THE GLOBAL INVASIVE ALIEN SPECIES INFORMATION PARTNERSHIP

TECHNICAL WORKSHOP

14-16 May 2013

WORKSHOP TOOLKIT

The Natural History Museum
Cromwell Rd
London SW7 5BD
United Kingdom

Knowledge is power.
Information is liberating.

~ Kofi Annan

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THE GIASIPartnership

VISION

Biodiversity and human well-being are protected from the adverse impacts of invasive alien species.

MISSION

To support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[1] and informatics tools." The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

VALUES

The Partnership's core values are intended to enable the network's diverse partners to pursue its mission collectively in a constructive manner, from a common foundation. These values support meaningful dialogue among people/organizations with different interests, expertise, and cultural norms. They also strengthen the Partnership's ability to maintain a neutral stance and credibility.

Partnership members agree to strive for:

(a) Accountability;

(b) Global collaboration;

(c) Scientific relevance/accountability;

(d) Cultural, gender, and geographic sensitivity;

(e) Inclusiveness;

(f) Free and open access to information;[2]

(g) Openness;

(h) Mutual respect; and

(i) Transparency

DISTINCT CAPACITIES

The Partnership achieves its mission by providing a collective vision and by catalyzing invasive alien species information initiatives at national, regional, and global scales. The Partnership operates through a "Partnership Network" comprised of invasive alien species information users and providers from around the world. The Partnership stakeholders are its partners – Government institutions, intergovernmental organizations, non-governmental organizations, donor agencies, academic/research institutions, indigenous peoples and local communities, and the private sector.

[1] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

[2] With proper attribution/citation of the original data publishers, when feasible.

Although Partnership partners have diverse missions, the Partnership's services are primarily intended to support Parties to the CBD who are committed to the effective implementation of Article 8(h), Aichi Biodiversity Target 9 (invasive alien species), and the various decisions under the CBD pertaining to the prevention, eradication, and control of invasive alien species. The improvement of availability, quality, and application of scientifically relevant information on invasive alien species is the underlying theme for all Partnership activities.

The Partnership has the ability to achieve outcomes that no single organization or Government could achieve on its own. Importantly, it also has the ability to enable a more timely delivery of invasive alien species information for policymaking needs.

Examples of services provided by the Partnership include:

(a) Advisory service to Parties to the CBD on matters relevant to invasive alien species information systems, data, and analytical tools;

(b) A forum for collaboration and information exchange among invasive alien species information providers and users;

(c) Creation and management of a web-based Information Gateway for access to and the exchange of information on invasive alien species in a timely and accurate manner;

(d) Designing and implementing activities to facilitate the development of new and better information systems and analytical tools to address the issues related to invasive alien species; and

(e) Facilitating the provision of targeted grants and in-kind services to build the capacity of invasive alien species information systems and analytical tools.

The collaborative nature of the Partnership encourages countries to recognize that they face difficulties in solving the invasive alien species issue by solely working within their borders. Invasive alien species are largely an international problem. The data and other information resources that one country needs to address invasive alien species can often be found in another country. The Partnership helps countries to access the information resources worldwide, and to become a resource for others.

The Partnership works in a similar manner with international organizations to prevent the isolated, sector-focused approaches to invasive alien species issue that can lead to duplicative efforts and ineffective policies. The Partnership enables Governments, environmental groups, trade industries and other stakeholders to share information and engage in positive, constructive dialogue, as well as implement projects with tangible, high-impact outcomes.

WORKSHOP LOGISTICAL INFORMATION

I. HOST/LOCATION

The Natural History Museum
Cromwell Rd
London SW7 5BD
United Kingdom
http://www.nhm.ac.uk/
Contact: Dr Chris Lyal (GIASIPartnership Interim Steering Committee Chair) +44 207 942 5113 (office) +44 7944099902 (mobile) c.lyal@nhm.ac.uk

II. BACKGROUND

Invasive alien species (IAS) are those alien species which threaten ecosystems, habitats or species (Article 8(h) of the Convention on Biological Diversity; CBD). In some ecosystems – islands for example – invasive alien species are the leading cause of biodiversity loss. A lack of reliable, readily accessible information has been identified as a barrier in CBD Parties' efforts to effectively address this problem.

Recognizing the urgent need to strengthen information capacity, the CBD and collaborating organizations launched the Global Invasive Alien Species Partnership (GIASIPartnership) on 10 October 2012, during the 11th Conference of Parties to the CBD held in Hyderabad, India.

The mission of the GIASIPartnership is to "support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[3] and informatics tools." The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

In addition to the CBD, Partner organizations currently include: The Global Biodiversity Information Facility (GBIF), CAB International (CABI), IUCN/Invasive Species Specialist Group (ISSG), The Horus Institute, FishBase, the Natural History Museum – London, Muséum national d'Histoire naturelle, and Anatrack Ltd.

An Operational Plan for the GIASIPartnership was released in September 2012 (see information below under Preparation). Within it, five Working Groups are identified as mechanisms for implementing an evolving Work Plan: The Gateway Working Group, Interoperability and Quality Improvement Working Group, Information Synthesis and Assessment Working Group, Taxonomic Information Services Working Group, and the Best Practices for Non-web-based Information Access and Exchange Working Group.

III. Workshop Objectives

In order to advance the efforts of these Working Groups, the GIASIPartnership will hold a small, technical workshop on 14-16 May 2013 at the Natural History Museum – London. The broad objectives of the meeting are to: 1) discuss and agree on cross-cutting technical issues

[3] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

(e.g., design of an information gateway (portal), how intellectual property right issues will be handled), 2) co-create Work Plans for the Working Groups, and 3) identify individuals/organizations to lead Work Plan implementation.

Meeting outputs will include: 1) brief workshop report, 2) detailed Work Plans (strategic plans) for each Working Group, and 3) expansion of the GIASIPartnership's Information Gateway (see http://www.giaspartnership.myspecies.info).

Financial support for this workshop has been generously provided by the European Union through a project agreement between the CBD Secretariat and the Natural History Museum – London.

IV. PARTICIPANTS

Working Group Chairs and Partnership Coordinator identified a small number of individuals to participate in the workshop. Each person had technical expertise in biodiversity information management and/or invasive alien species from a 'user needs' perspective. In most cases, the invitees had already been engaged in the GIASIPartnership through CBD processes and Working Group activities.

Eighteen individuals confirmed participation in the workshop. An addition nineteen people indicated interest in the meeting, but were unable to attend due to logistical constraints. The latter were sent a questionnaire (page 56) through which they could contribute to workshop discussions. Responses to the questionnaire received by 11 May 2013 are included on page 46 of this Workshop Toolkit. All responses received by 18 May 2013 will be taken into consideration when preparing the meeting report.

Lists of workshop participants can be found on page 52 of this Workshop Toolkit. An updated version will be included in the meeting report.

Participants and additional contributors are invited to become active members of one or more GIASIPartnership Working Group(s).

V. AGENDA

Please note that the workshop will be in English only.

Day 1, 14 MAY

In Plenary

Time	Activity	Presenter/Facilitator
08:30am	Registration; Coffee, tea, water, and pastries available	
09:00am	Welcome/Opening	Chris Lyal, NHM and Chair of the GIASIPartnership Interim Steering Committee (iSC)
09:10am	Meeting Overview/Background on the GIASIPartnership	Jamie K. Reaser, GIASIPartnership Coordinator
09:35am	Introductions	All (Names/Affiliations)
10:05am	Overview of User Needs/Use Cases	Jamie K. Reaser

10:30am	Break – refreshments available	
10:50am	Cross-cutting Technical Issues for the Partnership	
	A. Provision of Information by the Partnership – including integration of web and non-web-based information, current delivery and future plans (will include a demonstration of the GIASIPartnership Information Gateway)	Chris Lyal, Chair of Gateway WG
	Group Discussion	
12:30pm	Lunch - Provided	
01:30pm	B. Issues for Web-based Info Provision – including quality control, IPR and licenses, data model options and interoperability, work flows	Samy Gaiji, Co-chair of the Interoperability and Quality Control WG
	Group Discussion	
03:30pm	Break – refreshments available	
03:50pm	Participants provide brief overview of potential individual, information system, and/or organizational interests in and contributions to the Partnership	All – 3 min max. No Powerpoints due to time constraints.
05:00pm	IAS Information System/Tools Demos (5)	Optional – 8 min w/Powerpoints
05:45pm	Closing Remarks	Chris Lyal/Jamie K. Reaser

Day 2, 15 May

In Working Groups

Time	**Activity**	**Presenter/Facilitator**
09:00am	Welcome/Review of Day 1 and Plan for Day 2	Jamie K. Reaser
09:10am	Break into Working Groups	
	1. Gateway WG	Chris Lyal
	2. Best Practices for Non-web-based Information Access and Exchange WG	Martin Parr & John Mauremootoo
11:00pm	Break – refreshments available	
11:20pm	Working Groups continued	
12:30pm	Lunch - Provided	
01:30pm	Working Groups continued	
	1. Interoperability and Quality Control WG	Samy Gaiji & Piero Genovesi
	2. Information Synthesis & Assessment WG	Shyama Pagad & Silvia Ziller
03:30pm	Break – refreshments provided	
03:50pm	Working Groups continued	
04:30pm	General remarks from WGs	WG Facilitators
04:50pm	IAS Information System/Tools Demos (5)	Optional – 8 min w/Powerpoints
05:30pm	Closing Remarks	Chris Lyal/Jamie K. Reaser

Day 3, 16 May

In Working Groups/Plenary

Time	Activity	Presenter/Facilitator
09:00am	Welcome/Review of Day 2 and Plan for Day 3	Jamie K. Reaser
09:10am	WG Progress Reports and Questions	WG Facilitators
	Group Discussion	
11:00	Break – refreshments available	
	Working Groups from Day 2 continued	
12:30pm	Lunch - Provided	
01:30pm	Group Discussion – emerging challenges/opportunities/next steps; responsibilities and timelines.	All
03:00pm	Break – Refreshments available	
03:20pm	Final Observations/Remarks	WG Faciliators
03:50pm	Closing Remarks	Chris Lyal & Jamie K. Reaser
04:00pm	Tour of the Museum	Chris Lyal

USE CASES

Use Case #1: Critical Situation Analysis

Scenario: You have been hired as the National Invasive Alien Species Coordinator for the UK and need to conduct the first Critical Situation Analysis (CSA) on IAS for the country. The information generated by the CSA will eventually be used in the development of a National Invasive Species Strategy and Action Plan (NISSAP), as well as the IAS component of the revised NBSAP.

In general, the CSA is to be a systematic collection and evaluation of relevant past and present biological and socio-political data, aimed at the identification of internal and external forces that may influence the country's success at reaching its goals and choice of strategies in the context of addressing IAS. Ideally, the CSA will include an assessment of the country' strengths, capacity building needs, and gaps in IAS policy and practice.

Although there is no single approach to conducting a CSA, the following questions are particularly important in the context of IAS.

Scientific Assessment

Information Capacity

- What credible biodiversity information sources exist for the country?
- How can they be accessed?
- Which particular information sources provided the data necessary to address the following questions?
- What are the information gaps and potential challenges to filling these gaps?

Biodiversity Inventories

- What biodiversity inventories/assessments have been conducted for the country and how reliable (quality/date/tax id) is the resultant information?
- What non-native (alien) species have already been detected in the country and what is their known occurrence in terms of ecosystem(s) and locality?

