



# **Department of Defense Legacy Resource Management Program**

09-364

## **Intensive Plant Conservation Training Workshop-Berkeley CA**

Kathryn L. Kennedy  
Center for Plant Conservation,  
Missouri Botanical Garden, St. Louis, MO

April 2010

#### Progress:

The workshop was held at the University of California Botanical Garden in Berkeley, CA on December 6-12, 2009. The CPC traveling workshop is designed to provide an overview of the multi-disciplinary elements involved in successful plant conservation work, including lectures, exercises and direct access to experienced scientists engaged in applied plant conservation projects. The workshop provides practical rules of thumb to assist in selecting a suitable approach for analysis and decision making in plant conservation. Registrants are given associated written material in two binders that included handouts of the presentations, federal guidance documents, pertinent scientific literature, bibliographies for further study, and contact information for professionals available to field questions outside the workshop.

A steering committee and pool of qualified faculty for each topic conferred prior to the workshop to review the previous workshop presentation (case studies and exercises) and binder resource materials. This process of updating and adding pertinent information for particular audiences occurs every year the workshop has been held. Conference calls were conducted over a four week period involving over 20 hours of telephone conference time and over 25 professionals from agencies, academia, and botanical garden research departments. Following completion of topic conference calls, CPC staff gathered new literature to update the binder materials, produced the binders and had them shipped to the University of California Botanical Garden.

Eleven faculty members from ten different institutions including botanical garden research departments, academic institutions and one federal employee taught the 17 different topics. Twenty-six Department of Defense (DoD) and non-DoD employees attended the workshop. DoD employees and DoD contractors made up 42% of the registrants. The remaining 58% were BLM, NPS, USFWS, botanic gardens, contractors and state employees. Workshop days included instruction and one field exercise to examine, make decisions, and discuss real world challenges in plant conservation.

In addition to the 45 hours in instruction, there was also an informal evening session and a pre-workshop field trip. The evening session was scheduled with the population modeling instructor for students to discuss specific questions about their own data and issues with population viability analyses. A pre-workshop field trip was led by Dr. Jaymee Marty (The Nature Conservancy) and Dave Musselwhite (Travis Air Force Base) where the group visited a long-term managed site of *Lasthenia conjugens*, an endangered species. The field trip enabled registrants the opportunity to get acquainted and put the issues involved in applied plant conservation work, particularly in California, in context.

#### Evaluations:

Twenty-one of the 25 participants (84%) filled out online evaluations after the workshop. A summary of remarks is included below. The evaluation form used is appended. The following percentages are calculated based on these 21 respondents, not total attendees.

Fifty-seven percent of the attendees were botanists, another 24% were natural resource managers, 14% were wildlife biologists or were working in other biological sciences and the remaining 19% of attendees worked in other areas of expertise. Twenty-nine percent of the attendees had worked in their area of expertise for over 20 years; 38% of the attendees had worked in their area of expertise for over 10 years; the remaining attendees had worked in their area of expertise from 6-10 years (14%) and 2-5 years (19%). This high number of attendees working for many years in the botanical profession demonstrates that even professional botanists and experienced managers seek extra assistance, skill building, and current resources to address complex plant conservation topics.

Eighty-six percent of the evaluation respondents said that workshop would help them in their career and that they would be able to use the workshop resources in their current position. Eighty-one percent of attendees said they would recommend this workshop to others

Below are representative positive comments received from the Berkeley 2009 workshop.

- This workshop was excellent. The CPC has an experienced and knowledgeable cadre of instructors.
- Too many to enumerate, but the instructors were great (!) and knew their subjects and were enthusiastic. The reading materials (just got to me today...and can't wait to start reading) is such a fabulous resource. The "crew" was marvelous...helpful...what can I say. Some great participants.
- Many restoration workshops skip over genetics or ex situ techniques, so this was a great review.
- The chance to learn so much about plant conservation in one location at one time, the opportunity to interact with so many conservation biology professionals at the same time, the dedication of the staff in making this a great welcoming experience for the participants, the chance to interact with and become renewed and refreshed in the Berkeley Botanic Garden, the location (great for going out and networking at night!), the hotel - near and comfortable yet reasonable.
- I think that the workshop did an excellent job covering many of the topics and tools that are useful for conservation work with plants. I appreciated that these topics varied from theoretical approaches to social/economic aspects of conservation projects.
- A diverse group of lecturers with broad experience in real world plant conservation concepts and problems. The workshop presenters and participants were clearly passionate about the subject.

Attachments:

Marketing Materials

- Natural Selection email/announcements/article
- Workshop Flyer

Workshop website

Evaluation Form

# CPC Plant Conservation Workshop Evaluation-Berkeley

Please help us improve the CPC Plant Conservation Workshop and complete our evaluation form. We appreciate your feedback!

\* Required

**What is your affiliation? \***

DoD

BLM

NPS

USFWS

USFS

USGS

Botanic Garden

Consultant

State

Other:

**What is your current expertise? \***

Botanist

Natural Resource Manager

Wildlife Biologist

Other Biological Sciences

Other:

**How many years experience do you have in the above chosen field(s)? \***

< 1 year

2-5 years

5-10 years

11-20 years

> 20 years

**How did you find out about the workshop? \***

PCA listserv

DoD Natural Selections Newsletter

From past attendee of CPC Plant Conservation Workshop

Direct mailing from CPC

Other:

### Which days of the workshop did you attend? \*

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

### Overall, the workshop was \*

(3 = just right)

1 2 3 4 5

Too easy

Too Difficult

### The amount of material presented was \*

(3 = just right)

1 2 3 4 5

Too Little

Too much

### Workshop materials were clear and easy to use. \*

1 2 3 4 5

Disagree

Agree

### Overall the workshop length was \*

(3 = just right)

1 2 3 4 5

Too Short

Too Long

### The workshop will help me in my career. \*

1 2 3 4 5

Disagree

Agree

**I will be able to use the workshop resources in my current position \***

1 2 3 4 5

Disagree

Agree

**There was ample time in and outside of sessions to interact with the faculty \***

1 2 3 4 5

Disagree

Agree

**Questions were encouraged by the instructors \***

1 2 3 4 5

Disagree

Agree

**I got a real benefit from the contacts I made during the week \***

1 2 3 4 5

Disagree

Agree

**There was ample time to interact with my peers in discussion and informally \***

1 2 3 4 5

Disagree

Agree

**Total expense to participate/attend the workshop was \***

(3=just right)

1 2 3 4 5

Too Little

Too much

**The workshop filled a unique niche with content not available elsewhere \***

1 2 3 4 5

Disagree

Agree

**I would recommend this workshop to others \***

1 2 3 4 5

Disagree

Agree



# CPC Plant Conservation Workshop Evaluation-Berkeley

\* Required

Page 2 of 4

Please mark your level of satisfaction for the following statements:

**My expectations for this program were: \***

1 2 3 4 5

Completely Satisfied

Completely Dissatisfied

**Overall quality of instructors: \***

1 2 3 4 5

Completely Satisfied

Completely Dissatisfied

**Helpfulness of program staff: \***

1 2 3 4 5

Completely Satisfied

Completely Dissatisfied

**Friendliness of program staff: \***

1 2 3 4 5

Completely Satisfied

Completely Dissatisfied

**Supplemental materials: \***

1 2 3 4 5

Completely Satisfied

Completely Dissatisfied

If you answered dissatisfied to any of the above questions, please explain why.



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# CPC Plant Conservation Workshop Evaluation-Berkeley

## Page 3 of 4

Please evaluate the content of each of the workshop topics and let us know if the materials and information provided were sufficient. (3=just about right). If you were not present for a particular topic, leave blank.

### What makes plant conservation different?

1 2 3 4 5

Too little

Too much

### Concepts of rarity

1 2 3 4 5

Too little

Too much

### State of conservation biology

1 2 3 4 5

Too little

Too much

### Systematics: Species Concepts and Hybridization

1 2 3 4 5

Too little

Too much

### Plant protection and legislation

1 2 3 4 5

Too little

Too much

### Recovery criteria

1 2 3 4 5

Too little

Too much

## Tools and partnerships

1 2 3 4 5

---

Too little

Too much

---

## Community structure and species signatures

1 2 3 4 5

---

Too little

Too much

---

## Threats and threat reduction

1 2 3 4 5

---

Too little

Too much

---

## Fragmentation and preserve design

1 2 3 4 5

---

Too little

Too much

---

## Ex situ management and restoration

1 2 3 4 5

---

Too little

Too much

---

## Conservation genetics

1 2 3 4 5

---

Too little

Too much

---

## Demography

1 2 3 4 5

---

Too little

Too much

---

## Population viability analysis

1 2 3 4 5

---

Too little

Too much

---

## In situ management and restoration

1 2 3 4 5

---

Too little

Too much

---

## Measuring success

1 2 3 4 5

---

Too little

Too much

---

## Surveying for rare plants: inventory and monitoring

1 2 3 4 5

---

Too little

Too much

---

For each of the above questions you answered "Too little", please explain why.



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# CPC Plant Conservation Workshop Evaluation-Berkeley

## Page 4 of 4

Please rate the individual instructors in their presentation clarity. If you were not present for the a particular instructor's section, leave blank.

