Appendix 1. 2006 IAPP Species Scoring Algorithm

The following is provided with the permission of the developer, Jeff Hallworth, Coastal Invasive Plant Specialist, Ministry of Forests & Range - Range Branch, Port Alberni, BC. It was developed as an Excel tool in which calculates subtotals and the overall score automatically, and has been modified slightly for use in paper format.

Notes to Users of the paper-based version of the IAPP Algorithm

1. There are four criteria used to derive an Overall Score: Biological, Containability, Controllability and Impact.

Biological Criteria questions:

- proceed one question at a time down the list, and if the condition is consistent with the biology of the species in question, then transfer the number shown in the Points column into the Score column for that question.

- in two instances, an "OR" scenario exists whereby you must choose the most applicable condition between two choices. Only enter the points from the question that is most applicable to the biology of the plant; or if neither applies, then leave the score column blank for both questions.

Containability, Controllability and Impact questions:

- enter the highest ranking, most applicable points for any of these questions into the Subtotal column only, for each section.

2. In the box at the bottom, write in each Subtotal for the corresponding criteria; multiply that number by its respective Prorate Factor, and enter the Prorated Score for each criteria.

3. Add the four Prorated Scores for a Grand Subtotal, and then divide this by 3 for an Overall Score out of 10.

2006 IAPP Species Scoring Algorithm

Note to Users: *only input information into the white fields.*

Common Name:	
Scientific Name:	
Management Area:	

Proceed down this list answering each of the 21 Yes/No questions, one by one. If the answer is Yes to any question, then transfer the number shown in the Points column into the Score column for that question, add the scores, divide the sum by 21, and write the result in the Subtotal box. **Is this species:**		**Points**	**Score**
Biological Criteria	new to the area (e.g. within the last 25 years) and suited to thrive in the local climate?	5	
	adapted to thrive in an aquatic, riparian or sensitive ecosystem?	5	
	tolerant a wide range of soil conditions?	3	
	able to live in excess of 5 years?	5	
	capable of forming thickets?	4	
	able to quickly dominate a site without disturbance and form a dense monoculture? **OR**	5	
	capable of slow domination of a site, but in patches without disturbance?	3	
	shade tolerant?	4	
	geophytic? (it has underground storage organs - bulbs, corms, or tubers)	3	
	a producer of seed whose viability exceeds 5 years?	5	
	capable of hybridizing or self-fertilizing?	5	
	able to fix nitrogen or alter soil chemistry to inhibit native plant establishment (alleopathic)?	5	
	able to reproduce by vegetatively, by stolons, rhizomes, bulbils or other asexual means?	5	
	seed, spore or cuttings adapted to dispersal by birds/animals, water or wind?	4	
	a prolific seed producer @ 5,000 or more seeds per plant? **OR**	5	
	a moderate producer of seed @ 1,000 to 5,000 seeds per plant?	3	
	possessing evergreen and/or waxy leaves?	3	
	capable of active *stem* photosynthesis?	4	
	stimulated by mutilation, cultivation, or fire?	4	
	parasitic or able to smother by climbing on host native plant?	4	
	a plant woody (including stems or roots)?	5	
	Subtotal (sum of scores/21)**:**		

Select the single **most** relevant scenario and write the associated points into the bottom Subtotal cell. **Is this species found in:**		**Points**	**Score**
Containability Criteria	isolated areas? - good chance of containment given that species is confined to only a few areas with jurisdiction - a newly arrived species	5	
	moderate distribution? - moderate chance of containment given that species is moderately distributed throughout jurisdiction	3	
	and throughout the subject area (e.g. is ubiquitous)? - poor chance of containment given that species is found throughout jurisdiction - a species with a long history in the area	1	
	Subtotal:		

2006 IAPP Species Scoring Algorithm (continued)

Select the single **most** relevant scenario and write the associated points into the bottom Subtotal cell. **Is this species:**		Points	Score
Controllability Criteria	extremely difficult to control? - few if any treatment options and extremely expensive - multiple re-treatments are necessary	5	
	difficult to control? - options are available but expensive - re-treatments are necessary	4	
	moderately difficult to control? - multiple options are available but less expensive - re-treatment(s) may not be necessary	3	
	easy to kill but re-treatments are necessary? - garden escapees, annuals	1	
		Subtotal:	

Select the single **most** applicable impact and write the associated points into the bottom Subtotal cell. **Does this species negatively affect:**		Points	Score
Impact Criteria	human health and/or safety? - lethal or toxic to ingest - causes pain or discomfort e.g. puncture wounds or allergies - obstructs visibility along transportation corridors - degrades infrastructure or poses risk to public e.g. fire, accelerated windthrow	5	
	animal health (domestic or wild)? - lethal or toxic to ingest - causes pain or discomfort	4	
	natural or agricultural environments? - taints forage crop or is unpalatable - reduces crop yields - increased erosion or restricted water flow in aquatic or riparian areas	4	
	native plant communities? - outcompeting and crowding them out - reduction in overall biodiversity	3	
	recreation, and/or animal migration? - obstacle to travel - turf grass invasion	2	
	landscape aesthetics? - visual blight	1	
		Subtotal:	

Criteria	Subtotal Score	Prorate Factor	Prorated Score
Biological		x 1.3	
Containability		x 1.5	
Controllability		x 1.5	
Impact		x 2.0	
		Grand Subtotal (sum of Prorated Scores):	
		Overall Score (Grand Subtotal/3):	