2011 WSSA Committee Progress Report
Jan 2012

Committee Code and Name: W13 Weed Alert Committee
Committee Chair: Alan Tasker
Committee Members: Tasker, Alan 2013-NE
Anderson, Lars 2015-W; Webster, Ted; l 2014-S; Mervosh, Todd 2015-NE; Randall, John 2014-W; Richardson, Rob 2014-NC; Westbrooks, Randy 2012-S; Madsen, John ex-off 2011 (E4)
Board Coordinator: Jacob Barney VPI

2011 Summary of Activities:

The federal noxious weed (FNW) program is designed to prevent the introduction and spread of non-native invasive plants in the United States. The program operates around a list of regulated weed species. This list currently covers 111 taxa, 63 of which are present in the United States. APHIS provides national guidance on weed policy and works with a variety of groups to perform weed survey, public education, permitting, eradication, and management of introduced weeds. In 2011, APHIS supported 47 weed projects in 33 states, mainly through cooperative agreements.

Due to a projected phase-out of line item funding for domestic program activities in the 2012 draft budget (not yet allocated), project funding was prioritized around 10-12 species that have potential to be eradicated from the United States. While port activities, permits, and enforcement of regulated species will not be affected by these budget changes, prioritization measures will continue for domestic survey and eradication activities and proposals for new additions to the federal list. Program personnel will provide recommendations to APHIS management for top priority projects to receive agency consideration for funding from other sources. Many of these programs, although making commendable progress toward eradication may otherwise be terminated by the states if Federal funding is not available. States may feel that without the federal funding (or PPQ hours) the states will be unable to provide enough funds to be effective. APHIS is under constant pressure from stakeholders to regulate additional taxa. The current position of program staff is that we will only regulate weeds that are currently present in the U.S. if the states where the weeds are present have them as state regulatory pests, and are working toward eradication. The national weed program manager maintains responsibility for the FNW program, but now is assuming responsibility for Biological Control Programs.

- Committee's goals for 2011 from last year's report.

1) Finalize factsheets for Federal Noxious Weeds (FNW)s and post on APHIS FNW website; draft more factsheets and other publicity pieces for FNW targets.
   a) Worked on copyright for images in the 90 draft factsheets.
   b) Developed plan for posting factsheets to APHIS Hungry Pest website (will provide link to WSSA when posted) website: http://www.aphis.usda.gov/hungrypests/
   c) Developed short list of FNW factsheets 'Dirty Dozen' Federal Noxious Weeds (see table below) for posting on APHIS Hungry Pest. Submitted for posting.

Common Name	Latin Name	Habitat	Kill Method
1. Killer algae	*Caulerpa taxifolia*	Aquatic	*C. taxifolia* displaces native vegetation and quickly becomes the dominant plant species in an area, partly because of the distasteful toxins it manufactures, making it inedible. Infestations blanket sea floors and any available surface, impacting tourism, commercial and recreational fishing, and recreational activities like SCUBA diving.
2. Witchweed	*Striga asiatica*	Parasitic	Asiatic witchweed is the most widespread and troublesome of all *Striga* species. It attacks corn, sorghum, millet, sugarcane, rice, sunflowers, tomatoes, and some legume species. Asiatic witchweed impairs photosynthesis and increases photoinhibition rates of host plants, resulting in plants that are stunted, wilted, and exhibiting chlorosis, a deficiency in chlorophyll levels that lead to yellowing of plant tissue. Because host plants of *Striga* species are often subsistence crops in marginal areas of agriculture, infestations can result in little or no food for millions of farmers, further aggravating already dire hunger and poverty issues in these areas.
3. Japanese dodder	*Cuscuta japonica*	Parasitic	In order to survive after germination, *Cuscuta* seedlings must quickly come into contact with a suitable host. Some species