### Kathryn Kennedy

Why is plant conservation different?; Concepts of rarity; State of conservation biology; Recovery criteria; Threats

1 2 3 4 5

Not clear

Very clear

### Dieter Wilken

Systematics

1 2 3 4 5

Not clear

Very clear

### Connie Rutherford

Plant protection and legislation

1 2 3 4 5

Not clear

Very clear

### Wendy Gible

Tools and partnerships

1 2 3 4 5

Not clear

Very clear

### Johnny Randall

Community structure and species signatures; Fragmentation and preserve design

1 2 3 4 5

Not clear

Very clear

### Ed Guerrant

Ex situ restoration and management

1 2 3 4 5

---

Not clear

Very clear

---

## Stuart Wagenius

Conservation genetics

1 2 3 4 5

---

Not clear

Very clear

---

## Pati Vitt

Demography

1 2 3 4 5

---

Not clear

Very clear

---

## Tiffany Knight

Population viability analysis

1 2 3 4 5

---

Not clear

Very clear

---

## Joyce Maschinski

In situ restoration and management; Inventory and monitoring

1 2 3 4 5

---

Not clear

Very clear

---

## Bruce Pavlik

Measuring success

1 2 3 4 5

---

Not clear

Very clear

---

What were the workshop's strengths?

What were the workshop's weaknesses?

Thank you for your time!

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## 3 New Workshops from the Department of Defense Legacy Resource Management Program!



### **Intensive Plant Conservation Training**

Offered by the Center for Plant Conservation



6-day workshop will include: Legislative Protection and Regulatory obligations for plant recovery, Population Evaluation, Demography, Population Viability Analysis, Plant Conservation Genetics, Restoration and Management (Ex-Situ and In-Situ) Inventory and Monitoring Techniques, Tools and Partnerships, and more. Participants will receive pragmatic tips, information resources, contact lists, and a unique opportunity to get questions answered by experts in the field. Space is limited to 35 attendees so sign up early!

Registration Fee: **FREE!**

Where: **Berkeley, California**

When: **December 7<sup>th</sup> through 12<sup>th</sup>, 2009**

For DoD Natural Resources Managers and their contracted support personnel. Up to 10 spaces will be available to non-DoD personnel.

For registration and more information contact Anna Strong, Center for Plant Conservation at: [Anna.Strong@mobot.org](mailto:Anna.Strong@mobot.org)



### **Regional Invasive Species Management Workshops**

Offered by the Center for Invasive Species Management and Invasive Plant Control, Inc.



5-day regional workshops will include: Ecological Context of Invasions; Regional Overview of Invasive Species Distribution; Trends, and Identification; Early Detection; Assessing Population Distribution and Prioritizing Management; Invasive Plant Management; Restoration Ecology; Local, State, and Federal Invasive Species Initiatives; and Partnerships. Space is limited to 40 for each offering so sign up early!

#### **For the Southwest Course:**

Registration Fee: **FREE!**

Where: **Phoenix, Arizona**

When: **October 26<sup>th</sup> through 30<sup>th</sup>, 2009**

For DoD Natural Resources Managers in the Southwest and their contracted support personnel. Up to 10 spaces will be available to non-DoD personnel.

For registration and more information visit: [www.weedcenter.org/dodworkshop](http://www.weedcenter.org/dodworkshop)

#### **For the Southeast Course:**

Registration Fee: **FREE!**

Where: **Chapel Hill, North Carolina**

When: **December 7<sup>th</sup> through 11<sup>th</sup>, 2009**

For DoD Natural Resources Managers in the Southeast and their contracted support personnel. Up to 10 spaces will be available to non-DoD personnel.

For registration and more information contact Steven Manning, Invasive Plant Control, Inc at:  
[stevemanning@mindspring.com](mailto:stevemanning@mindspring.com)



## CPC Plant Conservation Workshop

funded by DoD Legacy Resource Management Program

7-12 December, 2009, University of California Botanical Garden, Berkeley, California



### [Workshop Overview](#)

### [Course Schedule](#)

### [Faculty](#)

### [Location and Lodging](#)

### [Past Workshop Comments](#)

### [Registration](#)

### **Workshop Overview:**

The Center for Plant Conservation, with botanists nationwide, has created a curriculum that will present an overview of key conservation topics. Participants will receive pragmatic tips, information resources, contact lists of experts and an opportunity to get your questions answered by experts in the field.

There will be more than 17 topics taught throughout the week, including academic and practical components such as:

- Plant Protection Legislation and Mitigation
- Population Evaluation: Demography
- Population Viability Analysis
- Plant Conservation Genetics
- Restoration and Management: Ex-Situ and In-Situ
- Tools and Partnerships
- See [Course Schedule](#) for more details.

With registration participants will receive two large three-ring binders of printed resource materials. Registration includes lunch during workshop, resource materials and transportation from hotel to workshop.

### **Cost**

Participants are responsible for lodging, morning and evening meals, and transportation to and from the airport. Registration is open for DoD personnel. Registration opens for the general public on October 5, 2009.

### **Workshop Origins**

In 2003 the Center for Plant Conservation convened five scoping meetings around the country to solicit input on topics and resources for the course curriculum. Attendees included members of CPC's network and advisory councils, state and federal agency representatives, academicians involved in plant conservation research and educational resource representatives of federal agency training centers. CPC completed background literature searches on key topics, developed the course training manual and distributed it for peer review. The reviews from the previous training workshops in 2005, 2006 and 2008 were overwhelmingly favorable, and we look forward to offering the next workshops!

For more information contact Anna Strong, CPC Conservation Project Coordinator, at 314-577-9452 or [anna.strong@mobot.org](mailto:anna.strong@mobot.org)



## 6-12 December, 2009 Berkeley Plant Conservation Workshop Syllabus

	Sun Dec 6	Mon Dec 7	Tues Dec 8	Wed Dec 9	Thurs Dec 10	Fri Dec 11	Sat Dec 12		
		Sign-in & Set-up	Sign-in & Set-up	Sign-in & Set-up	Sign-in & Set-up	Sign-in & Set-up	Sign-in & Set-up		
8am	Pre-Workshop Field Trip TBD	Welcome & Overview What Makes Plant Conservation Different? [1hr] Dr. Kathryn Kennedy	Examining Community Structure and Species Signatures [1.5 hrs] Dr. Johnny Randall North Carolina Botanical Garden	Restoration and Management - Ex Situ [2 hrs] Dr. Ed Guerrant Berry Botanic Garden	Conservation Genetics, cont. [1 hr] Dr. Stuart Wagenius Chicago Botanic Garden	Population Viability Analysis, cont. [1.75hrs] Dr. Tiffany Knight Washington University St. Louis, MO	Surveying for Rare Plants: Inventory and Monitoring (including monitoring exercise) Dr. Joyce Maschincki Fairchild Tropical Botanical Garden (lunch provided)	8am	
9am		Concepts of Rarity & Imperiled Plants [.75hr] Dr. Kathryn Kennedy	Break	Break	Population Evaluation: Demography [1 hr], Dr. Pati Vitt Chicago BG	Break		9am	
10am		Break	Community Structure & Sp. Signatures [1 hr] Dr. Johnny Randall North Carolina BG	Break	Break	Break		10am	
11am		The State of Conservation Biology [1hr] Dr. Kathryn Kennedy CPC	Evaluating Threats & Threat Reduction [1.5hrs]: Dr. Kathryn Kennedy Center for Plant Conservation	Restoration and Management-Ex Situ [1 hr] Dr. Ed Guerrant Berry BG	Population Evaluation: Demography [2 hrs], cont. Dr. Pati Vitt Chicago Botanic Gardens	PVA , cont. [1 hr] Dr. Tiffany Knight Washington University St. Louis, MO		11am	
12pm		Importance of Systematics: Species Concepts & Hybridization [1.25hr] Dr. Dieter Wilken Santa Barbara BG	Conservation Genetics [1.25 hrs] Dr. Stuart Wagenius Chicago Botanic Garden	Lunch	Lunch	Restoration and Management In-Situ [1.25 hrs] Dr. Joyce Maschincki Fairchild Tropical BG		12pm	
1pm		Lunch	Lunch	Lunch	Lunch	Lunch		1pm	
2pm		Systematics, cont. [.75hr] Dr. Dieter Wilken	Fragmentation and Preserve Design, [2 hrs]: Dr. Johnny Randall North Carolina Botanical Garden	Conservation Genetics [2.5 hrs] , cont. Dr. Stuart Wagenius Chicago Botanic Garden	Popln Evaluation: Demography [1hr], cont. Dr. Pati Vitt	Restoration and Management In-Situ, cont [1.75 hrs] Dr. Joyce Maschinski Fairchild Tropical BG Miami, FL		Course Evaluation and Wrap-up [1 hr]	2pm
3pm		Plant Protection and Legislation [1hr] Connie Rutherford USFWS, Region 8	Break	Break	Population Viability Analysis [1.25hrs]: Dr. Tiffany Knight Washington University St. Louis, MO	Break		3pm	
4pm		Recovery Criteria: Biological & Functional Aspects of Recovery [1.5hrs] Dr. Kathryn Kennedy Center for Plant Conservation	Fragmentation and Preserve Design, cont. [1 .75 hrs]: Dr. Johnny Randall North Carolina Botanical Garden	Break	Break	Measuring Success & Planning to Measure Success [2hrs] Dr. Bruce Pavlik Mills College Oakland, CA		4pm	
5pm		Break	Break	Conservation Genetics, cont. [2 hrs] Dr. Stuart Wagenius Chicago Botanic Garden	Population Viability Analysis, cont. [2.5 hrs] Dr. Tiffany Knight Washington University St. Louis, MO	Announcements		5pm	
6pm	Tools and Partnerships [2 hrs] Wendy Gibble University of Washington Botanic Gardens	Break	Announcements	Announcements	Dinner Break	6pm			
7pm	Informal Welcome Reception Location TBA	Federal & State Agency Partners Discussion - What Are Your Issues? [2 hrs] Representatives from CA Fish and Game, BLM, USFWS (dinner provided) Location: UCBG			PVA practice session. Bring your data. [2 hrs] Dr. Tiffany Knight Washington University St. Louis, MO	7pm			
8pm						8pm			



