



Are we on the cusp of a significantly enhanced **national** effort to counter **bioinvasion**?

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The answer depends on whether the people President-elect George W. Bush appoints have any familiarity with this issue. The new secretary of agriculture, Ann Veneman, has worked on Medfly and other issues in California – so we can hope for an understanding ear there. The other major player, the Congress, will remain in Republican control, although with a narrowed majority.

Of course, many Republicans are concerned about invasive species. Prime examples are Governor Dirk Kempthorne of Idaho and his colleagues in the intermountain states, where rangeland weeds cost the livestock industry millions of dollars annually. More broadly, however, I think we can expect a Republican administration and congress to be more skeptical of government programs, and less willing to adopt regulations that restrict activities by economic interests. I anticipate that any Republican-led program will focus on those invasive species that harm economic interests including the aforementioned rangeland weeds. There may be considerably less interest in those introduced organisms that threaten natural areas.

Recent years have seen a much-heightened awareness of the costs imposed by bioinvasion — including but not limited to within the federal government. Much of the credit for this progress goes to Don Schmitz, Phyllis Windle, Jim Carlton, and others

who organized the 1997 letter to Vice President Gore that was endorsed by more than 500 scientists. It was this letter that led to adoption of Executive Order 13112, creation of the Invasive Species Council and Advisory Committee, and preparation of the draft invasive species management plan that was released for public comment in October. While we are all probably seeking more! from the Council and Plan, these developments still represent major steps forward.

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The “system” is now poised to act — although probably less boldly that we wish. At this crucial moment, the federal administration is changing hands and the Congress is distracted.

So, once again, the burden is on us to make sure the process moves forward instead stagnating. The Exotic Pest Plant councils, their members, and other concerned organizations and people need to begin immediately to educate officials in the new administration and the Congress.

The draft management plan unfortunately does not yet provide a strong rationale for curbing bioinvasion. Even the economic costs are downplayed. Therefore, we must remind decision-makers that the present federal control effort pales beside the need. Federal spending — now \$631.5 million (GAO

2000)— constitutes less than half of 1% of the \$137 billion in annual losses tallied by Dr. David Pimentel and colleagues of Cornell University (2000). International trade is the principal “pathway” by which damaging invaders enter the U.S. yet our Nation’s trade policy is dominated by efforts to increase the \$50 billion earned annually by agricultural exports (Seattle Post-Intelligencer) rather than to protect us from an increase in the \$90 billion cost imposed by animal weeds, plant pests, and animal diseases introduced by trade (Pimentel et al.2000).

The Plan also does not specify how the National Invasive Species Council and concerned public will exercise oversight to ensure that the agencies comply with the Executive Order.

One obvious lapse is the failure of any agency to carry out its duties under Section 2(3) of the Executive Order. This section says no agency may authorize, fund, or carry out actions that it believes are likely to cause or promote introduction or spread of invasive species unless, “pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.” It is particularly important that those agencies that introduce and recommend plants for various uses comply with this requirement.

Among such agencies are the USDA Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service, Agricultural Research Service, and the U.S. Department of Transportation Federal Highway Administration.

The evidence is that these agencies have some progress to make. Horticultural Guides issued through the

extension program of the University of Missouri are still recommending Hall's, Tatarian, and Amur honeysuckles (*Lonicera japonica* 'Halliana', *L. tatarica*, *L. maakii*), wintercreeper (*Euonymus fortunei*), and other species known to be invasive.

From the perspective of the EPPCs, one of the strongest aspects of the draft management plan is its promise to close various pathways for deliberate introductions for horticultural plants, pets, aquatic animals used in aquaculture and mariculture, etc. The Invasive Species Advisory Committee that assists the Council felt strongly that the screening mechanisms for various taxonomic groups or geographic regions should conform to common principles; it therefore recommended formation of a joint government-committee task group to ensure that this occurs.

