

19 November 2007

Mr. Kalemani Mulongoy, Principal Officer – Scientific, Technical and Technological Matters  
Ms. Junko Shimura, Programme Officer – Invasive Alien Species

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**Re: Input into CBD In Depth Review on Invasive Alien Species**

Dear Mr. Mulongoy and Ms. Shimura,

Please find enclosed a submission from the Nature Conservancy for the upcoming in depth review on invasive alien species under the Convention on Biological Diversity (CBD). This letter responds to the Notifications sent out by the CBD Secretariat (20 October 2006 and 31 October 2007) and includes information on the activities of the Conservancy in support of the Convention's work.

The Nature Conservancy (TNC) is a global conservation organization whose mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC has over one million individual members, works in more than 30 countries and manages the largest private system of nature preserves in the world. Protecting more than 47 million hectares of land and approximately 8,000 km of rivers worldwide, TNC seeks to leverage its knowledge and activities to help governments and other interested partners in the effective conservation of additional priority sites and systems.

The Global Invasive Species Team works across the Conservancy and with external partners to develop innovative, science-based strategies and public policies and communications campaigns that support them, with the ultimate goal of preventing and abating invasive species threats to biological diversity. Geographically, TNC's invasive species activities are focused in North, Meso and South America, the Caribbean, and the Asia/Pacific region (while TNC is starting to engage in Africa and Central Asia, work on invasive species in those areas is currently minimal). The enclosed submission addresses a number of general priorities for TNC's prevention-based efforts, and also includes information on regional and national activities.

In most regions where TNC is actively working on invasive species issues, national capacity and/or political awareness has generally been lacking to address basic management issues, let alone the prevention of new introductions. Given available resources, off-the-shelf biosecurity systems modeled on exemplar countries like New Zealand and Australia are largely unattainable. While TNC's end goal is enhancing prevention systems, our initial approach has been to support the enabling conditions that will engage policy-makers and support national prevention systems in the longer term. Optimal models for biosecurity in resource constrained countries are still lacking, however a number of contributing elements include: building institutional capacity; better use of existing international standards and guidance; information sharing and issue prioritization; and development of regional support mechanisms.

In advancing work at all levels on invasive species, TNC's key priorities for advancing long-term prevention efforts are:

National – build an enabling framework for prevention policies and programs through:

- development of national strategies and action plans that incorporate institutional, regulatory and legislative priorities;
- formation of inter-agency invasive species committees; and
- development of baselines, databases and/or lists that identify known invasive species threats.

Regional – support regional mechanisms, both governmental and non-governmental, that enhance:

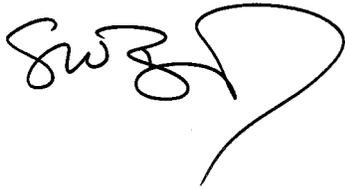
- networking and information exchange (pest identification, risk assessment information, research and development);
- identification of priorities (pathways, species); and
- coordination (regional policies, prevention programs).

International – develop guidance for:

- priority pathway gaps (identified in COP Decision VIII/27) and
- better application of existing standards and measures toward environmental as well as agricultural and public health priorities (particularly the WTO's SPS Agreement and related standard-setting bodies).

Attached is an indicative list of TNC's activities in key substantive and geographic areas. Please feel free to contact me for more information, and we look forward to collaborating with the CBD process, governments and other stakeholders in addressing the threat of invasive alien species.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stas Burgiel', with a large, sweeping flourish extending from the end of the signature.

Stas Burgiel, Ph.D.  
Senior Policy Advisor

## Input into the CBD In Depth Review on Invasive Alien Species

### Strategic Planning and Assessments

The Nature Conservancy's Invasive Species Team works to identify, develop and provide access to the best invasive species prevention and management strategies, tools, information and training. This work specifically strives to build capacity in TNC programs and partners, and to ensure that knowledge, skills and resources are subsequently implemented and communicated further. The Invasive Species Team assists TNC's state and country programs to develop invasive species strategic plans that direct their efforts to the most important and effective prevention, control and assessment strategies and activities. These strategic planning exercises are useful as they help:

- focus on preventing harmful new invasions and keeping uninvaded sites clean;
- concentrate efforts on the highest priority invaders and the highest priority sites;
- identify the key public and private partners to engage; and
- select the best strategies for preventing and abating invasive species threats to conservation targets.