## CPC Plant Conservation Workshop

funded by DoD Legacy Resource Management Program

7-12 December, 2009, University of California Botanical Garden, Berkeley, California



### Workshop Overview

### Course Schedule

### Faculty

### Location and Lodging

### Past Workshop Comments

### Registration

### **Faculty:**

CPC workshops draw instructors from the faculty pool listed under each course topic. All course content has been thoroughly evaluated by each group of rare plant conservation professionals.

(\* taught topic segment in 2005, 2006 or 2008)

### **Topics:**

1. Why is plant conservation, management and recovery different from animal conservation, management and recovery?
2. Plant Protection and Legislation: ESA, and other federal natural resource laws and state and local level protection
3. The State of Conservation Biology
4. Concepts of Rarity and Imperiled Plants
5. Recovery Criteria: Biological & Functional Aspects of Recovery
6. Measuring Success and Planning to Measure Success
7. Importance of Systematics: Species Concepts and Hybridization  
Plant taxonomy and Species integrity—forces of cohesion vs. isolation
8. Examining Community Structure and Species Signatures
9. Evaluating Threats and Threat Reduction:

### **Potential instructors:**

[Dr. Kathryn Kennedy\\*](#)  
Dr. Loyal Mehrhoff  
Dr. Don Falk  
[Dr. Peter White](#)

[Connie Rutherford](#)  
[Peggy Olwell](#)  
Dr. Carol Dawson

[Dr. Kayri Havens\\*](#)  
Dr. Mike Maunder  
[Dr. Peter White](#)

[Dr. Kayri Havens\\*](#)  
[Dr. Johnny Randall](#)  
Dr. Mike Maunder

[Dr. Kathryn Kennedy\\*](#)  
[Dr. Kayri Havens\\*](#)  
Dr. Loyal Mehrhoff  
Chris Frisbee

[Dr. Kayri Havens\\*](#)  
[Dr. Bruce Pavlik](#)

[Dr. Dieter Wilken\\*](#)  
[Jackie Poole\\*](#)  
Dr. Loren Rosen  
[Dr. Warren Wagner\\*](#)

[Dr. Kathryn Kennedy\\*](#)  
[Dr. Johnny Randall](#)  
Dr. Marlin Bowles  
Dr. David Diamond

[Dr. Kathryn Kennedy\\*](#)

Habitat loss/degradation, Invasive species, and Population level impairments	Chris Frisbee <a href="#">Dr. Kayri Havens</a> <a href="#">Dr. Johnny Randall</a> Dr. David Diamond
10. Population Evaluation: Demography	<a href="#">Dr. Pati Vitt*</a> <a href="#">Dr. Joyce Maschinski</a> Dr. Michelle Dudash <a href="#">Dr. Ed Guerrant</a>
11. Population Viability Analysis (PVA)	<a href="#">Dr. Tiffany Knight*</a> Dr. Eric Menges Dr. Tim Bell Dr. Tom Kaye
12. Surveying for Rare Plants: Inventory and Monitoring	<a href="#">Dr. Joyce Machinski*</a> Dr. Rob Sutter <a href="#">Dr. Ed Guerrant</a>
13. Plant Conservation Genetics	<a href="#">Dr. Stuart Wagenius*</a> Dr. Michelle Dudash Dr. Kent Holsinger Dr. Barbara Schaal Dr. Jeremie Fant
14. Fragmentation and Preserve Design	<a href="#">Dr. Peter White*</a> <a href="#">Dr. Johnny Randall*</a> Dr. Eric Menges <a href="#">Dr. Stuart Wagenius</a>
15. Restoration and Management: Ex-Situ	<a href="#">Dr. Kayri Havens*</a> <a href="#">Dr. Peter White</a> <a href="#">Dr. Johnny Randall</a> Dr. Anne Bradley Dr. Carol Dawson Dr. Don Falk Chris Frisbee <a href="#">Dr. Ed Guerrant</a> Dr. Rob Robichaux
16. Restoration and Management: In-Situ	<a href="#">Dr. Joyce Machinski*</a> <a href="#">Dr. Johnny Randall*</a>
17. Tools and Partnerships	<a href="#">Anita Tiller*</a> <a href="#">Dr. Wendy Gibble*</a> Dr. Bill Brumback Dr. Chris Mattrick Dr. Sarah Riechard <a href="#">Dr. Kayri Havens</a> Dr. Jim Shevock

### Potential Speaker Bios

#### Dr. Wendy Gibble

Wendy Gibble is the Program Manager for the University of Washington Botanic Gardens. Ms. Gibble manages the Washington Rare Plant Care and Conservation program for the University of Washington Botanic Gardens. Ms. Gibble has a B.S. in Civil and Environmental Engineering from Cornell University and an M.S. in Forest Resources from the University of Washington. Her research focused on plant competition and mechanisms of plant invasions in the South Puget Sound prairies of Washington State. Prior to receiving her Masters degree, Ms. Gibble worked for 13 years as a professional engineer in the Pacific Northwest. During that time, she worked on a wide array of environmental projects, managing and conducting public works projects for local, state and federal agencies.

#### Dr. Ed Guerrant

Ed Guerrant holds a BS in Botany and Zoology from the University of Washington, an MA in Biology from Sonoma State College, and a PhD in Botany from the University of California at Berkeley. He taught at Lewis and Clark College, in Portland, Oregon for several years before joining the Berry Botanic Garden in 1989. He is currently the Conservation Director and Seed Bank Curator. His work encompasses the full range of ex situ plant conservation activities from collecting and storing seeds, conducting research into their germination requirements, and when necessary, using the seed to

reintroduce populations back into the wild. He also conducts applied conservation research, and along with Drs. K Havens and M Maunder, co-edited the book, *Ex Situ Plant Conservation: Supporting Species in the Wild*, published in 2004 by Island Press.

#### **Dr. Kay Havens**

Kayri Havens holds a B.S. and an M.A. in Botany from Southern Illinois University and a Ph.D. in Biology from Indiana University where she studied reproductive success in a rare evening primrose (*Oenothera organensis*) from New Mexico. She spent three years as the Conservation Biologist at Missouri Botanical Garden before joining the Chicago Botanic Garden in April 1997. She is currently the Garden's Director of the Institute for Plant Conservation. Her research interests include restoration genetics and the biology of plant rarity and invasiveness. She is on the adjunct faculty of Loyola University, Northwestern University and the University of Illinois-Chicago and collaborates with a variety of academic institutions and stewardship organizations to help improve conservation efforts for rare plants.

#### **Dr. Kathryn Kennedy**

Dr. Kathryn Kennedy joined the Center for Plant Conservation as its President and Executive Director in Sept of 2000. The Center coordinates and assists development of hands-on plant conservation programs in a national network of 36 Participating Institutions. Kathryn coordinates the Center's work from the national office in St. Louis, ensuring scientific excellence and program development for the organization and its institutions.

Kathryn earned her Ph.D. from the University of Texas at Austin working in systematics and evolution, and her M.S. from New Mexico State University working in plant ecology. Prior to coming to CPC Kathryn spent 20 years working in plant conservation in Texas. She was the recovery botanist for the Fish and Wildlife Service in Austin for nearly 10 years, worked for the Texas Department of Parks and Wildlife in rare plant recovery planning and rare plant monitoring, and was one of the first employees at the Lady Bird Johnson Wildflower Center.

Dr. Kennedy is currently serving as the Chairman of the Non-governmental Organization Committee for the Plant Conservation Alliance, the chairman of the Conservation Committee for the Botanical Society of America, and is a member of the IUCN Plant Conservation Committee. In 2004 she received the Achievement Award of the Plant Conservation Alliance as well as the Nancy Benedict Memorial Award from the Native Plant Society of Texas.

