoration Sites
- GPS and GIS Training
- Plant Identification
- Habitat Restoration Techniques

Please contact us at (206) 522-0334 for more information.



Board Transitions

We would like to thank **Ann Lennartz**, **Herb Curl**, and **Louise Alexander** for their dedicated service and generous contributions to the organization. Ann and Herb are founding members of SUNP, which started in 1998. Ann's leadership, vision and contributions literally created SUNP and helped it to mature into the organization it is today. As a retired NOAA scientist, Herb has positively influenced SUNP's professionalism and use of scientific methods. Louise has focused her optimism and energy on fundraising activities and organized SUNP's first ever fundraising event held this February.

Welcome to new board member, **Andy Bethurum**. Andy is currently the owner of Northwest Resumes and is in the process of receiving a certificate in non-profit management and fundraising from the University of Washington.

Thanks to all of our board members, President Peggy Gaynor, Vice-President April Mills, Treasurer Matt Mega, Bryan Baker, Nancy Whitlock, Josh Wozniak and Janet Way (Advisory) for their dedicated service to the organization.



Order SUNP T-shirts and mugs. Go to our website for a link to the store.

A portion of the purchase price helps to support Seattle Urban Nature Project.

Invasive Plant of the Month

Poison-hemlock (*Conium maculatum*)

Contributed by Sasha Shaw

King County Noxious Weed Program

Spring is an easy time of year to find Poison-hemlock. Look for the large mounds of bright green, lacy-looking leaves rising up above the grass or along roadsides. You might also notice the hollow skeleton stalks from last year near the new plants. Poison-hemlock is a biennial, so the old flower stalks mark plants that have lived out their life span after dispersing up to 1000 seeds over the fall and winter.

Poison-hemlock is acutely toxic to people and animals, with symptoms appearing 20 minutes to three hours after ingestion. All parts of the plant are poisonous and even the dead canes remain toxic for up to three years.

Eating the plant is the main danger, but it is also toxic to the skin and respiratory system. Always use gloves when handling and wear a mask or take frequent breaks when cutting. If you suspect poisoning from this plant, call for help immediately because the toxins are fast-acting - call poison-control for people and a veterinarian for animals.

Besides the nasty side-effects, poison-hemlock is very competitive in our nice, mild climate and can spread rather aggressively along edges of fields, roads, ditch banks and into crop fields. Poison-hemlock looks an awful lot like parsley, fennel, chervil, anise and other members of the carrot family, making it a risk to people and children sampling wild plants. Two helpful clues to distinguish poison-hemlock are the strong, musty smell of the leaves and the purple blotches on the thick, hollow stems. Also, the leaves and stems are hairless, the flowering stems are branched, and the plant produces many small umbrella clusters of tiny white flowers.

Poison-hemlock falls into the category of noxious weeds that are so widespread in King County that control is not required, but highly encouraged. At the very least, it should be contained to areas not accessible to people or animals. If you have poison-hemlock, it can be effectively controlled by manual or mechanical methods - pulling or digging up small plants, cutting below the crown for large plants, or repeated mowing starting in early April.

For more information, contact the noxious weed program at 206-296-0290 or call your local WSU Extension office. Additional information can be found at: <http://dnr.metrokc.gov/Weeds/hempl.htm>.



Always use gloves when handling and wear a mask or take frequent breaks when cutting. If you suspect poisoning from this plant, call for help immediately because the

SUNP Volunteer Opportunity

Seattle Urban Nature Project is looking for a volunteer to help update our public open space data records. Our city-wide survey, completed in 2000 is in need of some revisions. Many areas of public parks and open space have been acquired since the first survey. For additional details on this project, see our volunteer page at www.seattleurbannature.org.

SUNP Fact Sheets Now Available

SUNP has produced four fact sheets for the public about the vegetation found on Seattle's public lands:

- Invasive Trees
- Invasive Shrubs
- Invasive Plants
- Native Plants for Landscaping

These fact sheets are in Adobe PDF format and may be downloaded from www.seattleurbannature.org. For additional information, contact us at (206) 522-0334 or by e-mail at info@seattleurbannature.org.

Heron Habitat Helpers Annual Event

February 28, 2006—SUNP staff Ella Elman and Nelson Salisbury participated in the Heron Habitat Helpers Festival at the Daybreak Star Cultural Center in Discovery Park. Heron Habitat Helpers is a local group working to restore Kiwanis Ravine in the Magnolia Neighborhood. The event gave SUNP an opportunity to reach out to a number of people interested in urban forest restoration. Other groups present at the ceremony included People for Puget Sound, Seattle Audubon, Plant Amnesty, Seattle Works, Earthcorps, and the Discovery Park Advisory Council.

Right: Kayla Salisbury dons her SUNP apparel at the Heron Habitat Helpers Annual Homecoming Celebration.



**Interested in a Habitat Map of your part of Seattle?
SUNP Maps cover the entire city of Seattle.**

For additional details, contact us at (206) 522-0334 or download a form to order individual maps at www.seattleurbannature.org

SUNP Calendar

April 1

SUNP table at "Going Native" event at Molbak's Nursery in Woodinville

April 20

Completion of Llandover Woods Report

April 21

SUNP Board Meeting
University Heights Center

June 1

Denman Forestry Issues Series
UW Center for Urban Horticulture
SUNP Ecologist Ella Elman presenting lecture on vegetation issues in urban environments.

SUNP's Mission is to enrich the quality of life in the Puget Sound region by engaging communities to improve urban forests.

Board

Peggy Gaynor	President
April Mills	Vice President
Matt Mega	Treasurer
Bryan Baker	
Andy Bethurum	
Nancy Whitlock	
Josh Wozniak	
Janet Way (Advisory)	

Staff

Jeff Bash	Executive Director
Ella Elman	Ecologist
Nelson Salisbury	Ecologist
Kapala Hoge	GIS Intern

Help SUNP Achieve its Mission

Consider contributing to the Seattle Urban Nature Project. It's tax deductible.

A contribution to the Seattle Urban Nature Project helps SUNP provide survey and mapping services to community groups. With your donation, you will receive a quarterly newsletter highlighting SUNP's activities. For a donation of \$100 or greater, you will receive a 2' x 3' SUNP map of your choice from our catalog (see our website). We will send you an acknowledgement of the gift for your tax records.



*Chestnut-backed Chickadee
Photo by Glenn Austin*

Yes, I would like to help the Seattle Urban Nature Project to enrich the quality of life in the Puget Sound region by engaging communities to improve urban forests. Here is my donation.

_____ \$100 _____ \$75 _____ \$50
 _____ \$25 \$_____ Other

Please make your check out to Seattle Urban Nature Project

And mail to:

**Seattle Urban Nature Project
5218 University Way NE
Seattle, WA 98105**

Or donate at www.seattleurbannature.org

Comments, questions, or submissions? Please contact Jeff Bash, Executive Director via e-mail at jeff@seattleurbannature.org. If you would like to receive this newsletter in a different format or would like to be removed from the mailing list, please let us know. Learn more about SUNP at www.seattleurbannature.org. **Seattle Urban Nature Project © 2006**

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