Impact Assessment

- Which of the previously detected species fall into the following categories: managed/beneficial, harmful to biodiversity, impact unknown?
- For those species considered harmful, what impacts (biological, as well as economic as relevant to biological impacts) have been documented and by what means? How reliable/current are these findings?

Pathway Assessment

- What invasion pathway assessments/studies have already taken place and what were the findings?
- To what extent can these pathways be linked to specific trade routes, conveyances, vectors, non-native species, and/or ecosystems?

Risk Assessment

- To what extent have risks of new introductions and their potential impact been assessed?
- Is there a current, prioritized list of "least wanted/most feared" IAS – if so, include.

Policy and Practice

Authority/Coordination

- Which ministries/agencies have authorities relevant to IAS, invasion pathways, and recipient ecosystems?
- What are their specific roles and responsibilities with regard to IAS?
- What is their current state of knowledge of and engagement in the IAS issue?
- What relevant cross-ministerial coordinating mechanism(s) already exist with regard to IAS?
- What are the capacity building needs and/or gaps in authorities and coordination regarding IAS and potential challenges to filling them?

Species

- What are the species-level prevention, eradication, and control goals for the country?
- Which of the species of concern are already regulated/managed in some way, through what means, and how successfully? What challenges exist?
- What are the capacity building needs and/or gaps in prevention, eradication, and control measures with regard to these species and what are the potential challenges to addressing them?

Ecosystems

- What are the ecosystem-level protection and management goals for the country?
- Which ecosystems (types and specific sites) are already protected/managed in some way with regard to IAS, through what means, and how successfully? What challenges exist?
- What capacity building needs and/or gaps in ecosystem protection and management in the context of IAS and what are the potential challenges to addressing them?

Pathways

- What are the pathway intervention goals for the country?
- What sector/stakeholders(s) are associated with each of the known invasion pathways?
- What pathway regulations and other management opportunities are already in place and how successful have they been?
- What are the capacity building and/or gaps in pathway regulation/management and what challenges exist to addressing them?

Education and Outreach

- What are the country's goals for education and outreach in the context of IAS?
- What is the current state of awareness of IAS issues among the public and the key sectors/stakeholders identified above?
- Which of the country's IAS are already well-known by the public and key sectors/stakeholders, if any?
- What public IAS education/outreach programs have been undertaken in the past and how successful were they? What were the lessons learned?
- What public IAS awareness and educations programs are currently in place and how successful are they? What lessons are being learned?
- What are the capacity building needs and/or gaps in public awareness and education programs and the potential challenges to addressing them?

Research and Analysis

- What are the country's goals with regard to the research and assessment of IAS?
- What are the major institutions and scientists conducting research relevant to the country's IAS issues? How do they make their findings available to the government?
- What are the major institutions funding research/analysis of the country's IAS issues?
- What are the capacity building needs and/or gaps in IAS research/analysis programs and the potential challenges to addressing them?

International Engagement

- What are the country's goals for international engagement with regard to IAS (esp. consider 'neighbours' and trading partners)
- By what mechanisms (e.g., conventions, treaties, projects) does the country already engage internationally with regard to IAS? How effective are these mechanisms?
- What are the capacity building needs and/or gaps in international engagement with regard to IAS and the potential challenges to addressing them?

Use Case #2: Species-Level Risk Assessment

Scenario: You work for Jamaica's National Environmental Protection Agency and need to conduct a risk assessment on *Litoria caerulea* (commonly known as Australian green tree frog, White's tree frog, dumpy tree frog) – a species that has been proposed for importation by the pet industry. You need to implement the standardize risk assessment protocol included below[4].

For each question answer:

a) Yes, No, or Unknown
b) Very Uncertain, Mostly uncertain, Mostly Certain, Very Certain
c) Provide references/evidence

1. Is the species popular for research or ornamental (aquarium/terrarium purposes)?
2. Has the species become naturalised where introduced?
3. Does the species have invasive races or subspecies?
4. Is the species' reproductive tolerance suited to climates in the risk assessment area? (0-low; 1-intermediate; 2-high)
5. What is the quality of the climate match? (0-low; 1-intermediate; 2-high)
6. Does the species have broad climatic suitability (environmental versatility)?
7. Is the species native or naturalized in regions with equable climates?
8. Does the species have a history of introduction outside its natural range?
9. Has the species naturalized (established viable populations) outside of its native range?
10. In the species natural range, are their impacts to aquarium/terrarium or ornamental species?
11. In the species natural range, are their impacts to aquacultural (cultured) species?
12. Does the species have invasive congeners?
13. Is the species poisonous or pose other risks to human health?
14. Does the species outcompete native species?
15. Is the species parasitic of other species?
16. Is the species unpalatable to predators?
17. Does the species prey on native species (e.g., previous subjected to low or no predation)?
18. Does the species host, and/or is it a vector, for recognised pests or pathogens, especially non-native?
19. Does the species achieve a large ultimate body size (e.g., > 10 cm body length excluding the tail)?
20. Does the species have a wide salinity tolerance or is it euryhaline at some point in its life?
21. Is the species desiccation tolerant at some stage in its lifecycle?
22. Is the species tolerate of a range of water velocity conditions?
23. Does the species tolerate a wide range of terrestrial habitats?

4 http://www.cefas.co.uk/media/410780/decisiontools_description.pdf
http://www.cefas.co.uk/media/118009/fisk_guide_v2.pdf

24. Does the species require a minimum population size to maintain a viable population?
25. Is the species a voracious predator (e.g., of native species not adapted to a top predator?
26. Is the species omnivorous?
27. Is the species planktivorous?
28. Does feeding or other behaviours of the species reduce habitat quality for native species?
29. Does the species exhibit parental care of eggs and/or young or known to reduce age-at-maturity in response to the environment?
30. Does the species produce viable gametes?
31. Does the species hybridize naturally with other species?
32. Is the species hermaphroditic?
33. Is the species dependent on the presence of other species or specific habitat features to complete its life cycle?
34. Is the species highly fecund (> 10,000 eggs/kg), iteropatric or have an extended spawning season?
35. What is the species known minimum generation time (in years)? Select options 1-9 or > 10
36. Are life stages likely to be dispersed unintentionally?
37. Are life stages likely to be dispersed intentionally by humans (and suitable habitats abundant near human settlements)?
38. Are life stages likely to be dispersed as a contaminant of commodities?
39. Does natural dispersal occur as a function of dispersal of eggs?
40. Does natural dispersal occur as a function of larval dispersal (along linear or 'stepping stone' habitats)?
41. Are juveniles or adults known to migrate (spawning, foraging, hibernation)?
42. Are the eggs of the species known to be dispersed by other animals?
43. Is dispersal of the species density dependent?
44. Does the species have a wide temperature tolerance range?
45. Does the species tolerate a wide range of water quality conditions, especially oxygen depletion and high temperature?
46. Is the species susceptible to amphibicides?
47. Does the species tolerate or benefit from environmental disturbance?
48. Are there effective natural enemies of the species present in the risk assessment area?

Use Case #3: Pathway Risk Analysis

Scenario: You work for South Africa's Environment Ministry and have been asked to conduct a risk analysis for species moving unintentionally through the horticulture (ornamental plant) industry. You need to implement the standardize pathway/vector risk analysis protocol included below[5]. Provide supporting information from an authoritative source (e.g., peer reviewed journals) for each response.

Summary Information

- Name/description of the vector:
- Species or group of species potentially associated:
- Description of the pathway:
- Name of the person who performed the analysis:

Supporting Information

For each question enter number 1 (one) into the box of your choice. You must not select more than one answer for each question or leave any questions without answers

A - ABUNDANCE OF THE SPECIES OR GROUP OF SPECIES AT PLACE OF ORIGIN OR ALONG THE PATHWAY TRAVELLED BY THE VECTOR - MANAGEMENT MEASURES

A1- How abundant is the species or group of species in the area of origin?

- The species or group of species is present and abundant
- The species or group of species is present but not very common
- The presence of the species is not confined to the area, but there is a high probability that it occurs there
- The presence of the species is not confined to the area, but there is a very low probability that it occurs there
- The species is absent from the area of origin

A2- How abundant is the species or group of species along the pathway that the vector follows once it has left the point of origin?

- Very abundant at multiple points along the pathway
- Not locally abundant, but present at multiple points along the pathway
- Very abundant locally, but only at one or two points along the pathway
- The presence of the species is not confirmed, but there is a high probability that it occurs at one or more points along the pathway
- The presence of the species is not confirmed, and there is a low probability that it occurs at one or more points along the pathway
- The species is absent along the pathway
- Insufficient information for any of the above options (no information)

A3- Are there any monitoring or detection measures at the point of origin? If so, what is the probability that the species or group of species will be detected and eradicated?

- There are no control measures at the point of origin or the probability that this group of species will be detected is very low

5 Developed by the IABIN I3N project

- There are control measures at the point of origin, but the probability that this group of species will be detected is relatively low
- There are control measures at the point of origin and the probability of detection for this group of species is relatively high
- There is a trustable monitoring system and the probability of detection for this group of species is very high
- Insufficient information for any of the above options (no information)

A4- Are there any circumstances that increase the risk of contamination of the vector along the pathway? (e.g. temporary storage of cargo in contact with other materials)

- Yes
- No
- Insufficient information for any of the above options (no information)

A5- Are there any management policies for the vector that would reduce the possibilities of incorporating the species or group of species or that are for detecting and controlling the species along the pathway?

- There are no measures of control along the pathway or the probability for detection and/or control of this is very low
- There are control measures, but the probability for detection and/or control of this group of species is relatively low
- There are control measures, but the probability for detection and/or control of this group of species is relatively high
- There is a trustable system of monitoring along the pathway and the probability for detection and/or control for this group is very high
- Insufficient information for any of the above options (no information)

B – TRANSPORT INTENSITY

B1- What volume is transported by the vector in each transportation event?

- The volume transported is very large
- The volume transported is of medium size
- The volume transported is small
- The volume transported is very small
- Insufficient information for any of the above options (no information)

B2- What is the frequency of displacement of the vector along the pathway?

- The frequency is very high
- The frequency is medium
- The frequency is low
- The frequency is very low
- Insufficient information for any of the above options (no information)

C – TRANSPORT CONDITIONS

C1 - Are the conditions of transport appropriate for the survival of propagules and/or the organism or group of organisms have life forms, such as cysts, seed or spores, that tolerate conditions of environmental stress?

- The transport conditions are appropriate and the organisms are resistant
- The transport conditions are appropriate or the organisms are resistant

- The transport conditions are not very appropriate and the organisms are not resistant
- Insufficient information for any of the above options (no information)

C2 - How much time does the vector spend along the pathway?

- The transport time is very short
- The transport time is of medium length
- The transport time is long
- Insufficient information for any of the above options (no information)

D - RISK OF ESTABLISHMENT AT THE SITE OF ARRIVAL

D1 – Previously known as invasive

- The species is cited as “invasive” in two or more authoritative information sources
- The species is cited as “invasive” or as “established” in two or more authoritative information sources
- The species is cited as “found in the wild” in two or more authoritative information sources
- The species has been extensively introduced without any records of establishment or invasion
- There are no records of the species having been introduced in other countries

D2 - What is the degree of climate matching between the area of origin and regions where the species is invasive, and the area where it may be introduced?