#### **Dr. Tiffany Knight**

Tiffany Knight is a population ecologist with expertise in population viability analysis. She received her B.S. from Florida State University and her doctorate from the University of Pittsburgh. She conducted two post-doctorate fellowships at the University of Florida and the National Center for Ecological Analysis and Synthesis, before moving into her current position as an Assistant Professor at Washington University in St. Louis. Her research focuses on how the persistence of rare plants is affected by other species in their community, such as herbivores, pollinators, seed predators, and invasive plants. To do this, she conducts field experiments that manipulate the abundance of these interacting species, collects demographic data on the stage-specific survival and fecundity of the rare plant, and creates a population model to project plant population dynamics. She has worked on *Trillium grandiflorum*, which is declining due to increased deer herbivory, and the endangered plant Tidestrom's Lupine, which is declining due to invasive plants and high levels of seed predation.

#### **Dr. Joyce Machinski**

Since Oct 2002, Dr. Joyce Maschinski has served as the Conservation Ecologist/ Team Leader at Fairchild Tropic Garden. Joyce received her B.S. and Masters degrees at the University of Arizona in Tucson, Arizona, and her doctorate from Northern Arizona University in Flagstaff, Arizona. From 1990-2002, she worked at The Arboretum at Flagstaff as Curator of Plants, Interim Director, and Director of Research, where her job encompassed aspects of research, administration and collaborations regarding plant conservation with federal, state and non-profit agencies. At Fairchild, Joyce leads the conservation team, which is doing both applied and theoretical research on rare plants of South Florida. She has organized regional Rare Plant Task Forces and conferences on endangered plants. Her current research interests center on understanding factors that limit reproduction, growth and expansion of rare plant populations. Recent research has examined the impact of human activities on rare plants and has provided management solutions for the conservation of rare plant species. Hybridization, herbivory, habitat destruction, timber harvest, trampling, climate change and fire threats to rare plants are among the factors she has studied.

#### **Peggy Olwell**

Peggy Olwell is the Plant Conservation Program Manager for the Bureau of Land

Management in Washington, DC. Peggy has worked on endangered species issues for more than 20 years. Prior to BLM, Peggy was the Endangered Species Program Manager for the National Park Service where she was instrumental in developing the Plant Conservation Alliance, a partnership of 15 federal agencies and over 275 state and private organizations implementing a national plant conservation strategy, which addresses issues such as medicinal plants, invasive alien plants, restoration, and research and information sharing. Currently, she is chair of the PCA Federal Native Plant Committee. Prior to NPS, Peggy was the Conservation Program Manager for the Center for Plant Conservation where she developed policy and guidance for the National Collection of Endangered Plants. Peggy also worked as the Regional Botanist with the U.S. Fish and Wildlife Service's Southwest Regional Office of Endangered Species where she developed and implemented recovery plans and Endangered Species Act listing for many of the endangered plants of Arizona, New Mexico, and Texas. Peggy co-edited with Don Falk and Connie Millar a 1996 publication by Island Press entitled, *Restoring Diversity: Strategies for Reintroduction of Endangered Plants*. She is chair of the North American Plant Specialist Group for IUCN. Peggy received her B.S. in Botany from the University of North Carolina at Chapel Hill and her M.S. in Biology from Southern Methodist University.

#### **Dr. Bruce Pavlik**

Bruce M. Pavlik received his Ph.D in Botany from the University of California at Davis, working on the physiological ecology of grasses with Professor Michael Barbour. His research has focused on the ecology and physiology of plants native to western North America, including the conservation of endangered species. Ecological restoration has become central to his research program and recent projects have emphasized the design and active management of populations and communities using field-based, experimental approaches. Most of his projects have been associated with grasslands and deserts, but unusual ecosystems (dunes, lakeshores, geothermal springs, serpentinite outcrops, vernal pools) have received special attention. His current challenge is to make adaptive management work to benefit resources in situ. He is currently Professor of Biology at Mills College in Oakland, California and author or co-author of more than forty scientific and popular publications, including *Oaks of California* (1991, Cachuma Press), *California's Changing Landscapes* (1993, California Native Plant Society), the fifth edition of the *Inventory of Rare and Endangered Vascular Plants of California* (1994, California Native Plant Society) and *California Deserts: An Ecological Rediscovery* (2008, University of California Press). He has recently established a science consulting business that assists agencies and companies in resolving resource management problems. BMP Ecosciences was established in 2000 to provide "win-win" solutions that avoid listing of endangered species, to develop "best management practices", and to find common ground among environmental adversaries.

#### **Jackie Poole**

Jackie Poole received her B.A. in Botany from the University of Texas at Austin. Her Master's Degree, also from UT-Austin, was a taxonomic revision of the genus *Acleisanthes* in the family Nyctaginaceae. She worked in curatorial positions at Harvard University and UT-Austin. In 1983 she became the botanist for the Texas Natural Heritage Program which eventually morphed into the Wildlife Diversity Program at the Texas Parks and Wildlife Department. She is on the board of the Flora of North America project as well as taxon editor for several small families and the South Central Regional Coordinator. She has collected plants in the western US as well as Central and South America. In 2004 she received the Charles Leonard Weddle Lifetime Achievement Award from the Native Plant Society of Texas. She has produced floral inventories for numerous state and national parks, written dozens of status reports and recovery plans for rare and endangered plants, and published several articles on taxonomic subjects, rare plant habitats and demographics. Her primary research consists of long-term demographic studies of several endangered plants. She co-authored the first book on the rare plants of Texas, and recently with additional co-authors updated the work to cover over 230 species.

#### **Dr. Johnny Randall**

Johnny Randall received his BA in Biology at the University of North Carolina at Charlotte and both his MS and PhD in Botany at Virginia Polytechnic Institute and State University. He did ten years as university faculty at Salem College, The University of North Carolina at Greensboro, and at The University of North Florida. Johnny joined the North Carolina Botanical Garden (NCBG) of the University of North Carolina at Chapel Hill in 1998 as Assistant Director for Conservation. Johnny is also adjunct faculty at the University of North Carolina at Chapel Hill. His training and research interests are in plant reproductive ecology, rare plant biology, conservation biology, and he is a jack of all trades but master of none. At NCBG Johnny oversees the conservation and management of natural areas, and administers rare plant programs. He gives regular presentations to garden clubs, botanical gardens, universities, native plant societies and other conservation organizations. Johnny also serves on numerous boards and advisory committees and is the current president of the North Carolina Exotic Pest Plant Council.

**Connie Rutherford**

Connie is the Listing and Recovery Coordinator for Plants for the U.S. Fish and Wildlife Service's field office in Ventura, California. She has a BA in plant sciences from the University of California at Santa Cruz and an MA in botany from California State University, Humboldt, where she focused on the classification of montane wetlands in the southern Cascades of Oregon. She developed restoration plans for mine tailing sites in Alaska and planned and implemented conservation measures for sensitive plants in the Mojave Desert for the Bureau of Land Management; she also monitored and developed recommendations for minimizing recreation impacts in a wilderness area for the Rogue River National Forest. During 2 years in Haiti as a Peace Corps volunteer, she assisted the U.N.'s FAO in teaching basic watershed management techniques and starting up neighborhood-based tree nurseries in a remote deforested watershed. For the last 19 years, she has worked for the Fish and Wildlife Service, initially focusing on evaluating a large suite of plant taxa for listing. She then shifted to recovery planning and implementation, to critical habitat designations, and then to preparing 5-year reviews for listed plant taxa. She also was an instructor on the ESA listing process for the Service's National Conservation Training Center. For the last 5 years, she has assisted staff throughout the office in all of these program areas, and has been particularly interested in seeking opportunities to advance recovery objectives in partnership with academic institutions and others. Current projects include experimental outplantings of 3 plant taxa that are on the brink of extinction. She is involved in a number of outreach efforts, ranging from occasionally guest lecturing at local universities, writing articles for the general public, and organizing environmental education activities for her kids' elementary and middle school classes.

**Anita Tiller**

Anita Tiller received a B.S. in biology/chemistry with emphasis on community ecology in 1979 and an Environmental Science certificate in 1980 from the University of Alabama. She received a M.S. in Botany at the University of Florida, Gainesville with emphasis on aquatic botany in 1983. Her field biology training includes terrestrial and aquatic vegetation mapping, avian and mammalian ecology and limnological monitoring in Florida and Alabama for university and federal government grants. Through the 13 years as she worked as a scientist and manager for clinical and research labs at the Veterinary Teaching Hospital at the University of Florida and Baylor College of Medicine, Houston, she also studied at the School of Forestry, Wildlife Biology at the University of Florida and the Dept. of Ecology & Evolutionary Biology at Rice University in Houston. Her current position is Botanist and Conservation Manager at Mercer Arboretum and Botanic Gardens, Harris County Precinct 4 in December of 2000. Anita has authored and co-authored numerous scientific and conservation publications and presentations since 1982.