			of *Cuscuta* can infect a variety of host plants; others can only infect a few specific species. After attachment, the stem of the seedling develops suckers that can penetrate host tissue. After penetration, *Cuscuta* disengages from the soil and continues an aerial existence, feeding off the nutrients of the host plant. This pest drastically reduces crop yields and in some cases can kill its host plant.
4. Devil's thorn	*Emex spinosa*	Terrestrial	Sharp spines can puncture bicycle tires, cause lameness in livestock and sheep dogs, and injure barefoot individuals.
5. Stemless thistle	*Onopordum acaulon*	Terrestrial	The weed reduces the carrying capacity of the land it infests and also seriously harms livestock that try to eat it, causing impaction and liver damage.
6. Kodomillet	*Paspalum scrobiculatum*	Terrestrial	The grass clogs irrigation and drainage ditches and is toxic to animals and humans.
7. South African ragwort	*Senecio inaequidens*	Terrestrial	Produces toxic alkaloids that retard the growth and development of cattle and can cause death in severe cases.
8. Cape tulip	*Moraea collina*	Terrestrial	The plant produces a cardiac glycoside, called homeridin, which is toxic to livestock and/or humans.
9. Giant hogweed	*Heracleum mantegazzianum*	Terrestrial	The leaves and stem of giant hogweed produce a clear sap that photosensitizes the skin of humans, leading to photodermatitis, resulting in painful and lasting blisters. Temporary or permanent blindness can occur if the sap comes into contact with the eyes.
10. Pilipiliula	*Chrysopogon aciculatus*	Terrestrial	Sharp seeds can penetrate the skin and cause festering sores and even lameness in livestock.
11. Old world climbing fern	*Lygodium microphyllum*	Terrestrial	Infestations of *L. microphyllum* form dense mats on forest floors that can smother understory vegetation and raise fire risks by making highly flammable "fire ladders" of dead fronds leading up into tree canopies. Their prolific growth shades underlying vegetation and promotes fire in plant canopies, thereby changing fire regime, altering habitat structure, reducing native plant diversity, and threatening rare species.
12. Goatsrue	*Galega officinalis*	Terrestrial	Produces a toxic alkaloid called galegin which lowers blood pressure and paralyzes the central nervous system, can be fatal to goats and sheep if ingested.

d) Provided additional factsheets and further information to CABI for species of toxicological or other health concern for their Invasive Plants database.

e) Developed format for biological control factsheets.

2) Develop various outreach and educational projects regarding weed programs, including support of educational programs through FICMNEW agencies and non-federal stakeholders.

a) Coordinated plans for National Invasive Species Awareness Week Kid's Day Feb 26 2012

b) Worked on with FICMNEW partners on plans for Prevention half-day brainstorming at Wed Feb 29 NISAW and Urban pest management Thur Feb 30.

c) Developed with Jim Westwood Weed Science articles related to Parasitic Plant symposium. http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/weed_conference.shtml . Expected publication for the parasitic weed symposium is going to be in Weed Science, Volume 60, Issue 2.

d) Contributed to Invasive Spp. Invasive Plant Management Issues and Challenges in the United States: 2011 Overview: ACS Symposium Series, Vol. 1073 Publication Date (Web): September 16, 2011

Tasker, Alan V. 2011. **Length of Lag Phase and Additional Factors Related to Introduction and Early Spread of Invasive Plants: A Regulator's View.** Chapter 21, pp 245-256

Iverson, Richard D., Randy G. Westbrooks, Robert E. Eplee, Alan V. Tasker. 2011. **Overview and Status of the Witchweed (Striga asiatica) Eradication Program in the Carolinas.** Chapter 6, pp 51–68

Westbrooks, Randy G., Alan V. Tasker. **2011 Overview of Prohibited and Permitted Plant Regulatory Listing Systems.** Chapter 2, pp 19–28.

e) Cooperate with area middle schools on science projects. APHIS Plant Protection Technician Kelsey Branch traveled to two Maryland middle schools as a resource to students starting semester-long research projects on invasive species. She gave presentations to four middle school science classes, totaling over 100 students, which included an overview of the APHIS mission, a lesson on selected invasive species, and a short field survey activity. This is part of the Investigating and Evaluating Environmental Issues program currently being pursued by many local schools, where students learn about a topic from several volunteer speakers, conduct a research project, and upon completion, present their findings to the expert panel of speakers. Kelsey has volunteered to continue supporting this program by offering time as a resource to the students, participating on the expert panel to review research projects, and keeping on visiting the schools and being available to teach classes every semester.