- Very high
- High
- Moderate
- Nil
- Insufficient information for any of the above options (no information)

D3 - What is the degree of specialization of the organisms that might be transported in terms of their habitat requirements? What is the degree of opportunism in respect to human modifications of the environment?

- It is a generalist capable of prospering spontaneously in disturbed habitats
- It is a specialist species that tolerates or is favoured by human disturbances of the environment
- It is a specialist species that is sensitive to human disturbances of the environment
- It is a specialist that depends on cultivation or breeding facilities for its survival, but occasionally may grow outside of human management
- It is a specialist that depends on cultivation or breeding facilities in a strict sense
- Insufficient information for any of the above options (no information)

D4 - What is the capacity of the species for establishing populations from one or a few individuals?

- Very high
- High
- Moderate
- Low or nil
- Insufficient information for any of the above options (no information)

D5 - What is the probability that the species will be found at the site of arrival, even in small numbers?

- The probability of detection is very low
- The probability of detection is relatively low
- The probability of detection is relatively high
- The probability of detection is very high
- Insufficient information for any of the above options (no information)

D6 - What is the probability that the species can be controlled or eradicated before it becomes established at the site of arrival, if it is detected at an early stage in the invasion process?

- The probability of control and eradication is very low
- The probability of control and eradication is relatively low
- The probability of control and eradication is relatively high
- The probability of control and eradication is very high
- Insufficient information for any of the above options (no information)

E- CAPACITY OF DISPERSAL FROM THE SITE OF ARRIVAL

E1 - What is the natural dispersal capacity of the species?

- Very high
- Moderate
- Low
- Very Low
- Insufficient information for any of the above options (no information)

E2 - What is the natural dispersal capacity by human means?

- Very high
- Moderate
- Low
- Very Low
- Insufficient information for any of the above options (no information)

F- POTENTIAL IMPACT

F1 – What is the potential impact of the species on habitat values?

- The species is capable of causing significant modifications in the frequency and/or intensity of disturbances and/or to other processes the ecosystem
- The species threatens an important percentage of native biodiversity, including endemic and threatened species and/or others of high conservation value
- The species represents a moderate threat to biodiversity
- The species only represents a small threat to native biodiversity
- Insufficient information for any of the above options (no information)

F2 – What is the potential impact of the species on the economy?

- Very high
- High
- Moderate
- Low or nil

- Insufficient information for any of the above options (no information)

F3 – What is the potential impact of the species on human health?

- Very high
- High
- Moderate
- Low or nil
- Insufficient information for any of the above options (no information)

F4 – What is the potential impact of the species on cultural values and traditional land-use?

- Very high
- High
- Moderate
- Low or nil
- Insufficient information for any of the above options (no information)

G- FEASIBILITY OF CONTROL

G1 – What are the real probabilities of controlling the species in case it becomes invasive?

- The feasibility of effective control (contention) is very low or practically nil
- The feasibility of effective control (contention) is relatively low
- The feasibility of effective control (contention) is relatively high
- There are real possibilities of eradicating the species
- Insufficient information for any of the above options (no information)

RISK RATING =
UNCERTAINTY RATING (percentage of questions without answer) =

WORKSHOP WORKING GROUP ADVICE

General Approach

- Keep the primary target audience in mind at all times – CBD Parties…including individuals who might not have scientific expertise in invasive alien species or technical expertise in information management.
- Be inclusive – this is a Partnership.
- Balance compelling with doable. The Working Groups need to grow under the Partnership. For this to happen, the projects need to be compelling enough to draw new participants, organisations, and donors to the table. At the same time, the scope of work needs to at a scale that can be realistically accomplished in the time allowable, by voluntary teams, harnessing available and readily obtained resources.

Procedure

- Review the Use Cases, draft Work Plans, relevant CBD Decisions, and Additional Contributions contained herein.
- Review/revise the strategic focus and goals for the Working Group in the context of the GIASIPartnership mission and relevant CBD Decisions (rationale).
- Outline the general strategy for accomplishing the identified goals in a step-wise manner. Note: The strategy focuses on process – HOW the group will accomplish the goals (e.g., developing the Work Plan, engaging additional participants, holding regular Skype calls, cooperating in project development and implementation, etc.). Many of these processes will be ongoing throughout the term of the Working Group.
- Identify specific activities that the Working Group will take on between COP 11 (Oct 2012) and COP 12 (6-17 October 2014). This section focuses on WHAT the Working Group will do. List those activities already underway or completed, followed by those to happen in the future.
- Fill out the Activity Implementation Table for the activities identified above, including those which have already been accomplished. This will help identify WHO will accomplish the activities and WHEN they will be accomplished. It will also help identify existing and needed resources.
- Fill out the Funding Needs Table based on the financial resource needs identified in the previous table. Please be as specific as possible when identifying funding needs and potential donors. Attach an itemized budget for each project, if feasible.

After the Work Plan

Once you are satisfied with the Work Plan, review Working Group functionality and next steps.

- What needs to happen in order to make the Working Group fully operational?
- Review/identify appropriate leadership for the Working Group and any associated Task Teams. The Chairs need to be individuals who have the capacity to move people-oriented processes…and enjoy doing so.
- Identify additional individuals/organizations to explicitly invite into the Working Group and how/when they will be invited.
- Identity the next, immediate steps for the Working Group (e.g., adding new participants to the Basecamp forum, holding a Skype call) and who will take them.

DRAFT WORK PLANS

INFORMATION GATEWAY

Overall GIASIPartnership Mission: Support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[6] and informatics tools.

The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

Strategic Focus I. [Information Gateway Working Group]

Improve the capacity of Parties to access web-based invasive alien species information and informatics tools.

Statement of goals

Establish and manage a web-based site (portal) for access to and the exchange of the information and informatics tools Parties require to prevent, eradicate, and control invasive alien species.

Rationale

As the work outlined is core to making information available to Parties across a wide spectrum if IAS-related activities, it responds to calls made in a number of CBD COP Decisions:

(1) CBD Decision VI/23 (para 10d) - Enhance coordination between sectors to improve the prevention and early detection of IAS; (2) CBD Decision VI/23 (paras 25, 25a, 25b, 28e) - share expertise, contribute information on the pathways and effective risk analysis, and develop databases and facilitate access to such information for all countries including repatriation of information to source countries; (3) CBD decision VI/8 - Make information available on IAS; (4) CBD Decision VI/25 provide support on management and control efforts; (5) CBD Decision VII/2 para 7 and CBD Decision VII/2, Annex - Increase information and information exchange on IAS; (6) CBD Decision VII/13 (para 6g) - Engage with stakeholders and indigenous and local communities in the prevention of IAS; (7) CBD Decision VII/29 para 3) and CBD Decision VII/29 (Annex) - Develop or strengthen appropriate information systems to allow exchange of information and technologies; (8) CBD Decision X/2 (para 3g) - Promote the generation and use of scientific information, develop methodologies and initiatives to monitor status and trends of biodiversity and ecosystem services, share data, develop indicators and measures, and undertake regular and timely assessments; (9) CBD Decision X/15 (para 5c) - Explore ways to promote free and open access to data and information for conservation purposes; (10) CBD Decision X/38 (para 9a) - Compile and distribute existing information (including guidelines on invasive alien species, possible examples of their management and related management responses) and provide to Parties through the clearing-house mechanism and other means; (11) CBD Decision XI/15 (para 1d) - Maintain and support key databases and information portals, to enable effective invasive species monitoring and eradication prioritization.

[6] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

General Strategy (Objectives) *as set out in GIASIPartnership Operational Plan, September 2012 (http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-34-en.pdf) Current status given in italics.*

(a) Obtain a URL address through which Parties and other stakeholders can access and exchange relevant invasive alien species information;

(b) Develop a Partnership Gateway design and implementation plan, using a phased-in approach. The plan should identify the institution/agency which will host the site;

(c) Identify/create an informatics platform that will readily deliver the information services that Parties and other stakeholders have identified as needed in order to achieve Article 8(h) and Aichi Biodiversity Target 9 (invasive alien species);

(d) Link various existing, relevant information sources and informatics tools into the "Information Gateway". This will help improve access to existing information systems. Examples of resources to link into the Gateway include databases, analytical tools, best practice guidance, training modules, and education/outreach materials;

(e) Add new invasive alien species information and informatics resources to the Partnership Gateway as they become available – especially products from other Partnership Working Groups;

(f) Create and moderate mechanisms (e.g., chat rooms, forums, list-serves) for the active exchange of relevant information within the Partnership Gateway;

(g) Direct and attract Parties to the CBD and other relevant stakeholders to the Information Gateway;

(h) Review and improve the Information Gateway in an ongoing manner so as to best meet Parties' needs; and

(i) Promote the Information Gateway and the Partnership to Parties to increase usage and elicit feedback.

Specific 2012 Activities Between COP 11 & COP 12

1. (Objective a) URL address obtained and in use [*completed October 2012 http://giasipartnership.myspecies.info/*]
2. (Objective b) Establish/manage Information Gateway Working Group. [*in place*].
3. (Objective b) Partnership Gateway design and implementation plan in place as living document. Plan identifies institution/agency which will host the site; [*Plan in place September 2012; Site hosted by NHM London*]
4. (Objective c) Informatics platform adopted and implemented [*In place September 2012; requires appraisal and further development*]
5. (Objectives d and e) Link relevant information sources and informatics tools into the "Information Gateway" [*Pilot version of Gateway in place and many sources made available in October 2012; further resources added since and task ongoing*]
6. (objective f) Create and moderate mechanisms for the active exchange of relevant information within the Partnership Gateway; [*Forum in place on Gateway October 2012; needs action to develop use*]
7. (Objectives d, e and h) Improve content by adding many more annotated hyperlinks to external sites, prioritizing for widest utility and to provide coverage across spectrum of IAS-related issues.

8. (Objective c) Improve search functionality of Gateway through development and application of agreed standard terms to describe resources and developing and implementing new search functionality.
9. (Objective d) Improve match of species lists to Partner content lists and work with Partners to add APIs to their sites.
10. (Objective d) With Interoperability WG, develop agreements on IPR. Licenses etc for use with Partners, using Partnership Workshop as catalyst.
11. (Objectives e, i) Produce training materials for Gateway.
12. (Objectives h, i) Develop and implement strategy for monitoring and evaluating value of Gateway to meet Parties' needs, though feedback, e-metrics and externally funded project.