Unfortunately, top federal officials have not put the same priority on closing off such deliberate introductions. Will this position result in a change to the Plan? Will agencies simply drag their feet? The EPPCs should be prepared to educate all levels of the administration, as well as the

Congress, on the importance of curbing deliberate introductions.

Our hand is probably strengthened by the fact that considerable preparatory work has already been done with regard to pre-import screening of horticultural imports. Scientists and representatives from Exotic Pest Plant councils met in 1997 with representatives of the nursery trade to increase communication and discuss ways to reduce the introduction of invasive species. Government officials and the trade have studied the systems developed by Australia and New Zealand. The USDA is planning a workshop with the horticultural industry in January 2001. With this start, I believe a screening system for plants should be operational well before the deadline of January 2007 set in the draft plan. Soon, I hope, people involved in protecting natural areas — governmental and non-governmental — will join the negotiations.

Parallel discussions in some states and regions have resulted in agreement on in short lists of plants that should be removed from the trade.

If the government does limit its

efforts to those species that cause harm to economic interests, this will perpetuate a longstanding challenge to those of us concerned about the impact of "weeds" (and "plant pests") on natural systems — wildlands. The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) has traditionally confined itself to protecting agriculture. This stance has been reinforced by the committees to which the agency reports in Congress. While there has been a little progress in recent years, my perception is that some in the APHIS leadership and probably many of the staff are not willing to expand APHIS' efforts to control wildland weeds unless the agency is guaranteed significantly more money.

The draft management plan released in October 2000 contains no specific mechanism to improve protection for natural areas from such introductions. The Plan does promise to ask Congress for more funds — but realizing this promise might be difficult. Even if more money is made available, Congress might continue to focus on pro-

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tecting agriculture. If that is the case, weeds and pests that invade primarily natural areas will continue to enter the country and spread without an effective response.

The draft plan does not provide for applying screening procedures to the hundreds of invasive plant and animal species that are already in trade. The only strategy to reduce use of such plants—or to prevent the spread of weeds from one state to another is a recommendation to expand access to supplies of seeds of native plants. This approach enjoys considerable support in the Advisory Committee and Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW). In addition, the U.S. Department of Transportation, Florida DoT, and University of Florida are sponsoring a workshop on techniques for growing seeds of native plants in coming months.

The draft plan commits the government to few specific steps to improve early detection. The Advisory Committee pushed strongly for concrete steps to bring about faster assessment and dissemination of information about newly detected invaders. The Committee also stressed the important role that the public can play by reporting new infestations.

Again, those of us working on “weeds” may be ahead of the “plan”. For several years FICMNEW has been developing an early detection system for invasive plants. Working from the recommendations of a workshop held in June 2000, FICMNEW will write a draft implementation plan and actively seek input from weed organizations during the first half of 2001.

Meanwhile, CSREES has stated its intention to develop programs to train people to detect invasive species. The program would be modeled on the Master Gardeners program; CSREES staff would develop the content, while land grant universities would carry it out.

Don Schmitz’ proposal to create a leading institution modeled on the Center for Disease Control is not mentioned in Plan. Such a center could be valuable from many points of view — raising awareness, providing advice, and pointing fingers at those agencies

that fail to prevent introductions or respond to newly detected invaders. Some activists believe such a center would function best if it were not part of government — rather, an independent watchdog. This approach would require an appropriate institution to obtain funding probably from foundations. Until a center is created, can nongovernmental organizations including the EPPCs work together to carry out some of the tasks?

There remains the difficult question of ensuring that information spurs needed action. It is widely agreed that

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agencies need more funding for rapid response, and that the funds must be accessible on a priority basis, not tied to a particular species or agency. The Plan calls for legislation to create such a fund, but postpones submitting the proposal to later years. The Advisory Committee and Council staff have agreed instead to get that legislation drafted by January 2001. That would just be the first step, however. Concerned non-governmental organizations and individuals must carry out an active campaign to persuade the Congress to adopt the legislation.