These customized plans incorporate a variety of approaches to addressing invasive species threats, including advancing public policies and funding, engaging businesses to voluntarily change practices that spread invaders, managing high priority lands and waters to prevent and control priority invaders, promoting needed research, and supporting key partner agencies and organizations.

TNC also provides expertise for assessing the risk of invasive species at the site scale. We are now expanding this expertise to larger scales, such as for Ecoregional Assessments and Protected Areas, and creating models and templates for project-scale strategic plans. Examples include modeling of potential invasive species threats in South America, a survey of invasive species in the Caribbean and an assessment of invasive species management in the U.S. state of Idaho.

### Management and research

TNC has substantial expertise at assessing and controlling invasions at sites because of our place-based focus and experience managing invaded preserves. TNC is looking to partner with NGOs, governments and academia to maintain and expand our expertise, particularly in addressing freshwater and marine invaders. The Invasive Species Team has a wide range of publically available management information and materials including:

- invasive plant management information;
- invasive animal and pathogen management information;
- weed control methods handbook;
- site-scale weed management plan templates;
- remote sensing tutorial;
- tool reviews; and
- success stories.

(Available at <http://tncweeds.ucdavis.edu>).

Weed Information Management System (WIMS): TNC's Invasive Species Team has also developed a weed information management system (WIMS) to assist natural resource managers in managing their weed data. WIMS is a Microsoft Access-based relational database application that it is being deployed by many users within TNC, other NGOs and some state and federal agencies. The Access database tracks

weed occurrences (GPS point locations), assessments (size and status of infestations) and management treatments. Data can be exchanged between multiple users, exported in a variety of formats, and written to GIS shapefiles (for easy map making). Additionally, WIMS can be used on a handheld computer with GPS to assist in weed mapping and monitoring in the field. TNC is currently discussing with partners the use of WIMS or its possible integration with other similar systems for use in the Pacific.

## **Stakeholder Engagement**

TNC recognizes that partnerships with a wide range of stakeholders are necessary to address the multiple facets of the invasive species threat by leveraging resources, replicating successful efforts and catalyzing additional action. Government agencies, NGOs, the private sector and the public are all important collaborators for TNC's work.

Learning Networks: TNC supports the development of Invasive Species Learning Networks as a tool for gathering and motivating staff, government partners and scientific experts to facilitate peer learning and develop professional relationships. Learning networks are designed to facilitate:

- networking, exchange of experiences and better understanding of shared challenges;
- support for field and strategic projects by exploring similar models, developing cooperation and learning new techniques;
- involvement of other regional invasive species programs and partnerships;
- identification of critical issues and expert exchange needs; and
- development of action plans for priority issues.

TNC currently supports the following learning networks:

- Eastern North America Invasives Network;
- Western North America Invasives Network;
- Pacific Islands Invasives Learning Network; and
- Freshwater North American Aquatics Learning Network.

TNC is also investigating interest in and the possibility of a network in Meso-America and the Caribbean.

Private Sector Engagement: TNC's Invasive Species Team sees private sector engagement as a key priority, recognizing their key role in the introduction and movement of invasive alien species, as well as the significant impacts that invasives have on commercial activities. For example, in many regions of the U.S. the greatest percentage of invasive plants are coming from gardens and landscaping. In 2001, the Missouri Botanical Garden and the Royal Botanic Gardens, Kew, convened experts from across the globe to develop workable, voluntary approaches for reducing such introductions embodied in the "St. Louis Declaration" and its draft Voluntary Codes of Conduct. TNC has actively worked with nurseries and other private business to promote application of these codes to curb the spread of invasive plant species.