ACTIVITY IMPLEMENTATION TABLE (2013) (update per above changes)

Activity	Inst/Indiv Lead(s)	Outputs	Timeline	Needs	Status
7. Improve content	NHM: Lyal IUCN-ISSG: Pagad	Number and range of web resources available through Gateway at least doubled.	April-May 2013: List of sites created, with keywords (IUCN-ISSG) May-June 2013: Sites added to Gateway (NHM)	Funding support - $14,400)	Funding in place; in-kind support from Partners (NHM, IUCN-ISSG) secured; project commenced
8. Improve search functionality	NHM: Lyal	Scalable search system so users can locate desired resources more effectively; Simpler system for entering links to web resources.	April-June 2013	In-kind support from developers	In-kind support secured (NHM); project commenced
9. Improve match & functionality of species lists	NHM: Lyal IUCN-ISSG: Pagad	Species lists on Gateway match names used by Partners; Once APIs introduced by Partners Gateway Users can access Partner information easily and rapidly.	April-June 2013: lists collected and entered.	Funding support ($4,400); Partners to introduce APIs	Funding in place; project commenced; Partners to discuss IPR and other issues around APIs in May 2013 (Activity 10).
10. Develop agreements on IPR. Licenses	NHM: Lyal / GBIF: Gaiji	Workshop report. Once agreements	May 2013: Partnership workshop.	Funding support for workshop	Funding in place; project commenced;

etc		made, modification to Gateway where needed.	May-August: analysis and reporting	($20,000) and analysis by GBIF; Partner agreement	Workshop to take place in May 2013
11. Produce training materials	NHM: Lyal	Instructions for use of Gateway on Gateway; Training documents on Gateway; Training activity pack for use at meetings		Project proposal for securing funding to develop training materials	Instructions for use: first draft on Gateway Funding needs to be calculated.
12. Develop and implement monitoring and evaluation strategy	NHM: Lyal	Google Analytics reports configured and provided; Workflow report from at least one country and one project; Feedback system for Gateway users and for use at meetings.		• External funds to work with IAS project and Parties to address workflow question and needs; • Time to develop understanding and build responses.	Funding needs to be calculated.

FUNDING NEEDS TABLE

Activity	$ Required	$ Deadline	Potential $ Sources	Notes
1. Improve content			EU funds through SCBD; in-kind support from NHM & IUCN	Funding obtained ($14,400) plus in-kind support (ca $3,000)
2. Improve search functionality			In-kind support from NHM	Secured (ca $6,500)
3. Improve match & functionality of species lists			EU funds through SCBD; in-kind support from NHM	Funding obtained for Lists ($4,400); In-kind support from NHM (ca $1,000); no funding in place to implement APIs
4. Develop agreements on IPR. Licenses etc			EU funds through SCBD; in-kind support from GBIF & NHM	Funding obtained for workshop ($20,000 – workshop also meeting other needs)
5. Produce training materials	To be developed			
	To be developed			

INTEROPERABILITY AND QUALITY IMPROVEMENT

Overall GIASIPartnership Mission: Support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[7] and informatics tools.
The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

Strategic Focus II. [Database Interoperability and Quality Improvement Working Group]
Improve the quality and accessibility of relevant data

Statement of goals
Facilitate linkages among and the reliability of information contained in information systems which can provide Parties with the data and tools they need to prevent, eradicate, and control invasive alien species.

Rationale

- Increase information and information exchange on IAS (CBD Decision VII/2, 7 and CBD Decision VII/2, Annex (Programme of work for dry and sub-humid lands))
- Strengthen and improve information systems, also bridging existing gaps, to allow exchange of information and technologies (CBD Decision VII/29, 3 and CBD Decision VII/29, Annex (Programme of work on technology transfer and cooperation; Also listed under WG2)
- Convene workshops to exchange information and experience on technology transfer (CBD Decision VII/29, 5)
- Increase communication and coordination between national agencies responsible for the CBD and the International Maritime Organisation (CBD Decision VIII/27, 27)
- Compile and prepare of anthologies of existing terminology (CBD Decision VI/23, 28b)
- Develop national databases, also facilitating access to information contained in existing systems for all countries, including repatriation of information to source countries (CBD Decision VI/23, 28e; Also under Inter-operability and Quality Control WG)
- Strengthen information systems and improve interoperability to allow exchange of information and technologies (CBD Decision VII/29, 3 and CBD Decision VII/29, Annex (Programme of work on technology transfer and cooperation; Also listed under WG1)
- Promote/facilitate clarification and a common understanding of terminology for IAS, and compile a glossary of terms used in various forums in relation to invasive alien species (CBD Decision VIII/27, 67-69)
- Increase the interoperability of existing information resources, including databases and networks, of use in conducting risk and/or impact assessments and in developing early warning systems (CBD Decision X/38, 7)

[7] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

- Maintain and support key databases and information portals, such as the Global Island Database, the Threatened Island Biodiversity Database, the Database of Island Invasive Species Eradications, the Global Invasive Species Database, the Island Biodiversity and Invasive Species Database and Small Islands Developing States Network (SIDSNet), to enable effective invasive species monitoring and eradication prioritization (CBD Decision XI/15, 1d; also under Information Sharing)
- Participate in developing interoperable information systems that can be used in developing early-detection and rapid-response systems (CBD Decision XI/28, 20)

General Strategy (Objectives) *as set out in GIASIPartnership Operational Plan, September 2012 (http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-34-en.pdf) Current status given in italics.*

(a) Develop and promote standards vis-à-vis quality control procedures for data and information capture, including metadata, related terminology, vocabularies used in data and information capture, and taxonomic services;

(b) Map vocabularies used by partners in order to facilitate interoperability in circumstances in which it can provide added value; and

(c) Establish and/or promote mechanisms for assessing data quality in relevant information systems and providing feedback to the data managers (e.g., peer review committees, on-line feedback forms, small grants for data quality improvement).

Specific 2012 Activities Between COP 11 & COP 12

Need to list specific activities here in bullet form, including those already accomplished (See Gateway WG example)

ACTIVITY IMPLEMENTATION TABLE (2013) (update per above changes)

Activity	Inst/Indiv Lead(s)	Outputs	Timeline	Needs	Status
Assess existing vocabularies	GBIF & al	Map of used terms against a common list of terms for key global/regional information systems.	May-June 2013	Involvement/Engagement of key information systems incl. CABI, IUCN/ISSG, SCBD, DAISIE, NOBANIS, FISHBASE)	Starting
Populate a central vocabulary repository	GBIF – NHM & al	Key terms to be used by the GIASIP in its 1st phase is agreed and populated to the GIASIP Gateway.	June 2013	Provision of comments/endorsement from key information systems incl. CABI, IUCN/ISSG, SCBD, DAISIE, NOBANIS, FISHBASE)	Pending
Evaluate and recommend an information exchange protocol	GBIF, NHML, IUCN-ISSG, CABI, NOBANIS, DAISIE, FISHBASE	A report evaluating existing protocols in use for data exchange and recommendations for GIASIP adoption.	June-July 2013	At least 3 key information system testing 1-3 information exchange protocols. At worst, evaluate such protocols centrally in GBIF.	Pending

Test information exchange vocabulary and exchange protocol	GBIF, IUCN-ISSG, CABI	Evaluate the installation of the data information exchange tool in 3 locations and test central harvesting and indexing to a central location.	July 2013	At least 3 key information system are engaged in installing the agreed information exchange tool and map to their internal information system.	Pending
Evaluate content	GBIF & al	Assess for at least 20 key selected taxa the information available in	July-August 2013	20 taxa are agreed and information mapped in IUCN-ISSG (for GISD) and CABI	Pending
Develop a demo gateway search engine	GBIF	Develop central index data store for the key vocabularies agreed and develop a demo gateway portal to demonstrate the cross-searching functionalities.	August 2013	Inputs from partners	Pending

FUNDING NEEDS TABLE

Activity	$ Required	$ Deadline	Potential $ Sources	Notes
All listed activities	10,000 USD from SCBD SSFA			
Additional funding to be agreed following the London Workshop in May 2013				

INFORMATION ASSESSMENT AND SYNTHESIS

Overall GIASIPartnership Mission: Support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[8] and informatics tools.
The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

Strategic Focus V. [Information Synthesis and Assessment Working Group]
Support CBD Parties in their Invasive alien species data and information needs

Statement of goals

Facilitate and support the development of information resources and informatics tools needed by Parties to implement CBD decisions in the context of invasive alien species prevention, eradication, and control.

Rationale
This working group focuses on data and knowledge gathering and the synthesizing of this information so stakeholders can analyze these data, use it to set priorities, develop management plans, conduct risk analysis/assessments, measure trends, develop indicators, measure success etc.

Relevant COP Decisions

- Maintain an incident list of IAS for marine and coastal ecosystems (CBD Decision VII/5, 5 and CBD
- Develop capacity to use risk assessment/analysis to address threats of invasive alien species and incorporate such methodologies in environmental impact assessments, and strategic environmental assessments (CBD Decision VI/23, 12a)
- Research the characteristics of IAS and the vulnerability of ecosystems and habitats to their invasion in relation to the impacts of climate change (CBD Decision VI/23, 24a)
- Research and assess the impact of IAS of biological diversity (CBD Decision VI/23, 24b)
- Research the socio-economic impacts of IAS (CBD Decision VI/23, 24d)
- Research criteria for assessing the risk from IAS (CBD Decision VI/23, 24i)
- Compile and make available lists of procedures for risk assessment/analysis and pathway analysis which may be relevant in assessing the risks of invasive alien species to biodiversity, habitats and ecosystems (CBD Decision VI/23, 28c)
- Support and develop risk analysis including environment risk assessment, alert lists, diagnostic tool and capacity development for national and regional decision-making and rapid response (CBD Decision VII/13, 6b)
- Share national experiences in dealing with invasive alien species, in particular animals and their parasites, introduced or spread through various conveyances, including any risk assessments or risk management measures that have been carried out for particular species or pathways (CBD Decision VIII/27, 16; Also under Assessment/Pathways)

[8] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

- Identify species with high potential to become IAS and prepare customs information (CBD Decision IX/22, 4(b), Annex, Output 5.16.3)
- Develop tools to strengthen the capacity of border control authorities and other competent authorities to identify invasive alien species or potentially invasive alien species, to assess risks and take steps to manage or minimize those risks and to control and eradicate prioritized invasive alien species (CBD Decision XI/28, 19; Also under Taxonomic Information Services WG)
- Prepare a preliminary list of the most common pathways for the introduction of invasive alien species, propose criteria for use at regional and sub-regional levels or other ways by which they may be prioritized, and identify a range of tools that may be used to manage or minimize the risks associated with these pathways; and to report thereon to a meeting of the SBSTTA prior to COP 12 (CBD Decision XI/28, 26b; Also under Assessment WG/Pathways)
- Develop biodiversity indicators as part of their national strategies and action plans, taking into account the targets of the GSPC and the 2010 target (CBD Decision VII/8, 8 and CBD Decision VI/9, Annex (GSPC))
- Evaluate known and potential pathways for the introduction of invasive alien species and identify opportunities to minimize incursions and manage risks (CBD Decision VI/23, 14)
- Research the importance of various pathways for IAS (CBD Decision VI/23, 24c)
- Share best practices regarding the movement of alien animal species for ex situ breeding (CBD Decision VIII/28, 56)
- Compile and disseminate methodologies and instruments in use by law enforcement, customs and inspection agencies to monitor and control movements of alien species introduced as pets, aquarium and terrarium species, and as live bait and live food (CBD Decision XI/28, 6a)
- Collect information on best practices in order to raise public awareness and disseminate guidance to web-based traders (of alien species introduced as pets, aquarium and terrarium species, and as live bait and live food) (CBD Decision XI/28, 6b; also under Gateway WG/Public Awareness)
- Prepare a preliminary list of the most common pathways for the introduction of invasive alien species, propose criteria for use at regional and subregional levels or other ways by which they may be prioritized, and identify a range of tools that may be used to manage or minimize the risks associated with these pathways; and to report thereon to a meeting of the SBSTTA prior to COP 12 (CBD Decision XI/28, 26b;
- Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment

General Strategy (Objectives) *as set out in GIASIPartnership Operational Plan, September 2012 (http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-34-en.pdf) Current status given in italics.*

(a) Conduct a gap analysis of Parties' information needs for achieving Article 8(h) and Aichi Biodiversity Target 9, and incorporate findings into this Work Plan; [*this is, in part, being conducted by the Coordinator*]

(b) Assess the major data gaps in existing information systems and identify/support the most critical data mobilization activities in the short-medium term; [*A master list of species (to assist in early detection) and information on pathways was identified as a major gap addressed though the development of GRIIS and Pathway Management Toolbox*]

(c) Develop[9] and make available through the Information Gateway, as appropriate:

(i) Global registries of:

a. Introduced and invasive alien species, which can serve as a resources for risk analyses and an early warning system; [*on-going*] Encourage countries to establish National Databases

b. Invasive alien species informatics tools;[10] [*List will be provided to Gateway WG for inclusion as part of on-going project*]

c. Education, outreach, social marketing, and training resources;

d. Best management practices (for addressing species and pathways); [*Pathways management toolbox being developed]*

e. Economic evaluations (cost-benefit analyses and impact studies); and

f. Risk analyses. [*links to Risk analysis resources will be added to Gateway as part of current project*]

(ii) A global index of the alien species primary biodiversity data[11] integrated with GBIF. This should include occurrence "absence" (non-detection) data;

a. Use cases relevant to Aichi Biodiversity Target 9;[12]

b. An information system which can be used for identifying, mapping, ranking, and conducting risk analyses of biological invasion pathways.