**Dr. Pati Vitt**

Pati Vitt received a B.A. in Human Ecology at the College of the Atlantic (Bar Harbor, Maine), and an M.S. from the University of Maine (Orono, Maine) doing research on the reproductive biology and demography of the small whorled pogonia (*Isotria medeoloides*). To further understand the impact of plant size on reproductive patterns, and the subsequent effect at the population level, she pursued her Ph.D. at the University of Connecticut (Storrs, Connecticut). Her dissertation research focused on the effect of plant size on gender expression in the gender-switching species Jack-in-the-pulpit (*Arisaema triphyllum*), and how differences in this trait are expressed at the population level. Her current research interests include the costs and benefits of volunteer-mediated hand pollination in the prairie fringed orchids; the impact of community level management on non-target rare plant species; and how plant species ranges will shift under global climate change. She is currently the Manager of Ex Situ Conservation and Restoration Programs at the Chicago Botanic Garden.

**Dr. Stuart Wagenius**

Stuart Wagenius is a Conservation Scientist at the Chicago Botanic Garden--Institute for Plant Conservation. Stuart's main research interests are the consequences of habitat fragmentation on plant reproduction and survival. Currently, he is evaluating the relative contributions of genetic and ecological processes to population decline in *Echinacea angustifolia*, a widespread purple coneflower of the Great Plains and tallgrass prairie. Stuart also enjoys regularly teaching Plant Conservation Genetics. Before working at the Chicago Botanic Garden, he did his dissertation work at the University of Minnesota.

**Dr. Warren Wagner**

Warren Wagner is Curator of Pacific Botany and Chair of the Department of Botany at the Smithsonian Institution. He also is the McBryde Chair of Hawaiian and Pacific Plant Studies at the National Tropical Botanical Garden. Dr. Wagner received B.S. and M.S. degrees in Biology from the University of New Mexico (1973, 1977), and the Ph.D. in Biology from Washington University and the Missouri Botanical Garden (1981). He previously was a research botanist at the Bishop Museum (1982-1988) where he led the Manual of the Flowering Plants of Hawai'i project. He has served in various capacities with a number of organizations and societies, including: American Society of Plant

Taxonomists (ASPT) (Chair, Finance committee, 2002-present; Systematic Botany Monographs, Editorial Committee, 1995-1997; Editor, Newsletter, 1990-1992); International Association for Plant Taxonomy (IAPT) (Reserve Fund Manager, 2005-present; Administrator of Finance, 2001- 2005; Council, 1999- 2001; USA Board of Directors, 1996-present); Washington Biologists= Field Club (Treasurer, 1997-present); Species Plantarum (Treasurer, 2000-present); Smithsonian Science Commission (2001-2002); and Center for Plant Conservation (Science Advisory Council, 1993-present). His research focuses on systematics, biogeography, and evolution, especially on Pacific oceanic islands and the evening primrose family (Onagraceae) [see web Pages: <http://botany.si.edu/staff/>].

#### **Dr. Peter White**

Peter White completed his BA at Bennington College and his PhD, in plant ecology, at Dartmouth College. After a year as Assistant Professor at Dartmouth, he became a NEA Postdoctoral Fellow at the Missouri Botanical Garden after which he was appointed a Research Biologist position with the National Park Service in Great Smoky Mountains National Park. In 1982 he became the first director of the Cooperative Park Studies Unit at the University of Tennessee in Knoxville. He moved to the University of North Carolina at Chapel Hill in 1986 to the position of Professor in Biology and Director of the North Carolina Botanical Garden. He has published over 100 scholarly papers, several books (including an award winning book on wildflowers), and many articles for public audiences. He is a frequent speaker to garden clubs, botanical gardens, universities, and professional societies and has lectured in China, Japan, England, Germany, Norway, Sweden, Denmark, and Canada.

#### **Dr. Dieter Wilken**

Dieter Wilken is Vice President of Programs and Collections at the Santa Barbara Botanic Garden, and Manager of the Garden's conservation program. He serves as the Garden's liaison to the Center for Plant Conservation. Dr. Wilken holds a B.A. degree (1967) in Botany from California State University at Los Angeles, and a Ph.D. (1971) in Biological Sciences from the University of California at Santa Barbara. He has served on the faculty at Occidental College, Colorado State University, and the University of California at Santa Barbara, where he taught courses in plant taxonomy and systematics. At UC Berkeley (1990-1993) he served as manager of the Jepson Manual project. He has served on a number of committees related to plant conservation, including the Colorado Rare Plant Technical Committee, NSF Biodiversity Program panels, and the California Native Plant Society's Scientific Advisory Committee. He is a member of the California Botanical Society, the Botanical Society of America, the American Society of Plant Taxonomists, and a Fellow of the Linnean Society. His research focuses on floristics, the systematics of Polemoniaceae, and rare plant demography.

#### **Dr. John Willoughby**

John Willoughby is the State Botanist for the Bureau of Land Management (BLM) in California. He has served as both botanist and range conservationist for the BLM since 1979. He received his B.A. and M.A. in botany/plant ecology at California State University, Sacramento, and currently serves as adjunct faculty for that institution. He has received additional training in statistical sampling techniques, nonparametric statistics, resampling methods, multivariate analysis, population modeling, and remote sensing of vegetation. His responsibilities include rare plant management, the inventory and monitoring of plant populations, and vegetation monitoring. He is coauthor of two books on plant population monitoring, two interagency technical references on rangeland monitoring, and one BLM technical reference on the statistical analysis of rangeland monitoring data. He teaches an annual 6.5 day BLM course on the monitoring of plant populations and vegetation, currently in its 16th year, and has instructed several shorter courses on the subject for the University of California, Davis, the Society of Ecological Restoration, and the Chicago Botanic Garden.

For more information contact Anna Strong, CPC Conservation Project Coordinator, at 314-577-9452 or [anna.strong@mobot.org](mailto:anna.strong@mobot.org)



## **CPC Plant Conservation Workshop**

**funded by DoD Legacy Resource Management Program**

**7-12 December, 2009, University of California Botanical Garden, Berkeley, California**



[Workshop Overview](#)

[Course Schedule](#)

[Faculty](#)

[Location and Lodging](#)

[Past Workshop Comments](#)

[Registration](#)

### **Location and Lodging:**

#### **Workshop Location**

Workshop will be held at the [University of California Botanical Garden](#) with parking available in the UC Lot across from the Garden. Parking is \$7 daily or \$0.75 for first half hour, \$1.50 for one hour and \$0.50 for each half hour thereafter. Transportation is provided to the hotel.

- [Directions](#)
- [Campus Map](#) (zoom out for overall campus view)

UC Botanical Garden: 200 Centennial Dr., Berkeley, CA 94720

Phone: 510-643-2755 Fax: 510-642-5045

#### **Hotel Information**

[Hotel Durant](#), 2600 Durant Ave., Berkeley, CA 94704 ([click here](#) for directions)  
To make reservations [click here](#), or call 800-238-7268. Please refer to "Center for Plant Conservation" as the room block name.

You should be charged \$106 (one queen) or \$126 (two doubles) per night.

Make your reservation by Thursday, October 15, to ensure room availability and the above quoted price.

If you drive your own vehicle, you will be charged \$16 per vehicle nightly to park in the hotel garage.

For more information contact Anna Strong, CPC Conservation Project Coordinator, at 314-577-9452 or [anna.strong@mobot.org](mailto:anna.strong@mobot.org)





## **CPC Plant Conservation Workshop**

**funded by DoD Legacy Resource Management Program**

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[Workshop Overview](#)

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### **What previous attendees thought about CPC's Plant Conservation Workshop:**

- 100% said the workshop will help them in their career.
- 100% said this workshop filled a unique niche with content not available elsewhere.
- 100% said they would recommend this workshop to others.

"Every portion of this workshop in some way or another is very relevant to my work as an Ecologist. All the different facets of plant conservation were covered and it is very apparent that years of planning were put into it. It was one of the most organized and useful trainings I have had. Although some of the material I have seen in other courses or read about, it was very helpful as a review to hear it again and to see new up-to-date examples from researchers in the field."

"The workshop provided a great range of important topics which are unavailable elsewhere as one collective set! Provides great reference for use throughout career."

"I enjoyed all of the presentations. The instructors were very knowledgeable, thorough, and extremely approachable. Thank you all very much!"

"PVA is absolutely important! Tiffany Knight was outstanding, clear, and inspirational."

"Overall, great training program. I really enjoyed the material, instructors/staff and the networking/participants."

"Mahalo! Stuart, you made genetics fun and understandable. Joyce, you were a champ at holding interest in a very difficult time spot."

### **Helpfulness of program staff:**

- Attendees Completely Satisfied: 86%
- Attendees Very Satisfied: 14%

For more information contact Anna Strong, CPC Conservation Project Coordinator at 314-577-9452 or [anna.strong@mobot.org](mailto:anna.strong@mobot.org)



## CPC Plant Conservation Workshop

funded by DoD Legacy Resource Management Program

7-12 December, 2009, University of California Botanical Garden, Berkeley, California



[Workshop Overview](#)

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### Registration

Registration includes lunch during workshop, resource materials and transportation from hotel to workshop. Registration is open for DoD personnel. Registration opens for the general public on October 5, 2009.

### Registrants

Tuition will not be charged to DoD Natural Resources Managers and their contracted support personnel because this workshop is sponsored by the DoD Legacy Resource Management Program. **Registrants are encouraged to bring their own laptops. Please make sure if you bring a work computer, that you are given administrative access to install a free software (R).** Participants are responsible for morning and evening meals, transportation and lodging.