3) Cooperate with E4 committee (Federal Noxious and Invasive Weeds Committee) on projects of joint interest, including factsheets from the APHIS/WSSA Project "Creation of a Prioritization Model to Identify Weeds of Global Significance"

a) Developed factsheets for proposing of candidate weeds for the new APHIS category of propagative plants Not allowed pending Pest Risk Assessment (NAPPRA). Some are from the WSSA project. Factsheets for 41 candidate species were developed and the first list was published in the Federal Register (Docket: APHIS-2011-0072). The list will be finalized soon.

2011 NAPPRA List 1

- ***Acacia hockii***
- ***Alstroemeria aurea***
- ***Andropogon gayanus***
- ***Angelica sylvestris***
- ***Artemisia austrica***
- ***Artemisia japonica***
- ***Berberis glaucocarpa***
- ***Berkheya rigida***
- ***Bromus pectinatus***
- ***Cassinia arcuata***
- ***Celtis sinensis***
- ***Cestrum elegans***
- ***Cestrum laevigatum***
- ***Chrysanthemoides monilifera***
- ***Cineraria lyratiformis***
- ***Cordia curassavica***
- ***Echinochloa pyramidalis***
- ***Eleocharis kuroguwai***
- ***Gladiolus undulatus***
- ***Gomphrena celosioides***
- ***Gymnocoronis spilanthoides***
- ***Hakea gibbosa***
- ***Hakea salicifolia***
- ***Hakea sericea***
- ***Impatiens parviflora***
- ***Launaea cornuta***
- ***Limnobium laevigatum***
- ***Litsea glutinosa***
- ***Ludwigia hyssopifolia***
- ***Ludwigia prostrata***
- ***Nymphoides cristata***
- ***Oryza barthii***
- ***Phyllanthus maderaspatensis***
- ***Picnomon acarna***
- ***Potamogeton distinctus***
- ***Potamogeton schweinfurthii***
- ***Praxelis clematidea***
- ***Rhamnus alaternus***
- ***Rumex sagittatus***
- ***Senecio angulatus***
- ***Wikstroemia indica***

- ***Probably in trade***
- ***Possible distribution***
- ***Probable low risk***

- ***http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=APHIS-2011-0072***

- ***http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/newregs.shtml***

b) Worked on NAPPRA lists 2 & 3. Will include taxa from the WSSA/APHIS Chris Parker project.

c) Evaluate for FNW status new weed detections, petitions, & information discovered in 2011

APHIS responded to new infestations of South American spongeplant (*Limnobium laevigatum*) in California, sea buckthorn (*Hippophae rhamnoides*) in Wyoming, giant hogweed (*Heracleum mantegazzianum*) in North Carolina, hydrilla (*Hydrilla verticillata*) in New York, Chilean needle grass, (*Nassella neesiana*) in Alabama, Santa Maria feverfew (*Parthenium hysterophorus*) in Texas, and red root floater (*Phyllanthus fluitans*) in Florida.

APHIS continued development and testing of a revised Pest Risk Analysis tool for evaluating weed invasiveness. A manuscript describing the tool and the validation process was published (Koop, Anthony L., Larry Fowler, Leslie P. Newton, & Barney P. Caton. Development and validation of a weed screening tool for the United States. 2011. Biol Invasions). A training course was held for APHIS personnel and selected state stakeholders. WRAs developed with the new system:

