

From: Chris_Dionigi@ios.doi.gov [mailto:Chris_Dionigi@ios.doi.gov]
Sent: Monday, February 09, 2009 1:05 PM
To: Rep. Craig Johnson
Subject: Fw: Economic Impact of Invasive Species

Hello Representative Johnson and Ms. Ostnes,

Thank you for your interest in invasive species and NISC. My boss, Lori Williams asked me to respond to your request for information.

The number that you reference is widely used. It is based upon a compilation of cost estimates that could be found in the published literature at the time. The authors included a very broad scope of species, such as human pathogens. While it is a widely referenced citation from a peer-reviewed journal, there are other estimates that are more specific to your question.

There is no overall estimate of the economic impact of invasive plants for the U.S. The economic impact of most species is poorly documented. This is generally due to a lack of quantitative information on ecosystems impact and the challenge of assessing non-market cost, such as those to society and the environment, (e.g., changes in fire frequency, wildlife habitat, aesthetics, and biodiversity) (Duncan and Clark, 2005 – see below). For example, invasive plants in wetlands can impact recreational opportunities (fishing, swimming, boating, etc.), consumer communities, biogeochemical cycling, water levels (Shafrroth and others 2005), and diversity (Schooler and others 2006). The Weed Science Society of America lists several invasive plants that cause allergic reactions. These categories of impact do not lend themselves to economic valuation.

The overall economic impact of invasive plants is difficult to estimate even well-defined systems such as row crops. A report published in 1992 estimated average annual monetary loss in the U.S. caused by weeds with current control strategies in 46 row crops to be \$4.6 billion (Bridges, D. C. 1992. *Crop Losses due to Weeds in Canada and the United States*. D. C. Bridges (ed). Weed Science Society of America, 309 West Clark Street, Champaign, IL. 403 pp). I am not aware of a more recent overall estimate for row crop weed losses. Nationwide, aquatic weed control is estimated to cost 1 to 10 billion dollars annually. Florida alone spends \$30 million each year to control aquatic weeds. A recent paper by Zika et. al (<http://www.ehponline.org/members/2008/11501/11501.pdf>) indicates that certain invasive plants such as **Canada Thistle** will become more difficult to control with herbicides at higher carbon dioxide levels.

The 2005 book edited by Duncan and Clark (Duncan, Celestine L., and Janet K. Clark, eds. *Invasive Plants of Range and Wildlands and Their Environmental, Economic, and Societal Impacts*. Weed Science Society of America, 2005) provides an overall acreage and spread estimates for 16 invasive plants. They report that these species alone infest over 126 million acres of Western range lands in 17 states. They are spreading at rates from 1.3% to 25% annually.

While there are few overall estimates of economic impacts due to invasive plants, there is some specific information. **Leafy Spurge**, a Noxious Weed in Alaska, is estimated to cause an **\$185 million** annual impact in Montana, North Dakota, South Dakota, and Wyoming (Duncan and Clark, 2005, page 101). They also report that **Russian knapweed**, another Alaska Noxious weed, is estimated together with spotted and diffuse knapweeds to cause **\$42** million in direct and secondary costs in Montana alone each year. If even a fraction of the costs from just these two species would occur in Alaska, the economic harm would be considerable. Alaska is fortunate; many of the invasive species that cause extensive harm in other states are largely preventable in Alaska. However, technical experts I have talked with say that many invasive plants could survive and spread in Alaska if they reach your state. The magnitude of the resources at risk in Alaska and the challenges of controlling species on such scales are great. In Alaska, maybe even more so than other places, prevention and early detection and rapid response efforts are critical.

Your statement in your sponsor statement might be something like: **"Invasive species are a relentless problem. These harmful, non-native plants, animals and microorganisms impact our economy and environment. The overall economic impact of invasive species in the U.S. was estimated in the range of tens of billions of dollars per year in 2000. The potential economic harm that invasive species could cause in Alaska is difficult to estimate. However, if just a few invasive plant species that are of known concern were to become wide-spread, they alone could cost the State's economy tens of millions of dollars annually."**

Please let me know if I can be of service.

Thanks again, Chris

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----- Forwarded by Chris Dionigi/NISC/OS/DOI on 02/09/2009 02:32 PM -----

From: Lori Williams/NISC/OS/DOI
To: <Chris_Dionigi@ios.doi.gov>
Date: 02/09/2009 09:42 AM
Subject: Fw: Economic Impact of Invasive Species

Please answer this inquiry with existing data such as it is
Thanks!

From: "Rep. Craig Johnson" [Representative_Craig_Johnson@legis.state.ak.us]
Sent: 02/08/2009 03:23 PM YST

To: Lori Williams

Subject: Economic Impact of Invasive Species

Hello,

We will be hearing for the first time a House Bill to form the Alaska Council on Invasive Species on February 18, 2009. I have attached the bill for your perusal. I have also attached a Sponsor Statement for the House Bill.

I was only able to find a cost figure from 2000 for an economic impact to the United States of \$137 billion dollars.

(Pimentel, D., Lach, L., Zuniga, R., and D. Morrison. 2000. Environmental and Economic Costs of Nonindigenous Species in the United States. BioScience 50(1):53-65.)

Would you have an updated figure I might be able to use? I would also like to identify some cost figures to other states for their attempts to eradicate or contain invasive species.

Any help you might be able to give would be greatly appreciated.

Thanks,

Jeanne Ostnes, Staff

Representative Craig Johnson

Co-Chair House Resources Committee

Phone: 907-465-4993

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[attachment "00 HB0012A.pdf" deleted by Chris Dionigi/NISC/OS/DOI] [attachment "00 Sponsor Statement Alaska Council on Invasive Species.pdf" deleted by Chris Dionigi/NISC/OS/DOI]