Specific 2012 Activities between COP 11 & COP 12

Objective	**Activity**
Assess the major data gaps in existing information systems and identify/support the most critical data mobilization activities in the short-medium term	
Global Register of Introduced and Invasive Alien Species, which can serve as a resource for risk analyses and an early warning system.	1. Development and Population of GRIIS on-going including evidence of impacts 1.1. Aim for global coverage
Global registries of Invasive alien species informatics tools	1. Collate examples across globe in different languages etc.
Global registries of Education, outreach, social marketing, and training resources	1. Collate examples of outreach material across globe in different languages etc. 2. Promote use of GISP training modules 3. Collate other training resources that are available online
Global registries of Best management practices (for addressing species and pathways)	1. Build a resource of pathway management case studies for inclusion in Pathway Management

[9] Some of these products are already under development; updating and/or quality improvement is warranted.

[10] This should include analytical and modelling tools that can be made available through the Gateway.

[11] Primary biodiversity data are the digital text or multimedia data records that detail the instance of an organism – the "what, where, when, how and by whom" of the organism's occurrence and documentation.

[12] This is from the EU funding agreement and needs further clarification in the next draft of the Work Plan.

	Toolbox 1.1. Establish a Pathways management toolbox expert group 2. Build a resource of best practice for management and eradication of vertebrate pests on islands 3. Build a resource of examples of biosecurity initiatives with a focus on islands (inter-island movement etc.) 4. Collate example of management of invasive alien plants –for example -biocontrol projects and successes 5. Build resource of methods and techniques used in the management of freshwater invasive species 6. Build a directory of National Strategies of Invasive alien species management
Global registries of Economic evaluations (cost-benefit analyses and impact studies)	1. Build a resource of any cost-benefit analysis conducted for invasive species management 2. Build a resource of all literature, reports etc. published on economic impacts of invasive alien species
Global registries of Risk analyses	1. Build a resource of risk-assessments conducted for species globally (with links to original documents) 1.1. Contact University of Hawaii, PIER for their list of species and links to RA documents 1.2. List other resources and contact publishers for their lists 1.3. all metadata and description of scores and context of the risk assessment needs to be recorded
A global index of the alien species primary biodiversity data[13] integrated with GBIF. This should include occurrence "absence" (non-detection) data- *Use cases relevant to Aichi Biodiversity Target 9*	Needs clarification
A global index of the alien species primary biodiversity data[14] integrated with GBIF. This should include occurrence "absence" (non-detection) data- *An information system which can be used for identifying, mapping, ranking, and conducting risk analyses of biological invasion pathways*	Input from Samy (GBIF)

ACTIVITY IMPLEMENTATION TABLE (2013) (update per above changes)

Activity	Inst/Indiv Lead(s)	Outputs	Timeline	Needs	Status
Prototype Invasive Alien Species	IUCN/ISSG Shyama Pagad	Prototype/ working website	<October 2012	Partially Funded	Completed

[13] Primary biodiversity data are the digital text or multimedia data records that detail the instance of an organism – the "what, where, when, how and by whom" of the organism's occurrence and documentation.

[14] Primary biodiversity data are the digital text or multimedia data records that detail the instance of an organism – the "what, where, when, how and by whom" of the organism's occurrence and documentation.

Pathway Management Toolbox					
Development and update of List of Lists of Invasive Alien Species Information Sources	IUCN/ISSG Shyama Pagad	List of Lists with metadata and links for upload to Gateway	<October 2012	Funded	Completed
Development of Global Register of Introduced and Invasive Species (GRIIS)	IUCN/ISSG Piero Genovesi/Shyama Pagad	Population of the GRIIS an integrated tool within the GISD, coverage of at least 120 countries including evidence of impacts	May 2013-August 2013	Partially Funded	On-going
Further development of the Invasive Alien Species Pathway Management Resource including mapping of pathway related terms	IUCN/ISSG Shyama Pagad Partners DAISIE (Helen Roy) CABI ISC (Gareth Richards) GIF (Samy Gaiji)	Mapping of terms so a comprehensive schema is developed; conversion of prototype to beta version and population	May 2013-August 2013	Funded	On-going
Developing a matrix of sites and links related to invasive alien species for Gateway enhancement	NHM Chris Lyal	Development of matrix of links to Invasive species related resources based on keywords and other tags including directory of NISAPS	May 2013	Funded	On-going

FUNDING NEEDS TABLE

Activity	$ Required (USD)	$Deadline	Potential $ Sources	Notes
Phase 2: Populating GRIIS	Estimate 25,000	September 2013	EU funds through CBD + in-kind support from IUCN/ISSG	The goal is to include at least 120 countries in Phase 1, Phase 2 is intended to complete global coverage and update any new information for the Phase 1 countries
Compiling invasive	Estimate	September	EU funds through CBD	JRC as part of the

species management information with a focus on conservation of threatened species and high biodiversity areas (protected areas) on **island ecosystems** Phase 1: develop at least 100 case studies of best practice with detailed information on management techniques etc. making sure that there is a good geographic and taxonomic representation	30,000 This is a scalable project	2013	IT support from Joint Research Centre (JRC), European Commission through the Biodiversity and Protected Area Management (BIOPAMA) project	BIOPAMA project is planning to set up Regional Biodiversity Knowledge Observatories in the Pacific, Caribbean and Africa. The threat of invasive alien species to threatened species on islands and high biodiversity areas was recognized as a priority. ISSG is partnering with JRC (using its IBIS database) in the development of invasive species component. JRC will work on the creation of web-services as part of their contribution to the project.
On-going population of Pathway Toolbox	10,000	September 2013	In-kind support from IUCN/ISSG	Population of species names, legal information and bibliography
Resource of risk assessments at species level				
Develop a resource of economic evaluations including economic impacts				
A directory of training resources and training organizations				

Best Practices for Non-web-based Information Access and Exchange

Overall GIASIPartnership Mission: Support Parties to the CBD in their efforts to prevent, control, and eradicate invasive alien species, including actions to address priority pathways, by enabling timely access to reliable information[15] and informatics tools.
The GIASIPartnership thus builds capacity for implementation of Article 8(h), Aichi Biodiversity Target 9, and associated decisions under the CBD.

Strategic Focus V. [Best Practices for Non-web-based Information Access and Exchange]
Make relevant information more accessible to/from developing countries

Statement of goals
Develop means to make Gateway content, links and facilities available through systems other than the internet.

Rationale

Need to site relevant COP decisions etc.

General Strategy (Objectives) *as set out in GIASIPartnership Operational Plan, September 2012 (http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-34-en.pdf) Current status given in italics.*

(a) **Conduct** a needs assessment to identify what means of information provision and exchange can best be utilized by those who do not have reliable internet access;

(b) **Identify** and **foster** approaches to disseminating information to Parties who will not be able to access the Partnership Gateway in a timely or reliable manner; and

(c) **Encourage** and facilitate non-internet feedback and contribution systems that support the Parties in implementing Article 8(h) and Aichi Biodiversity Target 9.

Specific 2012 Activities Between COP 11 & COP 12

- Started to identify and invite potential Working Group participants
- Initiated WG discussion on developing a SmartPhone application for collecting and sharing information on invasive alien plants in 'developing' countries, with an initial focus on Africa and/or island nations. A very basic presentation as to how this could all possibly work is available at http://indigo.infragistics.com/prototype/DXWRHMNJ.

[15] In the context of the mission statement, "information" also includes "data and knowledge" and relevant technologies.

- Members of the iSC invited the WG to consider development of a 'Best Practices Toolkit' for IAS information sharing/exchange in non-web-based formats (with an emphasis on meeting 'developing country' needs)

ACTIVITY IMPLEMENTATION TABLE (2013) (update per above changes)

Activity	Inst/Indiv Lead(s)	Outputs	Timeline	Needs	Status
Africa Invasives app	CABI	Prototype app	Tbc		

FUNDING NEEDS TABLE

Activity	$ Required	$ Deadline	Potential $ Sources	Notes
All listed activities	10,000 USD from SCBD SSFA			
Additional funding to be agreed following the London Workshop in May 2013				

RELEVANT CBD DECISIONS

1. Gateway Working Group

Information Sharing

- Make information available on IAS through the clearing-house mechanism (CBD Decision V/8, 12)
- Promote and implement the IAS Guiding Principles (CBD Decision VI/23, 5 and CBD Decision VI/23, Annex (IAS Guiding Principles)16)
- Ensure that the technical information developed within the CBD is readily available to Parties (CBD Decision VI/23, 13)
- Promote awareness of the threats to biological diversity and related ecosystem goods and services posed by IAS to various stakeholder groups (CBD Decision VI/23, 10e)
- Through GISP, share expertise (CBD Decision VI/23, 25a), provide information on effective risk analysis (CBD Decision VI/23, 25b), contribute information on the pathways (CBD Decision VI/23, 25) and provide support on management and control efforts (CBD Decision VI/25)
- Develop technical tools to support the early detection, prevention and monitoring of IAS (CBD Decision VI/23, 27)
- Identify and inventory of existing expertise relevant to the prevention, early detection and warning, eradication and/or control of invasive alien species, and restoration of invaded ecosystems and habitats (CBD Decision VI/23, 28d)
- Development of systems for reporting new invasions of alien species and the spread of alien species into new areas (CBD Decision VI/23, 28e)
- Develop databases and facilitate access to such information for all countries including repatriation of information to source countries (CBD Decision VI/23, 28e; Also under Inter-operability and Quality Control WG)
- Increase awareness on issues related to the prevention and management of risks from invasive alien species (CBD Decision VII/13, 5e)
- Make information on IAS status and trends available through the clearing-house mechanism and other relevant regional information systems (CBD Decision VII/13, 6c)
- Share information on responses to IAS, including their spread through various conveyances and any risk assessments carried out for particular pathways (CBD Decision VIII/27, 16)
- Share experiences in the development and use of indicators and monitoring (CBD Decision VII/8, 13 and CBD Decision VII/30, Annex (Indicators))
- Organise training and promote education to raise awareness of the issues of IAS to border control officials (CBD Decision VIII/27, 17)
- Share experiences of applying the voluntary guidelines on biodiversity-inclusive environmental impact assessment through the clearinghouse mechanism (CBD Decision VIII/28, 10 and CBD Decision VIII/28, Annex (Guidelines for impact assessment))

16 The IAS Guiding Principles are: 1. precautionary approach, 2. three-stage hierarchical approach, 3. ecosystem approach, 4. the role of the states, 5. research and monitoring, 6. education and public awareness, 7. border control and quarantine measures, 8. exchange of information, 9. cooperation, including capacity-building, 10. intentional introduction, 11. unintentional introduction, 12. mitigation of impacts, 13. eradication, 14. containment, and 15. control.

