Can Voluntary Codes of Conduct Prevent Plant Invasions?

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Since 1922, SPU has ended each school year with an ivy ceremony. Seniors circle a rope of ivy while president Philip Eaton and other university leaders snip a sprig for each student to take home and plant as a reminder of the school.
“The greatest service which can be rendered any country is to add a useful plant to its culture”

...Secretary of State, Thomas Jefferson 1790
US should facilitate the entry of “plants of whatever nature whether useful as food for man or the domestic animals, or for purposes connected with the manufactures or any of the useful arts”

…President John Quincy Adams 1827
Codes of Conduct/Best Management Practices

• Voluntary rules of behavior that a group of people agree to observe
• Set standards for professions, but also for amateurs
Codes of Conduct
The St. Louis Declaration
Nov. 2001

- Nursery professionals
- Botanical gardens and arboreta
- Gardening public
- Landscape architects
- Government – state and federal

http://www.centerforplantconservation.org/invasives/
Findings

• People are the major dispersers of plants and the current magnitude of dispersal is unprecedented
• Plant introduction and improvement brings diversity to food, landscapes, and medicine
• A small proportion of introduced species become invasive and have unwanted impacts
• Species invasions can be regional in nature, but the impacts may be far removed from the site of introduction
Guiding Principles

- Plant introduction should be done in a way that minimizes harm
- Efforts must be national in scope, but with a regional perspective
- Prevention and early detection are important
- Professional training and education are essential
- Solutions must include broad-based teams
- All tools, esp. codes of conduct are important
Codes of Conduct Nurseries

1. Ensure that invasive potential of new introductions is assessed
2. Identify suitable alternatives to invasives
3. Develop and promote alternatives
4. Phase out existing stock of agreed-upon invasive species
5. Follow all laws across political boundaries
6. Encourage customers to use and garden writers to promote non-invasive plants
Codes of Conduct
Washington Project

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Codes of Conduct
California Project

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Also working with other groups where codes overlap
Nov. 2002, Chicago

- Several gardens were implementing
- ASLA had articles and workshops
- GCA – Horticulture and Conservation committees started a joint project
- Gov’t – National Management Plan
- Nurseries – very little
Washington Invasive Species Coalition (WISC) GardenWise Partners

• Washington State Nursery and Landscape Assc.

• University of Washington

• The Nature Conservancy
GardenWise Logistics

• Initially a nine month project
GardenWise Logistics

- Initially a nine month project
- Three months working with WSNLA steering committee to identify plants
- Three months of active nursery participation
- Three months of analysis and information dissemination to nurseries
GardenWise Logistics

- Initially a nine month project
- US $30,000 in personnel, phone, web page and travel costs
- Later - US $16,800 in printing costs for brochure
Overview

- Rigorously assessed 10 species, chose top 5
- Asked 5 nurseries to not promote the 5 species
- Developed alternative lists
Alternatives

- Determine desirable attributes
- Identify non-invasive alternatives for each attribute

*Solanum crispum* ‘Glasnevin’

*Vitex agnus-castus*
Overview

• Asked the nurseries to promote the alternatives to the five species
• Developed alternative lists
• Put the lists and photos on a web page for downloading (www.invasivespeciescoalition.org/gardenplants/)
• Asked them to track sales of invaders and alternatives over 3 spring months
• List of questions for nurseries
Results

*Buddleja davidii*

<table>
<thead>
<tr>
<th>‘04 Sales</th>
<th>’05 Sales*</th>
<th>’04 Alternatives</th>
<th>’05 Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>68</td>
<td>1108</td>
<td>1252</td>
</tr>
</tbody>
</table>

*2005 sales figures are adjusted based on overall nursery sales*
Questions

1. # of times a customer asked for one of the 5 invasive plants.

A: 100
Questions

1. # times a customer asked for one of the 5 invasive plants - 100

2. # times you suggested alternatives to one of the 5 invasive plants.

A: 95
Questions

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2. # times you suggested alternatives to one of the 5 invasive plants. - 95

3. # times you succeeded in selling an alternative you suggested

A: 66
Questions

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4. # times a customer discussed alternative and purchased invasive plant or indicated an intention to do so

A: 23
Questions

1. # times a customer asked for one of the 5 invasive plants. – 100
2. # times you suggested alternatives to one of the 5 invasive plants. - 95
3. # times you succeeded in selling an alternative you suggested - 66
4. # times a customer discussed alternative and purchased invasive plant or indicated an intention to do so. - 23

5. # times a customer had a positive, appreciative attitude to discussion of substitution.

A: 82
Questions

1. # times a customers asked for one of the 5 invasive plants. - 100
2. # times you suggested alternatives to one of the 5 invasive plants. - 95
3. # times you succeeded in selling an alternative you suggested - 66
4. # times a customer discussed alternative and purchased invasive plant or indicated an intention to do so. - 23
5. # times a customer had a positive, appreciative attitude to discussion of substitution. - 82

6. # times a customer had a negative attitude to the discussion of substitution.