### Registration Form

Send in above form via email to [anna.strong@mobot.org](mailto:anna.strong@mobot.org) or fax to 314-577-9465.

### Pre-Workshop Field Trip

The field trip will be held the Sunday prior to the workshop on December 6, 2009.

Jaymee Marty of the Nature Conservancy will be our guide on this field trip to Travis Air Force Base, home to populations of the federally endangered *Lasthenia conjugens* (Contra Costa goldfield). The plant occurs in seasonal wetland habitats called vernal pools, some of which were damaged on the air force base in the late 1990s during a runway-repair project. Subsequently, the Air Force did some experimental vernal pool restoration as mitigation. Additionally, there are active management issues associated with the habitat because the pools are surrounded by invasive species. Most construction projects on base have the potential to impact wetlands and a variety of endangered species, including *L. conjugens*, so there is a tedious permitting process that is managed by the Air Force as well.

Transportation for this field trip will be provided. The field trip leaves from the hotel at 8:30 a.m. and arrives back at the hotel by 3:30 p.m. Please bring a photo ID, rain gear, closed-toe walking shoes, a hat and sunscreen. A box lunch, water and snacks will be provided.

For more information contact Anna Strong, CPC Conservation Project Coordinator, at 314-577-9452 or [anna.strong@mobot.org](mailto:anna.strong@mobot.org)

# APPLIED PLANT CONSERVATION

funded by DoD Legacy Resource Management Program

7-12 December 2009, University of California Botanical Garden,  
Berkeley, CA

Registration is required. Please complete the form below and then either print as a pdf and return via Email or print and fax. Registration includes lunch during workshop, resource materials, and transportation from selected hotel to workshop.

**Cost:** *Tuition expenses will not be charged because this workshop is sponsored by the DoD Legacy Resource Management Program.*

**Pre-workshop Field Trip (Sunday, December 6):** Currently unconfirmed, please check here \_\_\_\_\_ if interested in information when it becomes available.

**By Mail:** Center for Plant Conservation, Anna Strong, PO Box 299, St. Louis, MO  
63166-0299

**By E-mail:** [anna.strong@mobot.org](mailto:anna.strong@mobot.org)

**By Fax:** 314-577-9465

**Name:** \_\_\_\_\_

**Job Title:** \_\_\_\_\_

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City/State/Zip:** \_\_\_\_\_

**Daytime Phone:** \_\_\_\_\_

**Evening Phone:** \_\_\_\_\_

**Fax:** \_\_\_\_\_

**Email:** \_\_\_\_\_



[www.centerforplantconservation.org/  
Education/Workshops/DoD/Berkeley2009.htm](http://www.centerforplantconservation.org/Education/Workshops/DoD/Berkeley2009.htm)





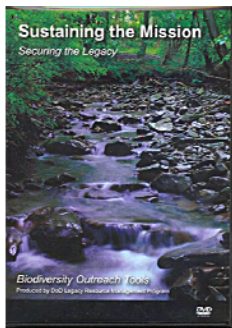
# Natural Selections

## Legacy Program Update

**FY 2010 Pre-Proposals Due to the Legacy Office no later than Friday, July 31, 2009:** The Legacy Program released its Request for Proposals (RFP)! The schedule is as follows:

- ❖ **31 July: Preproposals due to Legacy Office**
- ❖ 1 Sept: Notification to submit full proposal
- ❖ 24 Sept: Full proposals due to Legacy Office

**Help Us Increase the Effectiveness of our Outreach Tools!** We hope that many of you have been using our Biodiversity Outreach Toolkit (BOT), including our three PowerPoint presentations -- Information for Installation Leaders, Information for Civilian Leaders, and The Military Community.



We currently are developing a companion Invasive Species Toolkit, to include sample posters, fact sheets and brochures. Another potential product we may add -- a PowerPoint presentation similar to those found in the BOT.

We need your help in determining whether we should devote the resources to add this PowerPoint. Please take a minute and send us an email [Jane.Mallory\\_ctr@osd.mil](mailto:Jane.Mallory_ctr@osd.mil) with your BOT experiences. Specifically....

- how often have you used the PowerPoint presentations? which one(s)? The full presentations, or portions?
- to what groups, and how many people?
- did you use the canned narration? the script?

We need your input by July 24th. Your assistance and that of others like you will be extremely valuable as we make crucial short-term decisions about the Invasives toolkit.

And, if you've not yet received your BOT copy, please contact Jane.

*See Legacy, page 10*



## In The News

### Protecting the Marine Environment while Enhancing the Military Mission

By Erica Evans  
Booz Allen Hamilton

Navy's primary mission is to test, train, and prepare for combat and emergency actions, while at the same time protecting the marine environment and minimizing impacts on marine mammals.

The Navy typically uses two types of sonar -- passive and active. Passive sonar uses underwater microphones to listen to sounds that are generated by submarines while active sonar involves introducing sounds into the water that reflect off of various objects and return to a receiver to be analyzed. Over the past few decades, new technology has allowed newer and quieter submarines, reducing the effectiveness of passive sonar; therefore, mid-frequency active sonar is the best method to use for locating potential enemy submarines in the marine environment.

*Enhancing the Military Mission, page 5*

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# Training, Announcements & Events of Interest

Workshops, Interagency Training Announcements and Future Events of Interest to the Conservation Community



**SPONSORED!** **Intensive Plant Conservation Training:** December 7-12, 2009, in Berkeley, CA. This 6-day workshop will include: Legislative Protection and Regulatory obligations for plant recovery, Population Evaluation, Demography, Population Viability Analysis, Plant Conservation Genetics, Restoration and Management (Ex-Situ and In-Situ) Inventory and Monitoring Techniques, Tools and Partnerships, and more. Participants will receive pragmatic tips, information resources, contact lists, and a unique opportunity to get questions answered by experts in the field. Space is limited to 35 attendees so sign up early! For registration and more information contact Anna Strong, Center for Plant Conservation at: [Anna.Strong@mobot.org](mailto:Anna.Strong@mobot.org).

**SPONSORED!** **Strategic Management of Invasive Species in the Southwestern United States:** October 26-30, 2009 in Phoenix, AZ. This five-day invasive species workshop for installation personnel in the southwestern United States (AZ, CA, CO, NM, NV,) is sponsored by the Legacy Program. The workshop will provide participants with knowledge and resources that will enable them to improve land stewardship by building partnerships and effectively addressing invasive species problems. Invasive terrestrial plants of southwestern desert ecosystems will be emphasized but nonnative aquatic nuisance species and insects will also be covered. Science and management experts will address pressing ecological issues and explain key components of an invasive species management strategy. Participants also will learn about local, state, and federal invasive species initiatives and regional partnership opportunities. There is no charge for the workshop. Registration is not open yet; however, please contact Melissa Brown at [weedcenter@montana.edu](mailto:weedcenter@montana.edu) to be placed on a list to receive notices about this workshop.

**SPONSORED!** **Strategic Management of Invasive Species in the Southeastern United States:** December 7th-11th, 2009 at the Carolina Inn in Chapel Hill, NC. This five-day invasive species course for installation personnel and their strategic partners in the southeastern United States is sponsored by the Legacy Program. The workshop will provide participants with knowledge and resources that will enable them to improve land stewardship by building partnerships and effectively addressing invasive species problems with an emphasis on terrestrial plants of the southeast. Science and management experts will address pressing ecological issues and explain key components of an invasive species management strategy. Participants also will learn about local, state, and federal invasive species initiatives and regional partnership opportunities. Registration will be available online beginning May 20th, 2009. Please contact Steven Manning at [steve@ipc-inc.org](mailto:steve@ipc-inc.org) to be placed on a list to receive notices about this workshop.

**CALL FOR PROPOSALS!** **National Fish and Wildlife Foundation Call for Proposals Announcement:** The National Fish and Wildlife Foundation (NFWF) is soliciting proposals for the 2009 Native Plant Conservation Initiative (NPCI) grants cycle. The NPCI grant program is conducted in cooperation with the Plant Conservation Alliance (PCA), a partnership between the Foundation, ten federal agencies, and more than 270 non-governmental organizations. PCA provides a framework and strategy for linking resources and expertise in developing a coordinated national approach to the conservation of native plants. Since 1995, the NPCI grant program has funded multi-stakeholder projects that focus on the conservation of native plants and pollinators under any of the following 6 focal areas: conservation, education, restoration, research, sustainability, and data linkages. For more information please visit [www.nfwf.org/npci](http://www.nfwf.org/npci).