	2010 WRAs				
#	Taxon	Requestor/Notifier	Date Requested	Date Released	Status L=Low risk C=FNW Candidate E=Evaluate Further
1	Alpinia modesta	Al Tasker (APHIS - PPQ)	9/22/2009	6/10/2010	L
2	Artemisia austriaca	PERAL	9/1/2009	6/10/2010	C NAPPRA
3	Artemisia japonica	PERAL	9/1/2009	6/10/2010	E NAPPRA
4	Praxelis clematidea	Margaret L. Smither-Kopperl (APHIS - PPQ)	2/17/2010	6/10/2010	C NAPPRA
5	Rhamnus alaternus	PERAL	9/1/2009	6/10/2010	E NAPPRA
6	Limnobium laevigatum	Al Tasker / Lars Anderson	9/2/2010	11/5/2010	C NAPPRA
7	Oplismenus hirtellus ssp undulatifolius	Al Tasker	5/27/2010	11/30/2010	C
8	Nymphoides cristata	Al Tasker	6/8/2010	11/30/2010	C NAPPRA
9	Mikania micrantha (update; already FNW)	Tony Koop (pathway analysis)	5/1/2010	11/30/2010	FNW
10	Syzygium australe	PERAL	9/1/2009	11/30/2010	E
11	Vitex rotundifolia	PERAL	6/4/2010	11/30/2010	C (for mainland)
	2011 WRAs				
12	Not FNW				
13	Not FNW				
14	Berberis glaucocarpa	PERAL	9/1/2009	6/13/2011	C NAPPRA
15	Luziola subintegra	Mike Bodle (South Florida Water Management District)	12/8/2008	6/13/2011	C
16	Persicaria capitata (Polygonum capitatum)	Tasker	2/23/2010	6/13/2011	E
17	Phyllanthus fluitans	Paul Larkins	3/24/2011	6/13/2011	C
18	Rauvolfia vomitoria	Al Tasker (APHIS - PPQ)	9/29/2009	6/13/2011	C
19	Acalypha australis	Al Tasker	3/5/2010	12/20/2011	E
20	Althaea armeniaca	Mike Reed	12/14/2010	12/20/2011	L
21	Hakea sericea	Al Tasker	4/25/2011	12/20/2011	C (cultivated?)
22	Hippophae rhamnoides	Al Tasker	4/1/2011	12/20/2011	C (cultivated?)
23	Solanum seaforthianum	Al Tasker	4/25/2011	12/20/2011	C (cultivated?)
24	Achyranthes japonica	Charles Bryson (USDA ARS)	10/28/2011	12/20/2011	(in 9 states)
25	Dipogon lignosus	Aliens listserve	10/25/2011	12/20/2011	C (cultivated?)
26	Neptunia oleracea	EPICA/Tasker	10/27/2011	12/20/2011	C (cultivated?)
27	Oxalis exilis	Steve Young	7/21/2011	12/20/2011	C

	WRA – 101 species				
	Hedychium gardnerianum	**Al Tasker**	**9/22/2009**		
	Ipomoea carnea subsp. fistulosa	**Al Tasker**	**6/8/2010**		
	Ipomoea carnea subsp. carnea	**Al Tasker**	**6/8/2010**		
	Carex breviculmis	**Al Tasker / Charles Bryson**	**3/2/2010**		
	Persicaria chinensis	**EPICA**	**7/25/2011**		
	Araujia sericifera	**Al Tasker**	**4/25/2011**		
	Delairea odorata	**Al Tasker**	**4/25/2011**		
	Nassella neesiana	**Al Tasker**	**4/25/2011**		
	Nymphoides indica	**Rick Iverson (NCDA)**	**10/27/2010**		
	Nymphoides peltata	**Rick Iverson (NCDA)**	**10/27/2010**		
	Arundo donax	**CFIA**	**9/20/2011**		
	Echinochloa pyramidalis	**PERAL**	**9/20/2011**		**NAPPRA**
	Cestrum elegans	**PERAL**	**9/20/2011**		**NAPPRA**
	Hakea gibbosa	**PERAL**	**9/20/2011**		**NAPPRA**
	Phyllanthus maderaspatensis	**PERAL**	**9/20/2011**		**NAPPRA**
	Rumex sagittatus	**PERAL**	**9/20/2011**		**NAPPRA**
	Taraxacum kok-saghyz	**Tony Koop**	**8/25/2011**		
	Gladiolus undulatus	**PERAL**	**9/1/2011**		**NAPPRA**
	IN THE QUEUE				
	Toona sinensis	**Al Tasker**			
	Oenanthe javanica	**Sherrie Emerine**	**1/10/2011**		
	Urena lobata	**Barney Caton**	**4/21/2011**		
	Cestrum laevigatum	**Al Tasker**	**11/25/2011**		
	Chrysanthemoides monilifera	**Al Tasker**	**11/25/2011**		
	Cordia curassavica	**Al Tasker**	**11/25/2011**		
	Hakea salicifolia	**Al Tasker**	**11/25/2011**		**NAPPRA**
	Rumex sagittatus	**Al Tasker**	**11/25/2011**		**NAPPRA**
	Senecio angulatus	**Al Tasker**	**11/25/2011**		**NAPPRA**
	Wikstroemia indica	**Al Tasker**	**11/25/2011**		**NAPPRA**
	Crassula helmsii	**Caton**	**11/21/2011**		
	Pistacia chinensis	**EPICA**			
	Solanum sisymbriifolium	**Amy Ferriter**	**1/3/2012**		
	Gymnocoronis spilanthoides	**Al Tasker**	**1/10/2012**		**NAPPRA**

d) Decision documents, a workplan, and Factsheets are in development for FNW candidate species from this list of WRAs completed. Not all candidate species may be regulated pending the decision outcome.