In the area of forest health, the Invasive Species Team has a major focus on invasive, non-native insects and diseases that are arguably the most significant threat to trees and forests in the U.S. With lead support from the Grantham Environmental Trust, TNC established the Forest Health Program in 2006 to tackle the threats posed by invasive forest insects and disease to North American forests. The program engages leaders in the forest products industry, the nursery industry, environmental organizations, state and federal agencies and universities towards a common agenda on addressing the threats of invasive plants, forest pathogens and insects. Specifically, the program seeks to:

- support research and tools to document the extent of damage to and the value of forests;
- encourage voluntary incentives for key industries to self-regulate;
- promote legislative and regulatory action to prevent, detect and control invasive species damage to and the value of forests;
- raise public awareness of the economic and other losses incurred by invasive insects and disease; and
- mobilize collaborative action among municipalities, state agencies, environmental organizations, forest-products companies and agricultural and horticultural interests, through a Continental Dialogue on Non-Native Insects and Diseases.

## Public Policy

TNC views public policy as a critical tool for influencing the programs, regulations and funding sources used to help prevent, contain and manage invasions at the national, regional and international levels.

**At the international level**, TNC is engaged in invasive alien species discussions under the CBD, as well as in the International Plant Protection Convention and the International Civil Aviation Organization. As the basic framework for global commerce, TNC also tracks the World Trade Organization and its Agreement on the Application of Sanitary and Phytosanitary Measures, along with a number of U.S. regional and bilateral free trade agreements. While countries have the sovereign right to protect their environmental resources and public health, trade priorities often trump ecological ones. TNC is working to collect, analyze, and disseminate invasive species related resources to inform national decision-makers about the range of domestic, regional and international policy tools and technologies available to address invasive species and their related threats.

Global Invasive Species Programme (GISP): GISP is a particularly important avenue for providing input and expertise into international policy discussions. TNC is one of four partner organizations in GISP (CABI, IUCN and the South African National Biodiversity Institute) and actively supports its engagement in the CBD and other policy fora, including the International Maritime Organization, the UNEP Regional Seas Programme, the International Civil Aviation Organization and numerous other intergovernmental and regional organizations. (See separate submission by GISP from Dennis Rangi, Chair of GISP; <http://www.gisp.org>).

Global Island Partnership (GLISPA): Island regions are also a particular area of focus given the significant threat that invasive species pose to island ecosystems and livelihoods. In this area, the Invasive Species Team is working with GLISPA to strengthen regional support for islands through funding, technical support and networking by promoting the Cooperative Islands Initiative (CII). Launched by the government of New Zealand, IUCN's Invasive Species Specialist Group and a number of other partners in 2002, the CII was designed to support and facilitate regional work on invasive alien species. To date, only the Pacific has a regional node (see Pacific Invasives Initiative under the Asia and Pacific section below), although interest is growing in the Caribbean, Mediterranean and elsewhere.

**At the regional level and national levels**, TNC's Invasive Species Team works actively in a wide array of institutions and countries throughout North America, Meso-America and the Caribbean, South America and the Asia-Pacific region (see information in sections below).

## Asia and the Pacific

In the Pacific TNC has primarily worked through local partners and the support of regional networks and organizations, most specifically the Pacific Invasives Learning Network (PILN) and the Pacific Invasives Initiative (PII). Given lack of capacity at the national level, such networks are important mechanisms for building knowledge and institutional commitment, specifically around:

- networking information exchange (pest identification, risk assessment information, research and development);
- identification of priorities (pathways, species); and
- coordination (regional policies, prevention programs).

The interplay of PILN and PII with regional intergovernmental organizations like the South Pacific Regional Environment Programme (SPREP) and the Secretariat of the Pacific Community (SPC) is a particularly salient model of how efforts can and should be coordinated (see Pacific submission into the in depth review):

- SPREP provides guidance and support on environmental aspects of invasive species (<http://www.sprep.org>);
- SPC provides guidance and support on biosecurity/quarantine concerns as well as legislation (<http://www.spc.int>);
- PILN supports social networking and capacity development through building of and exchanges among Pacific island invasive species teams (<http://www.sprep.org/PILN/>); and
- PII conducts demonstration projects and research into eradication and management techniques that can be spread through the region (<http://www.issg.org/cii/PII/>).

While each of these institutions suffers from resource constraints, they vastly improve the ability of countries and territories within the Pacific region to start addressing the threat of invasive alien species. TNC is actively working through GLISPA and the Cooperative Islands Initiative (see above) to examine how this experience can be replicated in other island regions taking into account their particular institutional, political and socio-cultural histories.