To address control of established invasive species, the plan relies heavily on grants and cost-share programs. This approach is popular; Senators Craig (R-ID) and Daschle (D-SD) introduced a bill to establish such a program in the final weeks of the 106th Congress, and expect to re-introduce the bill early in the new Congress. This approach is probably more useful for “weeds” than for some other categories of invaders (e.g., forest pests). However, we must all

be vigilant to ensure that the program applies sound criteria in selecting recipients and requires follow-up monitoring and reports on the projects’ results.

Furthermore, will the Congress fund both the cost-share program for private lands and the federal land-managing agencies? These agencies still need substantial new money to address weeds and other invaders on lands under their jurisdiction — which include some of America’s conservation “crown jewels”.

In the international arena, the Plan calls for close cooperation with the Global Invasive Species Programme (GISP), which aims to

- 1) build countries’ capacities to address the invasive species issue;
- 2) develop best practices for prevention and control in various scenarios;
- 3) provide useful information through a global clearing house, facilitating research that unites agricultural and biodiversity concerns; and
- 4) promote cooperation with international bodies that have responsibilities in this area including the International Plant Protection Convention (IPPC), World Trade Organization (WTO), and International Maritime Organization (IMO).

One of the “best practices” initiatives will be a global workshop on horticultural plants, which will be cosponsored by The Missouri Botanical Garden, The Royal Botanical Garden at Kew, and perhaps others. Sarah Reichard is one of the experts planning the meeting. The purpose of this workshop is to begin developing codes of conduct for botanical gardens, nurseries, and landscape architects, to discuss screening methods, and to promote identification of non-invasive alternatives for particular invasive plants.

The Plan ignores several opportunities to address invasive species, most notably the March 2001 meeting of the scientific body for the Convention on the Conservation of Biodiversity, which will focus on invasive species.

The Plan and APHIS put great emphasis on “engaging” states and affected industries but say little about interacting with the public more broadly, environmental conservation groups etc. The public will provide the funds; it must also understand and

cooperate with the Plan if it is to succeed. Furthermore, the public can help in numerous other ways, including by

- alerting authorities to new introductions
- participating in volunteer control and management efforts
- raising awareness about invasive species problems and solutions.

In addition, the public is concerned about the environmental ramifications of control techniques, such as use of herbicides and pesticides, and must be consulted about programs that rely on these methods.

The Research section of the Plan recognizes the importance of strengthening agencies' "core" programs and the need for both basic and applied research. Some consider the Plan to be weak on technology transfer. FIC-MNEW plans a conference on weed control techniques in the coming year. I would like to see greater emphasis on developing and testing "exclusion" methodologies for pathways in addition to ballast water, among them living plant imports as vectors of forest pests. The Plan should also provide

for research into the economic impacts of invasive species and the cultural or societal choices that promote imports of foreign goods — goods that can either be invasive themselves (e.g., plants and pets) or be vectors for pests and disease organisms.

The Plan also delays the outreach or education effort while assembling a marketing team to design a major national program. Surely a number of ongoing programs should be continued, even expanded, during this hiatus? The aquatic invasive species information system tied to Sea Grant colleges appear to warrant emulation. I hope the designers will remember the need to educate the business executives, economists, politicians, and trade officials who are promote programs and actions that contribute to invasive-species problems worldwide.

Meanwhile, agency activities proceed and include some promising developments.

APHIS & the Department of Interior's U.S. Geological Survey Biological Research Division are jointly developing a system to accept reports of new

weed infestations on the Web, or via telephone or fax. This system will allow for various levels of credibility — voucher specimen, photograph, publication in a peer-reviewed journal, or even hearsay report. The report will be validated before being accessioned. Once the report is accepted, notices would be sent interested people, perhaps by a listserve. APHIS is also trying to develop or adapt "invasiveness models" for use in assessing likely weediness of plant species. The agency has contracted with the Weed Science Society of America to develop a list of 40 top-priority weeds. The contractor is trying to include natural area concerns.

SOURCES:

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