e) Other selected FY 2011 weed alert related projects are highlighted below:

APHIS continued its participation on the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW). The Committee coordinates federal agency management of invasive species by fostering collaborative efforts, sponsoring conferences and workshops, and providing recommendations for national- and regional-level invasive plant management.

APHIS continued its assistance to the Smithsonian Institution National Museum of Natural History on the Consortium for the Barcode of Life (CBOL), an international initiative to develop DNA barcoding as a global

standard for species identification. APHIS also developed molecular diagnostic tools to inform policy decisions on two federally regulated weed species.

APHIS provided funding to the Florida Department of Agriculture and Consumer Services (FDCAS) to produce a video regarding the control of mile-a-minute vine (*Mikania micrantha*). This federally regulated vine is an agricultural pest and rapidly smothers native vegetation. The informational video can be found at http://www.youtube.com/watch?v=Gh9hymPHhx4.

Biological Control projects for FNW:
APHIS provides funding to invasive weed biological control projects. Due to successful spread of the South American leaf-feeding beetle (*Gratiana boliviana*) in south and central Florida, control costs for tropical soda apple (*Solanum viarum*) have decreased and the weed is no longer considered as serious a pest as previously by ranchers.

Biological Control projects for non Federal Noxious Weed species:
Russian Knapweed and Yellow Toadflax: Russian knapweed, *Acroptilon repens*, and yellow toadflax, *Linaria vulgaris* are perennial plants native to Asia that have become widespread weeds in North America. A Colorado-based rearing effort for biological control agents of these two weeds continued. Russian thistle BC agent Gall midge *Jaapiella ivannikovi*, galls were provided in 2011 to cooperators in CA, CO, ID, NM, OR, WA and WY. Rearing systems were developed for a yellow toadflax-adapted strain of the Dalmatian toadflax stem-mining weevil *Mecinus janthinus* in collaboration with Colorado State University and Colorado Department of Agriculture. Weevils were provided to cooperators in ND, SD, OR WV and CO in 2011 and were used to initiate overwintering colonies for scaled-up production for other Western and Eastern Region states in 2012.

Mile-a-Minute weed (Persicaria perfoliata) biological control technology using continues to have northeastern regional importance and APHIS support for rearing and release of the weevil species *Rhinoncomimus latipes*, States that have new cooperative agreements for mile-a-minute biological control agents include; CT, MA, RI, VA, WV, NY and MD. A mile-a-minute biological control cooperators meeting, to be held on Thursday, Feb. 16, 2012, at the NJ PHEAL near Trenton, NJ.

Plan for Committee Activities

- Committee's goals for 2012?

1) Continue work on factsheets for Federal Noxious Weeds (FNW)s and post on APHIS FNW website; draft more factsheets and other publicity pieces for FNW and Biological Control targets
2) Evaluate for FNW status new weed detections, petitions, & information discovered
3) Develop various outreach and educational projects regarding weed programs, including support of educational programs through FICMNEW agencies and non-federal stakeholders.
4) Cooperate with E4 committee (Federal Noxious and Invasive Weeds Committee) on projects of joint interest, including factsheets from the APHIS/WSSA Project "Creation of a Prioritization Model to Identify Weeds of Global Significance"
5) Consider with E4 committee implementation of plan for "A National Survey of Selected Federal Noxious Weed Specimens in U.S. Herbaria" This would intend to look in survey herbaria for potential noxious weeds or weeds of concern. A DC area pilot project is under consideration, future broader plans are on hold pending finding a funding source.
6) The committee will discuss possible merger with E4 Noxious Weed committee.
7) The committee will discuss future areas of action at the 2012 annual meeting, and through e-mail.

Recommendations for Board/Society Action: Currently none.