

THE INTERNET:

A Potential Ally in the War Against Invasive Plant Species Using Google Alerts for early detection of invasive plant populations.

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The most important step in the war against invasive plants is prevention, but what if that step fails? What's next? Many plans for the control of invasive plant species concentrate on the early detection of, and the rapid response to, new populations of invasive plants. Early detection and rapid response relies heavily on active communication. Information on new populations must quickly reach the ears of the informed and interested or the opportunity is lost. For one month we tested the efficacy of Google Alerts at reporting newly found invasive plant populations.

Google Alerts is a service designed to get the latest news directly into your inbox by setting up a persistent Google search. The searches can concentrate on news, blogs, the web, videos, groups or a comprehensive search of all five categories. The results can be delivered once a day, once a week or, for the ambitious searcher, as it happens. It can be set up to report to any e-mail address; however, it is easier to manage your alerts if you have a Google (Gmail) account. With a Google account you can change the frequency and scope of your alerts at any time; without a Google account you must wait to receive an alert in order to change the settings or cancel.

In order to gain a better perspective on the full potential of this system, we set up comprehensive alerts for several invasive species at www.google.com/alerts. These included spotted knapweed (*Centaurea stoebe* subsp. *micranthos*), hydrilla (*Hydrilla verticillata*), kudzu (*Pueraria montana*) and a broad, general search for invasive plant species. Two Google alerts were set up for each species, one for the common name and one for the scientific. In order to minimize mailbox clutter, each alert was set to report once a week.



Does Google alerts indeed aid in the early detection and rapid response phase of the war against invasive plants? It can, if luck is on your side. Over the month-long test run, we did not receive any alerts for new populations of any of the species for which we had specifically searched. We did, however, receive alerts for new populations of giant salvinia (*Salvinia molesta*) and salt cedar (*Tamarix* spp.) from the general “invasive plant species” search. Two reports in a month could be considered fruitful, but the sheer generality of the search made locating this information quite arduous.

We found it ineffective to search by scientific name. Three scientific names were used as search terms and only one result was reported over the entire four week period. This result was not relative to early detection. The common name searches did not yield information on new populations; however, they did produce several other useful notifications.

The search using common names produced a wide array of information ranging

from articles in local newspapers on fishing (hydrilla) and kudzu jelly recipes to articles on novel control measures and funding opportunities. We did find these searches to be beneficial in helping to gauge public opinion about invasive weeds. This could potentially help target areas in which public outreach and education is needed (ahem... some fishermen in a very large state and their views on hydrilla).

Alerts on control programs could potentially increase communication between interested individuals and therefore stimulate similar efforts in multiple areas. Several articles were reported on control measures in different states including a hydrilla “harvester” in Georgia and a new aquatic herbicide used in Florida. These alerts also produced several links to information on small meetings and volunteer activities that could be worthwhile.

Google Alerts can deliver information in a prompt manner. An alert was set up for “The Center for Invasive Species and Ecosystem Health” one day before the Bug-

wood Network's website name change. The alert was set to report immediately and was received within hours of the change. We feel that, in general, Google Alerts is not the greatest tool in the early detection of invasive plant populations, but it is the best free instrument available and could be extremely useful if used in concert with other methods.

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Center for Invasive Species and Ecosystem Health BUGWOOD NETWORK

The **CENTER FOR INVASIVE SPECIES & ECOSYSTEM HEALTH** has been formally established at the University of Georgia to address issues on invasive species and ecosystem (agricultural, forested and natural system) health. The Center, housed at the University of Georgia Tifton Campus, evolved from the Bugwood Network that developed through faculty cooperation between the College of Agricultural and Environmental Sciences and the Warnell School of Forestry and Natural Resources at the University of Georgia. The Center will serve a lead role in development, consolidation and dissemination of information and programs focused on invasive species, forest health, natural resource and agricultural management through technology development, program implementation, training, applied research and public awareness. It currently operates 20 websites that received 147 million hits from 23 million users last year. The Forestry Images, IPMImages and Invasive.org image archives created by the Center include 75,000 images from 1,300 photographers.

<http://www.bugwood.org/>