People's Republic of China: TNC is currently involved in site level management activities of nature reserves and protected areas in Yunnan Province. Future work will likely include: developing management plans for these areas; supporting technical management capacity and policy work on invasive species; raising public awareness; and improving information sharing.

## North America, Meso-America and the Caribbean

TNC actively works with a number of regional institutions, including the North American Plant Protection Organization, NAFTA's Commission on Environmental Cooperation and the Inter-American Biodiversity Information Network. Additionally, TNC programs have actively supported work on a regional strategy and coordination in the Caribbean, currently led by CAB International.

Bahamas: TNC has worked with the government of the Bahamas in their development of a National Invasive Species Strategy, and hopes to support its implementation. TNC has also hosted workshops on invasive species management; engaged in community outreach public awareness raising activities; and facilitated exchanges with personnel from Florida to look at threats (including invasive species) to priority bird species.

Costa Rica: TNC has initiated a research project on invasive species in the protected areas of the Osa Peninsula, located in the southwestern corner of the country and habitat for all 11 of Costa Rica's endangered mammals, at least 375 bird species and more than 4,000 plant species. The first phase of the project includes a literature review on introduced species in the region, identification of some introduced species in the Osa Conservation Area, an assessment of their colonization status (beneficial, naturalized or invasive), and a review of their impacts elsewhere. In the second phase, three of the identified invasive species will be selected for more in-depth research on their ecology and impacts on the study area. The research project is considered a first step in developing management strategies for the target species.

Dominican Republic: TNC has been active in a number of areas including: training in and distribution of an invasive species database (IABIN-I3N); assessing invasive species' impacts on biodiversity; establishment of two pilot sites for management and eradication (Valle Nuevo National Park, Enriquillo, and Bahoruco Biosphere Reserve, Del Este National Park); and more generally engagement with national agencies, communities and other interested organizations to provide information, support or other materials.

Mexico: Work in Mexico has concentrated on four areas: supporting the development of a national invasive species strategy; preventing new invasions and spread of established invasive species; controlling high priority invasive species in conservation areas; and promote regional cooperation. To support the development of a national strategy, TNC co-hosted a workshop with CONABIO in 2006 to set criteria to identify high impact invasive species, select high priority invasive species, explore the development of a database, and vet the guidelines and programs for a strategy plan. Additionally, TNC has conducted an analysis of the present legal framework addressing invasive species, including an identification of key gaps.

In preventing new invasions, TNC has worked on monitoring and controlling the spread of *Cactoblastis cactorum*, which could have significant environmental and socioeconomic impacts on Mexico's diversity of opuntia species. TNC has also worked with through the Commission on Protected Areas for invasive species surveys of protected areas, such as the Sierra La Laguna Biosphere Reserve. Other management work includes, invasive vertebrate eradication on Guadalupe Island and control of arundo donax in Cuatrociénegas Flora and Fauna Reserve.

Finally, TNC is exploring mechanisms for cooperation with North and Central America including through NAFTA's Commission on Environmental Cooperation, the North American Weeds Across Borders initiative and the potential development of a Meso-American and Caribbean Invasive Species Learning Network.

United States: TNC has its longest history of working on invasive species in the U.S., with a focus on four primary areas: science leadership; management and restoration; better business practices; and stronger public policies. In the area of science leadership, TNC has developed a number of information tools (located at <http://tncweeds.ucdavis.edu>) and with a range of partners, such as the Center for Aquatic Conservation at the University of Notre Dame and U.S. state chapters, work on developing and refining methodologies and analyses to assess risks from plants and shipping.

In the area of management and restoration, a significant number of TNC's U.S. state programs are working on the management of invasive species at the site level. Finally, TNC sees strong, proactive public policy as a requisite for preventing new introductions and strengthening management efforts on the ground and in the water. To this effect, TNC sits on the U.S. Invasive Species Advisory Council, the

invasive species panel of the North American Plant Protection Organization and engages in a range of lobbying efforts within the U.S. Congress.

## **South America**

TNC's South America Invasive Species Program has been providing support to countries in the region on a range of invasive alien species issues.