- Promote the generation and use of scientific information, develop methodologies and initiatives to monitor status and trends of biodiversity and ecosystem services, share data, develop indicators and measures, and undertake regular and timely assessments, to underpin the proposed new intergovernmental science-policy platform on biodiversity and ecosystem services (IPBES) and an effective Subsidiary Body on Scientific, Technical and Technological Advice in order to strengthen the science policy interface, thereby enhancing the implementation of the Strategic Plan for Biodiversity 2011-2020 (CBD Decision X/2, 3g)
- Maintain and actively make use of the TEMATEA issue-based modules to enhance coherent implementation of biodiversity-related conventions and agreements (CBD Decision X/2,16c)
- Contribute, whenever possible, to cooperation initiatives aiming at developing regional, subregional, thematic, or national clearing-house mechanisms (CBD Decision X/15, 3g)
- Explore ways to promote free and open access to data and information for conservation purposes (CBD Decision X/15, 5c)
- Compile and distribute existing information (including guidelines on invasive alien species, possible examples of their management and related management responses) and provide to Parties through the clearing-house mechanism and other means (CBD Decision X/38, 9a)
- Maintain and support key databases and information portals, such as the Global Island Database, the Threatened Island Biodiversity Database, the Database of Island Invasive Species Eradications, the Global Invasive Species Database, the Island Biodiversity and Invasive Species Database and Small Islands Developing States Network (SIDSNet), to enable effective invasive species monitoring and eradication prioritization (CBD Decision XI/15, 1d; also under Inter-operability and Quality Improvement WG)
- Share information on domestic occurrences of alien species that may be invasive elsewhere, through appropriate information-sharing mechanisms (CBD Decision XIII/27, 61)

Public Awareness

- Develop effective education, training and public-awareness measures for the different aspects of the IAS issue (CBD Decision V/8, 9)
- Promote awareness of the threats to biological diversity and related ecosystem goods and services posed by IAS to the general public (CBD Decision VI/23, 10e)
- Increase communication and public awareness about the environmental, economic and social impacts of IAS (CBD Decision VIII/27, 13)
- Raise awareness among scientific research organisations of existing measures to control the spread of IAS (CBD Decision VIII/27, 45)
- Raise awareness with consumers, including the use of internet sites that facilitate transactions or are visited by consumers (CBD Decisions VIII/27, 52)
- Collect information on best practices in order to raise public awareness and disseminate guidance to web-based traders (of alien species introduced as pets, aquarium and terrarium species, and as live bait and live food) (CBD Decision XI/28, 6b; also under Assessment/Pathways)
- Explore methodologies for fostering awareness, promoting education and generating information on invasive alien species for a broad audience, including indigenous and local communities, the public and other stakeholders (CBD Decision XI/28, 18)

Information Exchange/Collaboration

- Enhance coordination between sectors to improve the prevention and early detection of IAS (CBD Decision VI/23, 10d)
- Work cooperatively to actively support the development and implementation of invasive alien species strategies and action plans (CBD Decision VI/23, 11)
- Increase information and information exchange on IAS (CBD Decision VII/2, 7 and CBD Decision VII/2, Annex (Programme of work for dry and sub-humid lands))
- Engage with stakeholders and indigenous and local communities in the prevention of IAS (CBD Decision VII/13, 6g)
- Develop or strengthen appropriate information systems to allow exchange of information and technologies (CBD Decision VII/29, 3 and CBD Decision VII/29, Annex (Programme of work on technology transfer and cooperation; Also listed under WG2)
- Convene workshops to exchange information and experience on technology transfer (CBD Decision VII/29, 5)
- Increase communication and coordination between national agencies responsible for the CBD and the International Maritime Organisation (CBD Decision VIII/27, 27)
- Promote collaboration among relevant agencies responsible for IAS and civil air transport (CBD Decision VIII/27, 37)
- Assist neighbouring States in applying a proactive approach in preventing the introduction and spread of IAS (CBD Decision VIII/27, 62)
- Ensure full and effective participation and of indigenous and local communities in addressing issues of invasive alien species for the purpose of utilizing the traditional knowledge (CBD Decision X/38, 9d)
- Develop and strengthen collaboration to manage invasive alien species within and across jurisdictions, including approaches to prevention, eradication and control, and a biosecurity approach that addresses the full range of invasive threats (CBD Decision XI/15, 2a)

2. Inter-operability and Quality Improvement Working Group

- Compile and prepare of anthologies of existing terminology (CBD Decision VI/23, 28b)
- Develop databases and facilitate access to such information for all countries including repatriation of information to source countries (CBD Decision VI/23, 28e; Also under Inter-operability and Quality Control WG)
- Develop or strengthen appropriate information systems to allow exchange of information and technologies (CBD Decision VII/29, 3 and CBD Decision VII/29, Annex (Programme of work on technology transfer and cooperation; Also listed under WG1)
- Promote/facilitate clarification and a common understanding of terminology for IAS, and compile a glossary of terms used in various forums in relation to invasive alien species (CBD Decision VIII/27, 67-69)
- Increase the interoperability of existing information resources, including databases and networks, of use in conducting risk and/or impact assessments and in developing early warning systems (CBD Decision X/38, 7)

- Maintain and support key databases and information portals, such as the Global Island Database, the Threatened Island Biodiversity Database, the Database of Island Invasive Species Eradications, the Global Invasive Species Database, the Island Biodiversity and Invasive Species Database and Small Islands Developing States Network (SIDSNet), to enable effective invasive species monitoring and eradication prioritization (CBD Decision XI/15, 1d; also under Information Sharing)
- Participate in developing interoperable information systems that can be used in developing early-detection and rapid-response systems (CBD Decision XI/28, 20)

3. Assessment Working Group

NBSAPs/NISSAPs

- Address IAS issues for the conservation and sustainable use of biological diversity in national strategies and action plans (CBD Decision IV/1, 4)
- Develop IAS strategies and action plans (CBD Decision V/8, 6)
- Identify national needs and priorities for IAS (CBD Decision VI/23, 10a)
- Incorporate IAS considerations into national strategies and policies on the basis of an ecosystem approach (CBD Decision VI/23, 10d)
- Incorporate invasive alien species considerations into national biodiversity strategies and action plans and into sectoral and cross-sectoral policies, strategies and plans, taking into account the ecosystem approach (CBD Decision VI/23, 12d; Also under Assessment WG/Ecosystem Approach)
- Introduce positive incentive measures in land and water management and other programmes to prevent, eradicate and control IAS (CBD Decision VII/13, 6f)
- Ensure that cross-border impacts of potentially invasive alien species are considered as part of national and regional decision-making processes, taking into account already existing procedures and controls under the IPPC (CBD Decision XIII/27, 60)
- Develop national and, as appropriate, regional policies, strategies and/or programmes for addressing IAS and their threats to biodiversity (CBD Decision IX/4, (B) 2)
- Include the involvement and participation of farmers and indigenous and local communities in the implementation of the national strategies and action plans on IAS (CBD, Decision IX/4,(B) 8)
- Review, revise, update, and monitor NBSAPs in keeping with the Strategic Plan and Aichi Biodiversity Targets (CBD Decision X/3(c-f))

Ecosystem Approach

- Give priority attention to geographically and evolutionarily isolated ecosystems when assessing the impact of IAS (CBD Decision V/8, 8)
- Incorporate invasive alien species considerations into national biodiversity strategies and action plans and into sectoral and cross-sectoral policies, strategies and plans, taking into account the ecosystem approach (CBD Decision VI/23, 12d; Also under Assessment WG/NBSAPs)
- Research means to enhance capacity of ecosystems to resist or recover from alien species invasions (CBD Decision VI/23, 24g)
- Maintain an incident list of IAS for marine and coastal ecosystems (CBD Decision VII/5, 5 and CBD Decision VII/5, Annex (Elaborated programme of work on marine and coastal biodiversity))

- Develop national and/or regional targets for the assessment and monitoring of protected areas (CBD Decision VII/28, 7 and CBD Decision VII/28, Annex: (Programme of work on protected areas))
- Provide mechanisms to prevent the spread of IAS within transboundary catchments, watershed and river-basin management and inter-basin water transfers (CBD Decision VIII/27, 59)
- Promote and support integrated national, regional and subglobal ecosystem assessment including response scenarios build on the framework of the Millennium Ecosystem Assessment (CBD Decision IX/15, 1)
- Establish an inventory of species with economic and ecological values for forest biological diversity (CBD Decision IX/22, 4 (b), Annex, Output 4.8.1)
- Establish an inventory of species with economic and ecological values for dry and sub-humid lands biodiversity (CBD Decision IX/22, 4(b), Annex, Output 4.10.1)
- Establish conservation corridors and connectivity while avoiding the spread of invasive alien species (CBD Decision 10/30, 3c)
- Consider the role of invasive alien species management as a cost effective tool for the restoration and maintenance of protected areas and the ecosystem services they provide, and thus to include management of invasive alien species in the action plans for implementation of the programme of work on protected areas, taking into account decision X/38, on invasive alien species (CBD Decision X/31, 20; Also under Control/Management)
- When designing, implementing and monitoring afforestation, reforestation and forest restoration activities for climate-change mitigation avoid invasive alien species (CBD Decision X/33, 8piii)
- Promote transboundary cooperation on the management of invasive alien species, in particular in river basins (CBD Decision X/38, 9b)
- Incorporate the progress and lessons learned on regional island collaboration to manage the threat of invasive alien species (CBD Decision X/38, 9c)

Risk Analysis/Impact Assessment

- Integrate environment impact assessments into the programme of work for IAS (CBD Decision V/18, 1a)
- Develop capacity to use risk assessment/analysis to address threats of invasive alien species and incorporate such methodologies in environmental impact assessments, and strategic environmental assessments (CBD Decision VI/23, 12a)
- Develop recommendations and strategies to take into account the effects of IAS on populations and naturally occurring genetic diversity (CBD Decision VI/23, 12c)
- Consider the potential effects of global change on the risk of IAS to biodiversity and related ecosystem goods and services (CBD Decision VI/23, 15)
- Research the characteristics of IAS and the vulnerability of ecosystems and habitats to their invasion in relation to the impacts of climate change (CBD Decision VI/23, 24a)
- Research and assess the impact of IAS of biological diversity (CBD Decision VI/23, 24b)
- Research the socio-economic impacts of IAS (CBD Decision VI/23, 24d)
- Research criteria for assessing the risk from IAS (CBD Decision VI/23, 24i)
- Compile and make available lists of procedures for risk assessment/analysis and pathway analysis which may be relevant in assessing the risks of invasive alien species to biodiversity, habitats and ecosystems (CBD Decision VI/23, 28c)

