



Stakeholder Network Analysis

A case study of the aquatic plant industry in Victoria

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Introduction

- Work commissioned by the Victorian Department of Primary Industries
 - *Improving Provincial Victoria's Biosecurity and Weeds and Pest Initiative*
- Previous studies had shown that the aquatic plant industry was a particular risk to Victoria's biosecurity

(Petroeschovsky, 2004; TWOPL, 2005; etc)
- Trade within and across state boundaries largely unregulated with different classifications of noxious species



Aquatic Weeds



- Aquatic plants with weed potential are routinely traded for home aquariums and water gardens



- Weeds of national and state significance (i.e. *Cabomba* and *Salvinia*) are considered ornamentals plants



- Problems arise when disposed of inappropriately, grown in public waterways illegally or used for manmade lakes



- Can cause significance environmental damage by clogging up waterways, lakes and estuaries



Objectives



- Determine the pathways for the spread of aquatic weeds through the supply of aquatic plants




- Identify points in the supply chain that represent particular risks (i.e. likelihood to trade plants that have potential for weediness)




- What channels and conduits exist in the network for DPI to disseminate information to reduce risks?





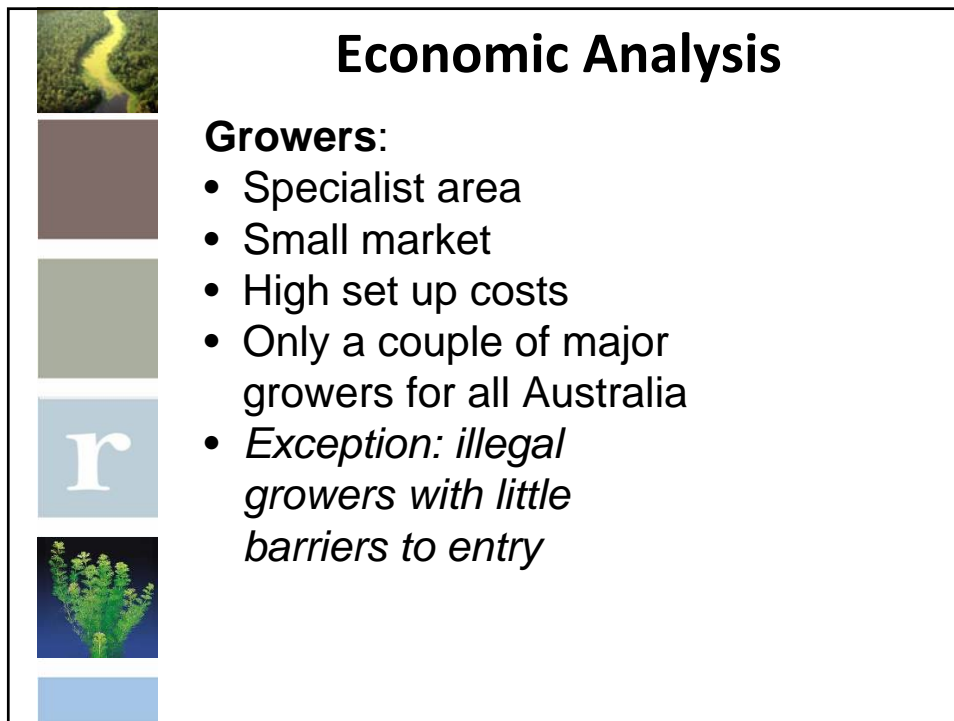
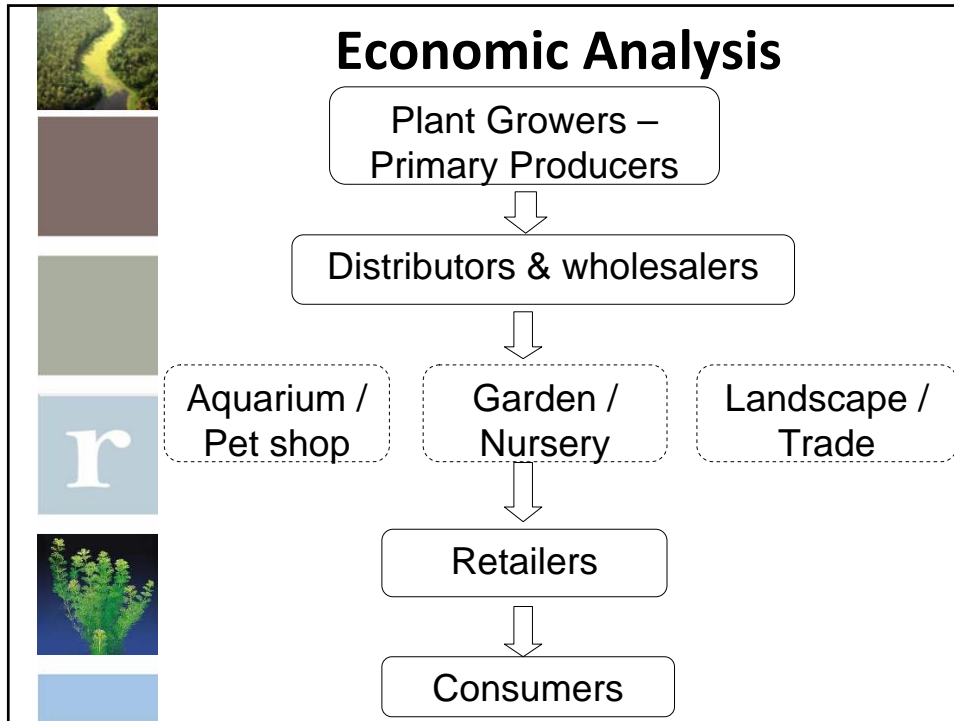
Objectives