Database on invasive alien species: A database for invasive alien species was developed through the IABIN-I3N Network in 2005 through the Universidad Nacional del Sur, TNC and The Horus Institute. It was immediately adopted in Brazil and in Argentina, and then distributed to other countries along with capacity building and training workshops to Chile, Paraguay, Bolivia, Ecuador, Peru and Colombia. Other countries reached through the I3N were Uruguay, the Dominican Republic, Jamaica, Bahamas and Costa Rica. This database is available to other countries interested in cataloguing data on invasive alien species at no cost from I3N. In Brazil, continuous collection of data now adds to 334 species and nearly 11,000 occurrences of invasive alien species.

National strategies: A model national strategy was developed early in 2007 and presented at the IABIN Council meeting held in Uruguay in April, 2007. Brazil, Chile, Uruguay, Peru, and Colombia have engaged in the process of developing national strategies for invasive alien species, which shall be presented at COP-9.

Voluntary codes of conduct: Best practices for the cultivation, production, sales and ownership of pets and ornamental plants were developed by a voluntary group for application in the state of Parana, Brazil. A network of owners, users and companies in the trade was formed to allow for information exchange and to generate data on alternative species which are native or at least not invasive. The voluntary code of conduct for plants has 28 signatories so far, and the initiative shall be extended to other states in Brazil as well as serve as a model for other countries. There are nurseries producing and developing the cultivation of native species in the region of Curitiba, Parana. Over 3,000 folders and 500 posters have been distributed at congresses, workshops and to the general public.

The Curitiba City Hall in Brazil is implementing a project to value native biodiversity which aims to remove non-native species from city parks, streets and ornamental uses in public gardens, replacing them by native species.

Development and testing of risk assessment protocols for plants and terrestrial vertebrates: Risk assessment protocols were developed based on the experience of Australia, New Zealand, the United States and Ecuador (Galapagos Islands) for plants and terrestrial vertebrates. The protocol for screening plants has been tested for 60 species to date and showed a precision of at least 85% in refusing species that are invasive and allowing the introduction of species that are not invasive. The protocol for terrestrial vertebrates still needs to be tested.

Defined invasive alien species control program for Rigesa (MeadWestVaco): Work developed at Rigesa, one of the largest paper and cardboard box producing companies in Brazil, was aimed at developing an invasive species control strategy for natural areas under legal protection that are a part of the companies' properties. Training was provided to technical staff and control tests were implemented for several invasive species. Best practices for pine management were also adopted by the company, as the species is invasive and spreads from the commercial plantations. This adds to the process of forest certification the company undergoes, as it is one of the requirements.

Developed standards for the prevention and management of invasive alien species in protected areas: TNC recently acquired an area of 500 hectares in araucaria forest, and produced a management plan that included a section on invasive alien species. This plan sets basic standards for inclusion of the topic, and is supported by a scientific paper on how to develop the invasive species theme in protected area planning.

Coordination of invasive alien species workshops: TNC had a crucial role in organizing invasive alien species workshops at the Brazilian National Congress of Protected Areas (July 2007, Foz do Iguaçu, Brazil) and at the IUCN Latin American Congress of National Parks and Other Protected Areas (Bariloche, Argentina, October 2007). About 150 people attended these workshops, an indicator of the need for more information on the issue for managing protected areas, as information is still scarce.

The 1<sup>st</sup> Workshop on Conifer Invasions in South America (Bariloche, May 2007) was organized by the University of Tennessee and the University of Stellenbosch in South Africa, and produced a Declaration with recommendations for best practices in forest management and the use of conifer species that have invasive potential. For more information go to [www.proflor.com.br/conifer\\_invasions](http://www.proflor.com.br/conifer_invasions)

Distribution of materials: About 1,000 books entitled *South America Invaded*, published by GISP, were distributed to all environmental agencies, secretaries of agriculture, Public Ministry offices, federal universities and some state colleges with professional courses in Biology, Forestry, Agronomical Engineering, Landscaping, and others upon request in Brazil. About 300 copies of the Spanish version were also distributed to all Ministries of Environment and other related agencies in Uruguay, Paraguay, Argentina, Chile, Bolivia, Ecuador, Peru, Colombia and Venezuela.