- Consider the risks associated with the introduction, use and spread of IAS during the development, expansion and review of trade arrangements (CBD Decision VII/13, 5d)
- Strengthen cooperation between biodiversity, agriculture, forestry, land and water management agencies in the application of risk analysis standards and guidance for IAS (CBD Decision VII/13, 6)
- Implement regional standards, regional support for risk analysis and regional cooperation mechanisms (CBD Decision VII/13, 6a)
- Support and develop risk analysis including environment risk assessment, alert lists, diagnostic tool and capacity development for national and regional decision-making and rapid response (CBD Decision VII/13, 6b)
- Carry out technology needs assessments, impact and risk assessments and ensure this information is widely available (CBD Decision VII/29, 3 and CBD Decision VII/29, Annex (Programme of work on technology transfer and cooperation))
- Share national experiences in dealing with invasive alien species, in particular animals and their parasites, introduced or spread through various conveyances, including any risk assessments or risk management measures that have been carried out for particular species or pathways (CBD Decision VIII/27, 16; Also under Assessment/Pathways)
- Study the impact of land use change, climate change adaptation and mitigation activities on the introduction, establishment and spread of IAS (CBD Decision IX/4, (B) 24)
- Identify species with high potential to become IAS and prepare customs information (CBD Decision IX/22, 4(b), Annex, Output 5.16.3)
- Prepare proposals for more detailed guidance on national measures on the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food (per X/38 Annex) and submit it for consideration by SBSTTA prior to COP 12 (CBD XI/28, 5; Also under Assessment WG/Pathways)
- Compile information and work with experts to avoid and/or minimize the risks particular to animals that escape or are released from commercial zoos, safari parks, or breeding and trade centres, or those animals used as live food (CBD Decision XI/28, 7; Also under Assessment WG/Pathways)
- Further address, including by developing and improving international standards, guidelines and recommendations, the risks associated with the introduction of alien species that are a potential threat to biodiversity but are not considered pests to plants, pathogens or parasites that affect domestic animals, or are harmful to human health, taking note that the risks associated with the introduction of alien species may include impacts on ecosystem functioning and biodiversity at the ecosystem, species and gene levels (CBD Decision XI/28,9)
- Make use of these guidelines (Guidelines for Assessing the Risk of Non-native Animals Becoming Invasive, published by the World Organisation for Animal Health (OIE)), in addressing the risks of invasive alien animal species (CBD Decision XI/28, 11).
- Develop tools to strengthen the capacity of border control authorities and other competent authorities to identify invasive alien species or potentially invasive alien species, to assess risks and take steps to manage or minimize those risks and to control and eradicate prioritized invasive alien species (CBD Decision XI/28, 19; Also under Taxonomic Information Services WG)
- Prepare a preliminary list of the most common pathways for the introduction of invasive alien species, propose criteria for use at regional and subregional levels or other ways by which they may be prioritized, and identify a range of tools that may

be used to manage or minimize the risks associated with these pathways; and to report thereon to a meeting of the SBSTTA prior to COP 12 (CBD Decision XI/28, 26b; Also under Assessment WG/Pathways)

Indicators

- Develop and use indicators to measure the impacts of tourism activities (CBD Decision V/25, 4c and CBD Decision V/25, Annex (Assessment of the interlinkages between tourism and biological diversity))
- Develop biodiversity indicators as part of their national strategies and action plans, taking into account the targets of the GSPC and the 2010 target (CBD Decision VII/8, 8 and CBD Decision VI/9, Annex (GSPC))
- Increase collaboration to facilitate the development of national level and global indicators (CBD Decision VII/8, 5 and CBD Decision VII/30, Annex (Indicators))
- Develop projects for assessment and monitoring of indicator species for island biodiversity (CBD Decision IX/22, 4 (b), Annex, Output 4.14.2)
- Note the indicators for Target 9 (CBD Decision XI/3, Annex p. 7): Trends in the impact of invasive alien species on extinction risk trends; economic impacts of selected invasive alien species; number of invasive alien species (decision VII/30 and VIII/15); incidence of wildlife diseases caused by invasive alien species; policy responses, legislation and management plans to control and prevent spread of invasive alien species; and invasive alien species pathways management

Pathways

- Evaluate known and potential pathways for the introduction of invasive alien species and identify opportunities to minimize incursions and manage risks (CBD Decision VI/23, 14)
- Research the importance of various pathways for IAS (CBD Decision VI/23, 24c)
- Share national experiences in dealing with invasive alien species, in particular animals and their parasites, introduced or spread through various conveyances, including any risk assessments or risk management measures that have been carried out for particular species or pathways (CBD Decision VIII/27, 16; Also under Assessment/Risk Analysis)
- Develop regional guidance for particular pathways to prevent the introduction and spread of IAS (CBD Decision VIII/27, 18)
- Prevent the introduction and spread of IAS as part of emergency relief, aid and any other efforts (CBD Decision VIII/27, 42)
- Consider relevant controls or codes of practice to address IAS in development assistance efforts (CBD Decision VIII/27, 44)
- Prevent or minimise the risks of the introduction and spread of IAS associated with scientific research activities (CBD Decision VIII/27, 50)
- Promote good practice regarding IAS issues in any military-aid or joint exercises, and develop procedures for national military forces to assist them in avoiding the introduction of IAS into new areas (CBD Decision VIII/27, 39)
- Take measures to address tourism as a pathway for the introduction and spread of IAS using the Guidelines on Biodiversity and Tourism Development (CBD Decision VIII/28, 50 and CBD Decision VII/14, Annex (Guidelines on Biodiversity and Tourism Development))
- Evaluate and take appropriate measures at national, regional and global levels to address the potential risks of biocontrol agents as invasive alien species (CBD Decision VIII/28, 55)

- Share best practices regarding the movement of alien animal species for *ex situ* breeding (CBD Decision VIII/28, 56)
- Make full use of existing standards in addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food (CBD Decision XI/28, 4iii)
- Prepare proposals for more detailed guidance on national measures on the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food (per X/38 Annex) and submit it for consideration by SBSTTA prior to COP 12 (CBD XI/28, 5; Also under Assessment WG/Risk Analysis)
- Compile and disseminate methodologies and instruments in use by law-enforcement, customs and inspection agencies to monitor and control movements of alien species introduced as pets, aquarium and terrarium species, and as live bait and live food (CBD Decision XI/28, 6a)
- Collect information on best practices in order to raise public awareness and disseminate guidance to web-based traders (of alien species introduced as pets, aquarium and terrarium species, and as live bait and live food) (CBD Decision XI/28, 6b; also under Gateway WG/Public Awareness)
- Compile information and work with experts to avoid and/or minimize the risks particular to animals that escape or are released from commercial zoos, safari parks, or breeding and trade centres, or those animals used as live food (CBD Decision XI/28, 7; Also under Assessment WG/Risk Analysis)
- Prepare a preliminary list of the most common pathways for the introduction of invasive alien species, propose criteria for use at regional and subregional levels or other ways by which they may be prioritized, and identify a range of tools that may be used to manage or minimize the risks associated with these pathways; and to report thereon to a meeting of the SBSTTA prior to COP 12 (CBD Decision XI/28, 26b; Also under Assessment WG/Risk Analysis)

Early Detection/Rapid Response

- Support national and regional decision-making and rapid response to IAS (CBD Decision VII/13, 6b)
- Collaborate on the development and use of early warning systems and of rapid response mechanisms (CBD Decision IX/4, B7)

Control/Management

- Research the development of environmentally benign methods to control and eradicate invasive alien species (VI/23, 24e)
- Research and assess the costs and benefits of using biocontrol agents to manage IAS (CBD Decision VI/23, 24f)
- Research the use of traditional knowledge in the management of IAS (CBD Decision VI/23, 24j)
- Consider the role of invasive alien species management as a cost effective tool for the restoration and maintenance of protected areas and the ecosystem services they provide, and thus to include management of invasive alien species in the action plans for implementation of the programme of work on protected areas, taking into account decision X/38, on invasive alien species (CBD Decision X/31, 20; Also under Ecosystem Approach)
- Reduce non-climatic stresses, such as pollution, over-exploitation, habitat loss and fragmentation and invasive alien species (CBD Decision X/33, 8i)
- When designing, implementing and monitoring afforestation, reforestation and forest restoration activities for climate change mitigation, consider conservation of

biodiversity and ecosystem services through, for example: avoiding invasive alien species (CBD Decision XI/19, 17 (d)(iii))

4. Taxonomic Information Services Working Group

- Research priorities for taxonomic work on IAS (CBD Decision VI/23, 24h)
- Develop protocols for IAS identifications building on relevant standards under the International Plant Protection Convention (CBD Decision IX/22, 4(b), Annex, Output 5.16.91718)
- Generate information on IAS as well as promoting the programme of work for the global taxonomy initiative (CBD Decision VI/8, 2 and CBD Decision VI/8, Annex)
- Set priorities for taxonomic work on IAS (CBD Decision VI/23, 24h)
- Adopt the databases of IAS, the working identification keys for known IAS and the working lists of organisms to be utilised by local monitoring authorities (CBD Decision VIII/3, 8)
- Provide support for the development of a checklist of known species (CBD Decision IX/22, 6)
- Manage updated taxonomy for all known invasive species (CBD Decision IX/22, 4, (b), Annex, output 5.16.8)
- Communicate a common understanding of IAS terminology through training and operational materials (CBD Decision VIII/27, 68)
- Make taxonomic and other necessary data and metadata easily accessible and their collections available in response to the information needs identified as national and regional priorities (e.g., information and expertise to manage invasive alien species) (CBD Decision X/39, 4)
- Develop tools to strengthen the capacity of border control authorities and other competent authorities to identify invasive alien species or potentially invasive alien species, to assess risks and take steps to manage or minimize those risks and to control and eradicate prioritized invasive alien species (CBD Decision XI/28, 19; Also under Risk Analysis)
- Produce and continue to share taxonomic tools (e.g., field guides, online tools such as virtual herbaria, genetic and DNA sequence-based identification tools such as barcoding) and risk-analysis tools in the context of invasive alien species and biosafety (CBD Decision XI/29; Annex, Action 4)

5. Best Practices for Non-Web-Based Information Access and Exchange Working Group

- Consider the decisions listed under “Information Sharing” and “Information Exchange” in non-web formats

17 This is directed to Parties as well as relevant organizations, and calls for outputs to be produced in a timely manner, in local languages and using local species names. The annexed programme of work planned output suggests actors to include IPPC, SCBD, BioNET INTERNATIONAL, Species 2000 and ITIS Catalog of Life.

18 IPPC 7th ICPM, section 12.1, 148, 7d CBD Decision VII/13, 5d CBD Decision VII/13, 6a Offers possibility for synergies at the regional level between the conventions.