To meet these three core objectives, we used a mix of methods approach to collect and analyse data, providing recommendations on the communication and engagement strategy



Economic Analysis

- Porter's Five Forces (Porter, 1998)
 - Rivalry
 - Threats from substitutes
 - Buyer power
 - Supplier power
 - Barriers to entry
- Applied this to each stage of the supply chain to identify 'bottlenecks'





Economic Analysis

Wholesalers:

- Growers vertically integrated with wholesalers (same entity)
- Little integration at retail end
- Tend to focus on an industry
- Few barriers to entry
- Can be driven underground with over regulation



Economic Analysis

Retailers

- Few economies of scope
- Separate from growers or wholesalers at large scale
- Seek diversity with complimentary products (i.e. aquariums, landscapers, nursery)
- Vertically integrated at small scale (i.e. backyard grower and sell at markets/fetes)

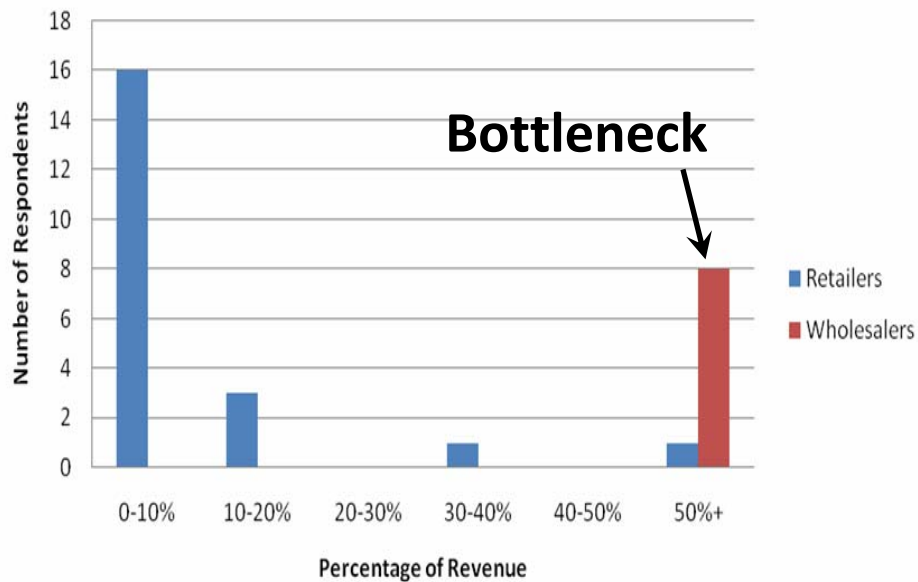


Economic Analysis

Consumers

- Lack of 'buyer power'
- Little brand loyalty or switching costs
- Focus on price, availability
- Substitute based on growability unless collectors of ornamentals
- Cyclical – spring is buy time

Percentage of Revenue from Aquatic Plants





What of SNA?



- Economic analysis in this case too shallow



- Still don't know who is most influential



- Many stakeholders not considered in the market (i.e. government, peak industry bodies)



- *Turn to SNA*



SNA & NRM



- Applied widely in health, education, terrorism, organisational development, etc. New to NRM



- Indigenous land management in the Gulf Country, Northern Territory (Woodward, 2008);

- Coastal ecosystem management in Gippsland, Victoria (Dawson, 2007);



- The identification of opportunities for a New South Wales Catchment Management Authority to partner with other organisations (Molino Stewart, 2008); and



- Community engagement in weed and pest management in Victoria (Roberts Evaluation, 2008, 2009).





Our Methodology



- Systems approach to identifying boundary



- Participatory approach to identifying stakeholders in scoping study



- Contacted 55 people in total
- Observed markets/fetes



- Trawled through online forums
- *A list of high, medium and low important stakeholders resulted*



Questionnaire



- Areas of Questioning
 - Where do you obtain information about aquatic plants?
 - Where do you source your aquatic plants from?
 - Who do you distribute aquatic plants to?