A: 10
Questions

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2. # times you suggested alternatives to one of the 5 invasive plants. - 95
3. # times you succeeded in selling an alternative you suggested - 66
4. # times a customer discussed alternative and purchased invasive plant or indicated an intention to do so. - 23
5. # times a customer had a positive, appreciative attitude to discussion of substitution. - 82
6. # times a customer had a negative attitude to the discussion of substitution. – 10

7. # times a customer discussed alternatives and left without buying anything.

A: 7
Washington Project

- Though sample sizes were small, there was a clear trend
- Customers were responsive
- Provided an opportunity for dialogue and education
- Project terminated due to loss of funding, but brochure work carried on by state Noxious Weed Board
• 32 page booklet of invasives
• 26,000 produced
• Second printing, third upcoming
• Distributed to numerous nurseries and to thousands of gardeners
• Now being duplicated for other regions
California Horticultural Invasive Prevention (Cal-HIP)
Role of Sustainable Conservation

Achieve goal of eliminating horticulture as a vector for invasive plant introductions
# PlantRight Time Table (5 yrs) and Expenses

<table>
<thead>
<tr>
<th>Period</th>
<th>Activity / Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer 2003</strong></td>
<td>Grad student intern</td>
</tr>
<tr>
<td><strong>Summer 2004</strong></td>
<td>Grad student intern, group assemble and met</td>
</tr>
<tr>
<td><strong>June 2005</strong></td>
<td>Hired full-time manager</td>
</tr>
<tr>
<td><strong>Annual budget, 2006-07</strong></td>
<td>$160,000 – includes manager, intern, web page, brochures, meetings, and other materials</td>
</tr>
<tr>
<td>Current phase of work</td>
<td>Scheduled to finish end of 2008</td>
</tr>
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</table>
California Horticulture Value Chain

Seed Production
  - Seed Distributors

Nursery/Wholesale/Growers
  - Distributors

Propagation/Live Cuttings

Mail Order Catalog
  - California Nursery Growers Association
  - California Landscape Contractors Association (CLCA)

Landscape Firm
  - Homeowner
  - Builders and Developers
  - Apts/Condos
  - Commercial Establishment
  - Government organizations
  - Landscapers
  - Homeowner
  - Commercial Establishment
  - Apts/Condos
  - Landscapers
  - Other Retailers
  - Government organizations

Retail
  - Hardware/Home Centers
  - Garden Centers/Farms/Nurseries
  - Chain Stores/Warehouse

End Customer
  - Homeowner
  - Garden Club

Additional Nodes:
- Market Forecasting
- New Species Development
- Quality Assurance/Testing
Cal-HIP Steering Committee

Industry
(growers like Monrovia, sellers like Lowe’s, trade groups like CANGC, CA Farm Bureau)

Environmental Groups
(The Nature Conservancy, California Invasive Plant Council)

Academic and Scientific Community
(University of Washington, University of California Cooperative Extension, University of California – Davis)

Government Agencies
(CA Department of Food and Agriculture, CACASA)
Projects

• Lists of invasive plants (and alternatives) that should not be grown, sold, or planted in each of five regions in California
  – North and Central Coast
  – South Coast
  – Mountains (Coastal and Sierra Nevada)
  – Central Valley
  – Desert
PlantRight Materials

- Website
- Brochures
- FAQ sheets
- Posters for retail centers
- Plant labels for alternatives
- Curricula for landscape professionals
PEOPLE BEHIND

Industry leaders are participating in the Invasive Prevention (Cal-HIP) to help protect the California horticulture industry from invasive species. Since 2004, Cal-HIP has brought together the horticulture industry with environmental scientists and government agencies to develop solutions. Cal-HIP brings you the best in research, and we invite the entire California horticulture industry to join us.

Cal-HIP Steering Committee

Carl Belt | UC Cooperative Extension
Bethany Black | UC Cooperative Extension
Holly Cresson | University of California
Jennifer Chandler | Landscape Architecture
Bob Falconer | California Agriculture
Jim Folsom | California Folsom
Andrea Fox | California Fish and Wildlife
Kent Gordon England | California Landmarks
Angel Guerzen | Landscape Architecture
Disa Johnson | California Agriculture
Terri Kempton | Sustainable Garden Society
Betty Peterson | California State University
Mary Pfeiffer | California Agriculture

PLANT RIGHT

INVASIVE PLANTS COST CALIFORNIA $85 MILLION EVERY YEAR

HERE’S HOW YOU CAN HELP

1. Phase out invasive plant species in your business
2. Promote beautiful, non-invasive alternatives
3. Use free educational materials and sign up on our “Plant Right Recommended Business” list
4. Read and follow the national voluntary codes of conduct to prevent horticultural invasions

If everyone in the California horticulture industry joins the Plant Right initiative, we can make a tremendous contribution to the health of the state's environment.
Protecting California from invasive species costs $85 million a year.