WEBSITES TO REMEMBER

1. The Beta version of the Gateway: http://giasipartnership.myspecies.info/

2. The GIASIPartnership Operational Plan released last September by the CBD as document UNEP/CBD/COP/11/INF/34: http://www.cbd.int/cop11/doc

3. Report from the July 2012 Organizational Workshop for the GIASIPartnership: http://www.cbd.int/doc/meetings/ais/wsgiasp-01/official/wsgiasp-01-02-en.pdf

4. Presentations given last October at the launch of the GIASIPartnership, during the CBD's 11th meeting of the Conference of the Parties in Hyderabad, India: http://www.gbif.org/communications/news-and-events/gbif-symposia-and-workshops/2012-cbd-cop-11-launch-of-invasive-alien-species-information-partnership/

ADDITIONAL CONTRIBUTIONS

BURGIEL, STAS

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Washington, DC 20005 USA
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Skype: staswb (*not available at office*)

- I would like to participate in the following Working Groups:
  - ~~Information Gateway~~
  - ~~Inter-operability and Quality Improvement~~
  - **Information Synthesis and Assessment**
  - ~~Taxonomic Information Services~~
  - ~~Best Practices for Non-web-based Information Access and Sharing~~

- I recommend adding the following URLs to the Information Gateway (See: http://giasipartnership.myspecies.info/):

I've got lots of sites identified for my personal use. It would be helpful to have additional criteria on what type of sites and information would be useful, as well as how they would be organized (e.g., geographically, thematically).

- Additional recommendations for improving/expanding the Information Gateway include:

I haven't had any success using the search feature (I kept getting errors), but it would seem that this is critical. A lot of information resources can be categorized in multiple ways so either a good search function or some system of tags or cross-references would be helpful. I would also suspect that when significant numbers of links are gathered (e.g., under risk analysis tools) that simply listing them will become cumbersome. This presents the age-old challenge for how to effectively present this information.

- Personally, I'd like to contribute to the Partnership in the following way(s):

Provide input and information on issues related to prevention (e.g., risk analysis, pathways). Also, I'm willing to work with others on how the information can be presented in an accessible, user-friendly way (although I admittedly don't know web technology). I'd also be interested in exploring how mind maps/networks can be used to portray this information.

- I intend to pursue the following opportunities for institutional engagement in the Partnership:

I've started preliminary discussions with both IISG and CABI on ways to collaborate regarding pathways. This is a significant element of my work program and I'd like to ensure that these related efforts are supportive and not duplicative.

- I recommend inviting the following people/institutions into the GIASIPartnership (please note their particular interest/expertise, as well as email address):

Horus Institute: Silvia Ziller (sziller@institutohorus.org.br)
GEKKO: Sergio Zalba (szalba@criba.edu.ar)
IUCN: Geoffrey Howard (geoffrey.howard@iucn.org)
USGS: Pam Fuller (PFuller@usgs.gov)
Center for Invasive Species & Ecosystem Health: Chuck Bargeron (cbargero@uga.edu) or Keith Douce (kdouce@uga.edu)
NY DEC/Natural Heritage Program: Meg Wilkinson (mewilkin@gw.dec.state.ny.us)

- I am (likely) or (not likely) to be at SBSTTA 17.

Setting aside government travel restrictions, if invasive alien species are on the agenda I will make this a priority meeting.

- If I am at SBSTTA 17, I am (**interested/available**) or (~~not interested/available~~) to actively participate in GIASIPartnership activities, including the side event and inter-active kiosk.

- Additional comments: None.

HOLMES, NICK

Name: Nick Holmes
Title: Director of Science, Island Conservation
Address: 2161 Delaware Ave, Suite A, Santa Cruz, California 95060, USA
Tel: +1 831 332 1781
Email: nick.holmes@islandconservation.org
Skype: holmes.nick

- I would like to participate in the following Working Groups:

Information Synthesis and Assessment

- I recommend adding the following URLs to the Information Gateway (See: http://giasipartnership.myspecies.info/):

http://www.islandconservation.org
http://tib.islandconservation.org
http://eradicationsdb.fos.auckland.ac.nz/

- Additional recommendations for improving/expanding the Information Gateway include:

Communications plan.

- Personally, I'd like to contribute to the Partnership in the following way(s):

Developing global metrics of state, response and pressure to IAS modelling BIP outputs.

Risk analyses for emerging vertebrate IAS
Analyses of best practice approaches
Prioritization of IAS response, such as eradication on islands

- I intend to pursue the following opportunities for institutional engagement in the Partnership:

Participating in a joint project on topics of islands, IAS, management & threatened species, to secure funds that allow maintenance and improvement of the GIASIP gateway, plus Threatened Island Biodiversity database and Database of Islands and Invasive Species Eradications.

- I recommend inviting the following people/institutions into the GIASIPartnership (please note their particular interest/expertise, as well as email address):

Need to review the existing list to comment.

- I am (likely) or (not likely) to be at SBSTTA 17.

Not likely at this stage.

- If I am at SBSTTA 17, I am (interested/available) or (not interested/available) to actively participate in GIASIPartnership activities, including the side event and inter-active kiosk.

- Additional comments:

    - There's a lot of CBD decisions to consider! Many of which seem to be repeated, and sometimes overlap between the 5 tasks and their sub-themes. In order to prioritize the CBD decisions to respond to, it's likely helpful to define what a priority should be – e.g. decisions relating to a stepping stone activity (i.e. a base activity that other decisions rely on), more important audiences (CBD Parties?), which decisions relate to activities that are near completion – (i.e. ones that can be claimed credit on sooner), ones that are directly related to funding, etc. Taking 30 min with the group to identify priorities is likely helpful, and then one person (not the whole group) can essentially assess each of the CBD decisions for those priorities (I've attached a table that begins to do this for the first decision set).

    - I think it would be worthwhile characterizing the skillsets the working group needs to have in order to be successful. For example, policy advocacy? Technical database management? Funding awareness? Linkage to other key organizations? Right now the common denominator for the working group appears to be folks who are responsible for, manage or use IAS databases – there is no doubt we are all stakeholders, but are there no-IAS people we might want to invite that would prove more effective in fulfilling one of these skillsets? Are there non IAS models of gateway information products (EOL? libraries?) we are looking to model, and could identify people from these orgs to help?

MCGEOCH, MELODIE

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Email: melodie.mcgeoch@monash.edu
Skype: melodie.mcgeoch1

- I would like to participate in the following Working Groups:
  X Information Gateway
  x Inter-operability and Quality Improvement
  x Information Synthesis and Assessment
  x Taxonomic Information Services
  x Best Practices for Non-web-based Information Access and Sharing

[These are all in some way relevant to IAS indicators and their reporting via the Gateway, so I have some interest in all of them. Once the more detailed work plans/objectives for each WG have been outlined I'll be in a position to narrow my interest for participation]

- I recommend adding the following URLs to the Information Gateway (See: http://giasipartnership.myspecies.info/):

- Additional recommendations for improving/expanding the Information Gateway include:

  Incorporation of IAS indicator data collation and reporting platform

- Personally, I'd like to contribute to the Partnership in the following way(s):

I would like to see GIASIP include a platform for global and national IAS indicator data collation and reporting, specifically but not necessarily exclusively for CBD Target reporting, capitalizing on the role played by ISSG and drawing on other partner involvement where beneficial. Such a system requires a systemic approach, ensuring repeatability and transparency of decision making for information inclusion. This would be a long-term role, not restricted to the CBD Strategic Plan 2011-2020 only, to contribute to ensuring long-term sustainable and robust reporting systems for IAS policy. I am in a position to contribute to achieving this objective.

- I intend to pursue the following opportunities for institutional engagement in the Partnership:

1. As a University-based researcher my institutional affiliation, Monash University, will be associated along with any contribution that I make.
2. ISSG and Piero Genovesi is the contact point for Aichi Target 9 indicator development and reporting via the UNEP-WCMC Biodiversity Indicator Partnership, which is a link that has been made. I am collaborating with ISSG on this project.
3. I am also a partner and Working Group 9 (Indicators) Co-Chair on GEO BON (http://www.earthobservations.org/geobon.shtml). One of GEO BON's stated objectives is to contribute to reporting against Aichi Targets, and work on invasive species is included in a number of the working groups.

- I recommend inviting the following people/institutions into the GIASIPartnership (please note their particular interest/expertise, as well as email address):

Atlas of Living Australia: Expertise to provide an illustrative example of national (and broader) level indicator data collation and expression via their GBIF-associated platform.

Contacts:
Dr John La Salle: Director of the Atlas of Living Australia, CSIRO
Phone: +61 2 6246 4262, Email: John.LaSalle@csiro.au

Peter Doherty, Program Manager, Atlas of Living Australia
GPO Box 1700, Canberra ACT 2601, Phone: +61 2 6246 4431 Mobile: +61 423 040043
Email: peter.doherty@csiro.au, web: http://www.ala.org.au

- I am not likely to be at SBSTTA 17.

- If I am at SBSTTA 17, I am (interested/available) or (not interested/available) to actively participate in GIASIPartnership activities, including the side event and inter-active kiosk.

- Additional comments: None.

SIMPSON, ANNIE

Name: Annie Simpson
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- I would like to participate in the following Working Groups:
    - Information Gateway
    - Inter-operability and Quality Improvement
    - Taxonomic Information Services
    - Best Practices for Non-web-based Information Access and Sharing

- I recommend adding the following URLs to the Information Gateway (See: http://giasipartnership.myspecies.info/):

  The URLs I would have recommended at this time are included, except one:

  http://bison.usgs.ornl.gov
  Biodiversity Information Serving our Nation (BISON) is the US Node to GBIF and provides 110+M species occurrences from 800+K contributors. In addition to seeking

the inclusion of more US government biodiversity datasets, BISON is developing an invasive species theme.

- Additional recommendations for improving/expanding the Information Gateway include:

  I have none at this time.
  Personally, I'm not particularly fond of Drupal.

- Personally, I'd like to contribute to the Partnership in the following way(s):
  - Creating and sharing clearer guidance for collection and sharing of Darwin Core-compliant species information for easier inclusion into the GBIF Integrated Publishing Toolkit (IPT).
  - Formalizing the GISIN invasive species extension to Darwin Core standard for ratification by TDWG.

- I intend to pursue the following opportunities for institutional engagement in the Partnership:

  - Sharing non-native species lists from the US that are vetted by experts.
  - Improved Taxonomic Information Services and tools from ITIS.

- I recommend inviting the following people/institutions into the GIASIPartnership (please note their particular interest/expertise, as well as email address):

  - I think the Partnership should be open to all who are interested.
  - Some virtual organizations (such as GISIN) do not have a formalized organizational structure and so cannot formally join or sign an MOU.
  - "If you build it, they will come."
  - The amount of work individuals or organizations are able to contribute will become evident (and wax and wane) with time.
  - If/when funding becomes available to build the partnership, compete them widely and fairly.

- I am not likely to be at SBSTTA 17.

- If I am at SBSTTA 17, I am interested/available to actively participate in GIASIPartnership activities, including the side event and inter-active kiosk.

- Additional comments: Please try harder to organize workshops and events with more lead-time for participants. Plane tickets for next week's participants must have been very expensive, for example. Think inclusive, rather than exclusive. Save those exclusion thoughts for the invasive species themselves.

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INFORMATION FOR NEXT STEPS

Email to ecos@nelsoncable.com

Name:
Title:
Address:
Tel:
Email:
Skype:

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  - Information Synthesis and Assessment
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- Additional comments:

NOTES