**CALL FOR POSTERS!** **SERDP/ESTCP Annual Technical Symposium & Workshop:** The Partners in Environmental Technology Technical Symposium & Workshop will take place December 1-3, 2009 in Washington, D.C. This event is sponsored by the Strategic Environmental Research and Development Program (SERDP), DoD's environmental science and technology program, and the Environmental Security Technology Certification Program (ESTCP), DoD's environmental technology demonstration and validation program. The comprehensive technical program will feature 11 technical sessions and five short courses. Technical sessions will highlight research and innovative technologies that assist DoD in addressing increasingly complex environmental and mission sustainability challenges. Short courses on select technologies in the environmental restoration and munitions management areas will offer unique training opportunities on recent advancements in science and technology. All poster abstracts are due July 31, 2009. The hotel room block and a preliminary agenda are also available. Symposium registration will be available in July. For the most up-to-date information about the Symposium, visit [www.serdp-estcp.org/symposium](http://www.serdp-estcp.org/symposium). If you have any questions, please e-mail [partners@hgl.com](mailto:partners@hgl.com) or call the Symposium contact line at 703-736-4548. For [poster abstract information please follow this link](#).

**SAVE THE DATE!** **9th Annual NAPP International Conference:** October 21-23, 2009 at the U.S. Environmental Protection Agency, Arlington, Virginia.



# Natural Selections

## Legacy Program Update

### FY 2010 Legacy Program Pre-Proposals Season

**Closed:** The Legacy Program closed its 2010 Pre-Proposal season on Friday July 31, 2009. The Legacy Program received 175 natural resources, 46 cultural resources, and 22 integrated resource pre-proposals. Legacy Staff will meet with Military Service representatives the week of August 24, 2009 to review all submissions. The Legacy Program will announce which proposals will be invited to submit a full proposal; proposals are submitted online through the Legacy Tracker <https://www.dodlegacy.org>.

**Registration still open for the SRMC:** In an effort to facilitate maximum participation at all levels, there is NO CONFERENCE REGISTRATION FEE. **The hotel rate has been extended until August 5th while availability lasts.** If you missed the registration deadline, you may register by emailing this [registration form](#).

## Conference Workshops

The Sustaining Military Readiness Conference starts on Sunday, August 9, 2009 with full and half-day workshops, including:

### **Sikes Act Short Course**

This introductory-level course is intended for new natural resource managers, DoD operations personnel, and state fish and wildlife agency and USFWS personnel who may be unfamiliar with DoD. By the conclusion of the course, you will have a better understanding of the Sikes Act, INRMPS, the DoD Natural Resources Program, and the Tri-Party MOU, including roles and responsibilities. This interactive course provides plenty of time for questions and answers and features experienced instructors from the DoD community.

### **Communicating with the Media**

This workshop is designed to help participants learn how to use emerging technologies in communication (e.g., Podcasts, Facebook, and Twitter) to more effectively reach our audiences, including journalists. The session features tips and tactics for using traditional media, as well as social media tools.

*See Conference Workshops, page 6*



## In The News

### Everyone is Heading to Phoenix this Weekend for the 2009 Sustaining Military Readiness Conference!

By Legacy Staff  
HydroGeoLogic, Inc.

The DoD Legacy Resource Management Program; Basing Directorate; Directorate of Readiness and Training, Policy, and Programs; Test Resource Management Center; Office of the Director, Operational Test and Evaluation; and the Strategic Environmental Research and Development Program are all hosting the 2009 Sustaining Military Readiness Conference at the Sheraton Phoenix Downtown Hotel. The conference is open to DoD personnel and appropriate stakeholders involved in DoD's readiness, sustainability, conservation management, compatible land use, and related topics. Attendees have the opportunity to hear from colleagues, share lessons learned, view displays of program projects, and participate in unique training opportunities.

*See Sustaining Military Readiness Conference, page 3*

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# Training, Announcements & Events of Interest

Workshops, Interagency Training Announcements and Future Events of Interest to the Conservation Community



**FEATURED! Invasive Species Outreach Toolkit:** Invasive species pose a significant threat to military readiness. To help installation natural resource managers, the Legacy Program funded the development of an Invasive Species Outreach Toolkit. The Toolkit provides education and outreach tools to help DoD land managers communicate with installation personnel, commanders, and the public about what invasive species are, the impacts they can have, and what individuals can do to help. Specific tools include modifiable outreach materials such as posters, brochures, reference cards, and a PowerPoint presentation; a downloadable Commander's Guide; and a list of resources that provides links to various funding sources. The Toolkit is online at: [www.nistoolkit.com](http://www.nistoolkit.com). Input and feedback on the Toolkit is welcome; please send all comments to: [DoDNRConservation@bah.com](mailto:DoDNRConservation@bah.com).

**SPONSORED! Intensive Plant Conservation Training:** December 7-12, 2009 in Berkeley, CA. This 6-day workshop will cover the following topics: legislative protection and regulatory obligations for plant recovery, population evaluation, demography, population viability analysis, plant conservation genetics, restoration and management (ex-situ and in-situ) inventory and monitoring techniques, tools and partnerships, and more. Participants will receive pragmatic tips, information resources, contact lists, and a unique opportunity to have questions answered by experts in the field. Space is limited to 35 attendees, so sign up early! For registration and more information contact Anna Strong, Center for Plant Conservation at: [Anna.Strong@robot.org](mailto:Anna.Strong@robot.org).

**SPONSORED! Strategic Management of Invasive Species in the Southwestern United States:** October 26-30, 2009 in Phoenix, AZ. This five-day invasive species workshop for installation personnel in the southwestern United States (AZ, CA, CO, NM, and NV) is sponsored by the Legacy Program. The workshop will provide participants with the knowledge and resources that will enable them to improve land stewardship by building partnerships and effectively addressing invasive species problems. Invasive terrestrial plants of the southwestern desert ecosystems will be emphasized, but non-native aquatic nuisance species and insects will also be covered. Science and management experts will address pressing ecological issues and explain key components of an invasive species management strategy. Participants will also learn about local, state, and federal invasive species initiatives and regional partnership opportunities. There is no charge for the workshop. Registration is not yet open; however, please contact Melissa Brown at [weedcenter@montana.edu](mailto:weedcenter@montana.edu) to be placed on a list to receive notices about this workshop, or visit <http://www.weedcenter.org/dodworkshop>.

**SPONSORED! Strategic Management of Invasive Species in the Southeastern United States:** December 7th-11th, 2009 in Chapel Hill, NC. This five-day invasive species course for installation personnel and their strategic partners in the southeastern United States (NC, SC, GA, FL, KY, TN, AL, and MS) is sponsored by the Legacy Program. The workshop will provide participants with the knowledge and resources that will enable them to improve land stewardship by building partnerships and effectively addressing invasive species problems. Invasive terrestrial plants of the southeast will be emphasized. Science and management experts will address pressing ecological issues and explain key components of an invasive species management strategy. Participants will also learn about local, state, and federal invasive species initiatives and regional partnership opportunities. Registration will be available online beginning May 20th, 2009. Please contact Steven Manning at [steve@ipc-inc.org](mailto:steve@ipc-inc.org) to be placed on a list to receive notices about this workshop.

**SERDP/ESTCP Annual Technical Symposium & Workshop:** The Partners in Environmental Technology Technical Symposium & Workshop will take place December 1-3, 2009 in Washington, DC. This event is sponsored by the Strategic Environmental Research and Development Program (SERDP), DoD's environmental science and technology program, and the Environmental Security Technology Certification Program (ESTCP), DoD's environmental technology demonstration and validation program. This comprehensive technical program will feature 11 technical sessions and five short courses. Technical sessions will highlight research and innovative technologies that assist DoD in addressing increasingly complex environmental and mission sustainability challenges. Short courses on select technologies in the environmental restoration and munitions management areas will offer unique training opportunities on recent advancements in science and technology. For the most up-to-date information about the Symposium, visit [www.serdp-estcp.org/symposium](http://www.serdp-estcp.org/symposium). If you have any questions, please e-mail [partners@hgl.com](mailto:partners@hgl.com) or call the Symposium contact line at 703-736-4548.

**SAVE THE DATE! 9th Annual North American Pollinator Protection Campaign International Conference:** October 21-23, 2009 at the U.S. Environmental Protection Agency, Arlington, Virginia.



## Legacy Program Update

### The Legacy Program moves forward 129 proposals:

The Legacy Program received 254 pre-proposals in response to the June RFP solicitation. A total of 92 natural resources, 27 cultural resources, and 10 integrated (natural and cultural) resources pre-proposals have been invited to submit full proposals.

**Full proposals are due to the Legacy Program on Thursday, September 24, 2009 by midnight local time.** All full proposals must be submitted by using the Legacy Tracker at <https://www.DoDLegacy.org>.

**National Public Lands Day:** DoD is again pleased to partner with the National Environment Education Foundation to celebrate the 16th annual National Public Lands Day (NPLD), September 26<sup>th</sup>. Last year, 38 DoD installations were among more than 1,300 sites that participated in celebrating NPLD. This national partnership enlists volunteers to work with land managers to restore and enhance public lands and to learn about resource conservation issues. Volunteers build trails, bridges and docks, and remove invasive plants to make room for fragile native species. They also restore habitat for wildlife, install signs, and make facilities universally accessible.

The Legacy Program is funding 51 projects (46 natural, five cultural) in 25 states and the Marshall Islands (Kwajalein Atoll); 31 projects support this year's DoD focus area on pollinators. For details including specific dates and locations of the DoD projects, please visit [www.publiclandsday.org](http://www.publiclandsday.org).