HERE'S HOW YOU CAN HELP

Most of the plants used in gardens and landscaping do not invade or harm wildland areas. But a few vigorous species can - and do - escape from cultivation into open landscapes and cause a variety of ecological problems. They crowd out native plants, insects and animals, and can lead to increased flooding, fire and crop losses.

A few simple steps can prevent invasions before they start. We can be an environmentally responsible community - one that supports horticultural businesses and beautiful gardens!

START HERE to find invasive plant information and good plant choices for your region

If you already know which California region you are in, you can go directly to your regional list:

- Sierra & Coastal Mountains (Sunset Zones 1-3)
- Central Valley (Sunset Zones 7-9)
INVASIVE PLANTS OF THE SIERRA & COASTAL MOUNTAINS

Sunset Zones 1-3

The following plants are invasive in your region of California. We encourage you to not buy, sell, plant, or promote the following species. Click on the plant name for more details, including links to photos of that plant and their invasion of natural areas. Use the "recommended alternatives" link to learn about the beautiful, non-invasive plants that we suggest for your gardening and landscaping needs that will not endanger California's wildlands.

THESE PLANTS ARE INVASIVE IN YOUR AREA

- **Arundo, giant reed**
  - *Arundo donax*

- **Brooms: Scotch broom, striated broom, French broom, bridal veil broom, Spanish broom**
  - *Cytisus scoparius, Cytisus striatus, Genista monspessulana, Retama monosperma, Spartium junceum*

- **Green fountain grass**
  - *Pennisetum setaceum*

- **Periwinkle**
  - *Vinca major*

- **Saltcedar**
  - *Tamarix ramosissoma*
Cytisus scoparius, Cytisus striatus, Genista monspessulana, Retama monosperma, Spartium junceum

Common name
Brooms: Scotch broom, striated broom, French broom, bridal veil broom, Spanish broom

Description
These large bushes have bright, sweet pea-shaped flowers. The plant has been popular in the horticultural trade. It was first recorded as an invasive problem on Catalina Island in 1967; by 2003 there were almost two million square feet invaded.

How does it spread?
A mature broom plant can produce up to 12,000 seeds. This creates a seedbank of 2,000 seeds/sq ft that can remain dormant and viable in the soil for over twenty years.

Where would I find it?
At least 23 counties are invaded in California - from coastal Del Norte to San Diego County, and inland in Butte, Nevada, and Sacramento counties.

What problems does it cause?
**Forsythia x intermedia**

**Common name:** Forsythia

**Sun needs:** ☀️  **Water needs:** ✗

*This plant grows well in the following regions:*
- North and Central Coast
- Desert
- Central Valley
- Sierra and Coastal Mountains

Forsythia is a beautiful, deciduous, fountain-shaped shrub with bright yellow blooms in winter and early spring. There may be some autumn yellowing of the green foliage but the principal appeal of the plant is the profuse seasonal blooms of yellow flowers develop all along the branches. Most varieties are less than ten feet tall and wide. Plants can be pruned and trained for a variety of applications, including garden borders or screens. Forsythia will tolerate most soil conditions. The range of Forsythia is for the most part limited by temperature - it grows best in areas without extreme winters or climates with little seasonal difference. (SWGB, 2001)

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**Potentilla fruticosa**

**Common name:** Shrubby Cinquefoil

**Sun needs:** ☀️☀️  **Water needs:** 🌧️💧💧
First step: INDUSTRY
Next Steps:
Public outreach starting in Feb. 2008
Next Steps:

Basic “Weed Risk Assessment” to screen new plants for their potential invasiveness
Problems with Voluntary Efforts

- Not all businesses join professional associations
- Online sales
- “Big box” retailers
- Lack of educational materials
- Lack of awareness – of invasives and codes
- Time to implement
Benefits of Voluntary Efforts

• Positive educational tool
• Creates a sense of empowerment and ownership
• Builds industry capacity
• Opens dialogue between horticulturists and ecologists, creates trust and respect
• May reduce sales of invasive species
Working with Industry

• Take the time to understand the values and concerns, the cultural context
• Provide the tools to help them accomplish your objective
• Look for the sympathetic ears
• BUT include all the stakeholders
• Find and empower allies
• Educate the allies AND your target group
• Develop logical answers for common arguments
Resources

• Codes of conduct web page
  http://www.centerforplantconservation.org/invasives/
• Plant Right – http://www.plantright.org
• Sarah Reichard – reichard@u.washington.edu
• Terri Kempton - tkempton@suscon.org