## Poster Contest Results!

We are pleased to announce the results of last month's 2009 SMR Conference Poster Contest. The almost 70 posters were of uniformly high quality and were the

[See Legacy, page 3](#)



## In The News

### Ever wonder how DoD policy is made?

By Kristin Gross  
Booz Allen Hamilton

It all starts with a need. An individual or a group of folks think "Hey, we really need to (re)issue guidance on [insert program area of your choice here]." So, the Military Department in charge of said program area determines if new/revised/updated guidance is actually warranted. Questions that need to be considered include: have there been any major changes in legislation? Are any new, emerging issues (e.g., global climate change) missing from the current policy? Have there been changes in Military Department responsibilities? Is a policy document simply outdated? This last one is especially important, since every policy document has a defined shelf life of 6 years for Directives, 5 years for Instructions, and 180 days for Directive-Type Memos.

If the answer to any of these questions is yes, chances

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# Training, Announcements & Events of Interest

Workshops, Interagency Training Announcements and Future Events of Interest to the Conservation Community



**SPONSORED! Applied Plant Conservation Training:** December 7-12, 2009 in Berkeley, CA. This six-day workshop will cover the following topics: legislative protection and regulatory obligations for plant recovery, population evaluation, demography, population viability analysis, plant conservation genetics, restoration and management (ex-situ and in-situ) inventory and monitoring techniques, tools and partnerships, and more. Participants will receive pragmatic tips, information resources, contact lists, and a unique opportunity to have questions answered by experts in the field. Space is limited to 35 attendees, so sign up early! For registration and more information contact Anna Strong, Center for Plant Conservation at: [Anna.Strong@mobot.org](mailto:Anna.Strong@mobot.org).

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**Natural Resources Compliance:** January 26-29, 2010, in Honolulu, HI and May 11-14, 2010 in Jacksonville, FL. This Natural Resources Compliance course offers instruction in specific natural resource laws, regulations, policies, Executive Orders, DoD Instructions, and other guidance, noting Service-specific requirements. The course addresses stewardship, preservation, and process; fish, game, and wildlife management laws; protection of wetlands, waterways, and other protected ecological areas; forest and land use management laws; Sikes Act and INRMP; and inter-service cooperation. The course includes a practical exercise, half day tour of a DoD or Coast Guard natural resource site and guest speakers. It is recommended that this course be taken by: Primary duty (Natural and Cultural Resource Managers and personnel, environmental lawyers or lawyers in that capacity), Civil Works Natural Resource Managers (U.S. Army Corps of Engineers), Natural Resources Law Enforcement personnel, and environmental staffs.; collateral duty personnel (non-natural resources specialists responsible for natural resources management and compliance with Federal laws and DoD policy); and personnel having a direct or indirect impact on natural resources during the performance of their duties. This course is approved by the Inter-



## Legacy Program Update

### The Legacy Program to meet with DoD decision

**makers:** The Legacy Program will present the results of the FY 2010 proposals review meeting to senior DoD decision makers the week of November 16. We expect to begin making selection announcements by the end of December.

## Legacy Project Highlight of the Month

### Legacy Project 07-364: Intensive Plant Conservation Training Workshop

The six-day workshops focused on 17 different topics, including rare and imperiled plants, plant protection and legislation, how to measure success, and how to inventory and monitor imperiled plants. Nearly 40 experienced botanists from academia, agencies and non-governmental organizations helped to develop the workshop. These botanists also worked collaboratively to put together take-home resource materials for attendees.



Workshop participants complete an exercise in monitoring.  
Photo: Center for Plant Conservation

The workshop instructors are among the top plant conservation practitioners in the country. They provided

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## In The News

### Endangered *Cyanea superba* Responds Positively to the Strategic Management Efforts of the Army Garrison Hawaii's Natural Resources Program

By Kim Welch<sup>1</sup> and Michelle Mansker<sup>2</sup>

<sup>1</sup> Environmental Outreach Specialist, Research Corporation of the University of Hawaii

<sup>2</sup> Natural Resources Section Chief, U.S. Army Garrison Hawaii, Directorate of Public Works, Environmental Division Oahu Army Natural Resources Program

The rough crunching sounds of spiked hiking shoes mixed with morning bird calls, as a crew of field technicians from the Army Garrison Hawaii's Natural Resources Program (NRP) made their way into the native forest at the back of Makua Valley, Oahu. The crew walked at a brisk pace, anxious to get in position to receive a delivery of precious air cargo that had taken years to prepare. Today, 29 endangered *Cyanea superba* plants would be re-introduced to the forest of their origin.

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*Legacy, continued from page 1*

attendees with invaluable practical advice based on years of experience. Instructors at the Hawaii 2008 workshop were employed by partners such as the Chicago Botanic Garden and the Smithsonian Institution; these skilled scientists addressed common issues facing DoD installations across the country. Because the workshop instructors are on the front lines of plant conservation, they presented the latest in plant-conservation science.

Of the more than 30 participants in the Hawaii workshop, many of whom were DoD personnel, 100% stated that they would recommend the workshop to others and felt that the knowledge gained from the instructors would help them in their careers. Through the workshop, attendees gained confidence in securing and managing plant biodiversity resources on DoD lands and made connections with scientists, both within and outside of DoD, who can provide resources and information for plant-conservation efforts going forward. The Center for Plant Conservation (CPC), with support from the DoD Legacy Program, will present another workshop in December 2009 in Berkeley, California. Registration information is on the CPC website: [www.centerforplantconservation.org](http://www.centerforplantconservation.org).

**Legacy Project 07-368: Listed Plant Species Evaluation**

In order to preserve our nation's threatened and endangered flora, seed and other materials from imperiled plants need to be collected and securely stored ex-situ (or off site) to support critical research and restoration needs. With these collections at many institutions scattered across the country, it is difficult to determine what materials still need to be preserved in order to ensure the health of plant communities.

The CPC's Legacy-funded plant species evaluation project assessed the status of ex-situ collections of 185 at-risk plants found on DoD lands. By strategically engaging CPC's network of botanical institutions to survey records and botanical experts, and maintaining a database about these collections, CPC determined for DoD which species had existing collections and those locations of the collected seed.

Some of the imperiled plants DoD is concerned about, such as Harperella (*Ptilimnium nodosum*), are already part of CPC's National Collection of Endangered Plants, wherein CPC institutions are assigned to secure genetic samples ex-situ in case a species becomes extinct or no longer reproduces in the wild.



Harperella, known from only ten populations, is in the same plant family as carrots and dill, as well as several other plants that have medicinal value.

Photo: Johnny Randall



Seed freezer storage at Berry Botanic Garden.  
Photo: Ed Guerrant

The final assessment of 185 species on DoD lands showed that 61 DoD species of concern -- almost one-third of the species surveyed -- have no material secured in storage. In addition, 69 species collections are not from DoD lands specifically, which may limit the department's ability to conduct restoration of these species with the most desirable material. CPC's report provided DoD with detailed information about all existing collections, enabling DoD personnel to prioritize planning for new and additional collections of plant material.

Projects like these further plant conservation and ultimately help to preserve our nation's biodiversity for generations to come. For additional information on the Center for Plant Conservation, visit the CPC website at [www.centerforplantconservation.org](http://www.centerforplantconservation.org).

## CPC Provides Resources for DoD Conservation

By Anna W. Strong  
Conservation Projects Coordinator  
Center for Plant Conservation

The Center for Plant Conservation (CPC), celebrating its 25th anniversary in 2009, is the only national non-profit organization dedicated solely to saving America's most at-risk plants. CPC's national office in St. Louis, Missouri, coordinates plant conservation work through its 36 selected botanical institutions across the country. By developing standards and protocols, conducting conservation programs in horticulture, research and restoration, and raising awareness, CPC is striving to save America's most vulnerable plants from being lost forever.

CPC is pleased to have the opportunity to partner with the Department of Defense on two significant plant conservation projects: the intensive plant conservation training workshops and the listed plant species evaluation. By providing training to natural resource managers and botanists and by analyzing existing seed banked collections for federally listed and candidate plant species on DoD lands, these projects have provided the resources for DoD to increase the knowledge and expertise of personnel working with imperiled plants. The projects also promoted partnerships with other federal agencies and non-governmental agencies and facilitated the increasingly important work of plant conservation around the country.

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### Did You Know?

Some plants are able to make their own heat. The skunk cabbage blooms earlier than most other North American flowers and, as the flower bud grows, it can produce enough heat to melt the surrounding snow and ice.

The tallest tree in the world is a California Redwood located in the Redwood National Park, California; it soars over 375 feet. The oldest recorded tree is the Great Basin Bristlecone Pine, located in the Ancient Bristlecone Pine Forest of the White Mountains near Bishop, California. Nicknamed "Methuselah," it is believed to be more than 4,600 years old.

Wheat is the world's most cultivated plant. It is grown on every continent except Antarctica.

Bamboo is not a tree. It is actually the world's tallest grass, growing to heights of over 130 feet. Bamboo is the primary food source for the endangered panda. It is also the fastest growing woody plant in the world. In North America, where it lacks natural controls, bamboo has become highly invasive, often displacing native plants and forming dense monotypic stands.



Photo by Dorothy Jackim