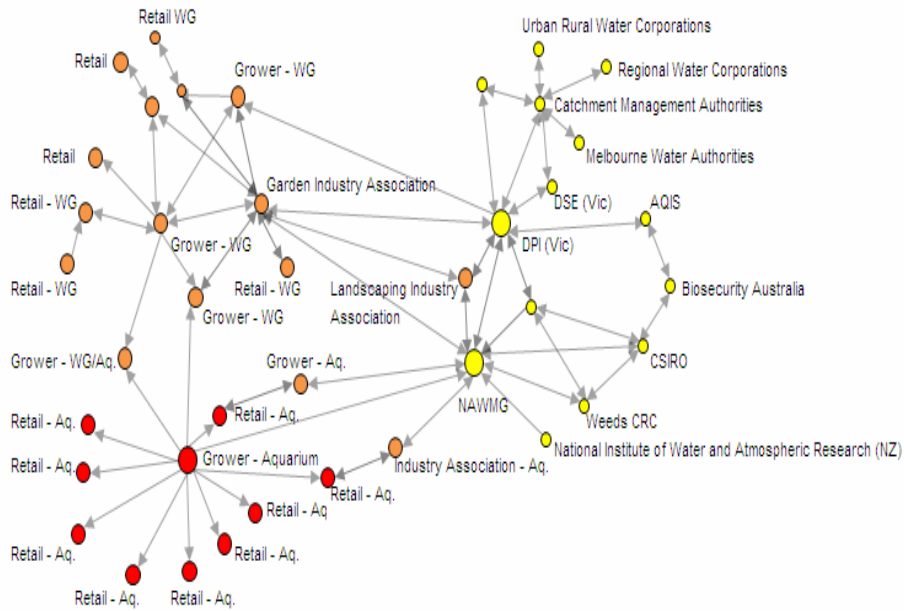
- Stakeholder attributes
 - Role, function, general interests and activities



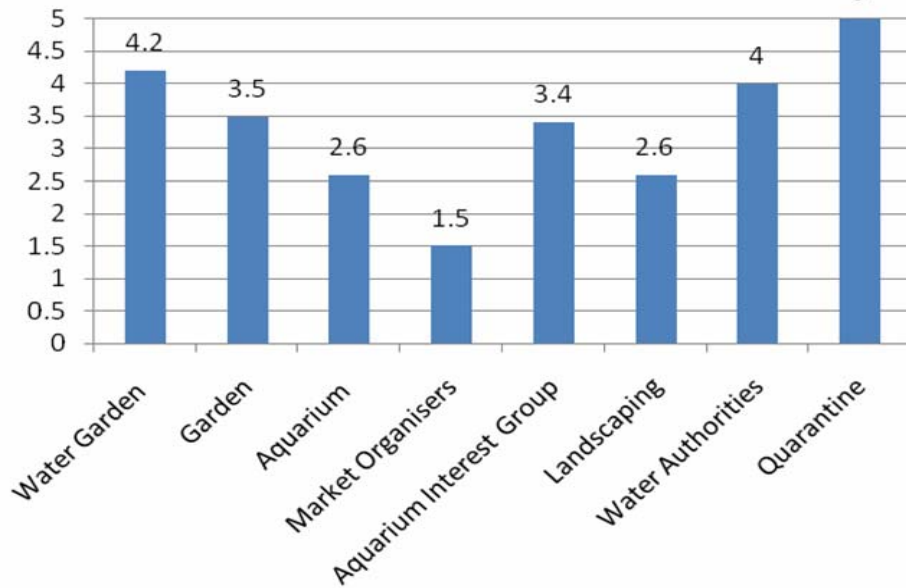
- Relationship attributes
 - Frequency and strength (strong, medium, weak)
 - Type of relationship (information, material)
 - Direction (provider, receiver)



Aquatic Plant Industry (Victoria): Stakeholder Network Map*



Level of Awareness





Hubs, Channels and Conduits



- Supplier in Qld providing 60-80% of aquarium plants



- Two major growers in the water market industry in Victoria supplying most small nurseries and mega stores (i.e. bunnings)



- Hobbyists and informal traders highest risk, most disaggregated



- 40% of aquarium retailers stated they had been approached by illegal operators



Hubs, Channels and Conduits



- Peak bodies and government agencies

- Eastern Districts Aquarium Society (and their reference book which is nationally renown)



- Victorian Cichlid Society

- Aquarium Society Victoria



- Pet Shop Industry Association Australia

- Nursery and Garden Industry Association Victoria



- Landscaping Industry Association Victoria

- Australian New Guinea Fishes Association





Evidenced Based Policy

- SNA helps identify stakeholders based on:
 - Role, network, interest, awareness, perceived responsibility, likelihood to trade in risky aquatics, quality of network, interactions
 - Gaps in engaging and evaluating informal networks that by their nature are hidden from view
- Evidence informs the policy:
 - Prioritised list of stakeholders to communicate and engage with, some expected policy response, and type of information to be provided



Lessons Learned

- SNA is useful in a mix of methods
- SNA is based on system theory: so defining boundaries and networks to investigate is of utmost importance
- Questionnaire design is crucial
- Don't forget the A in SNA: Need to frame and understand the connections
- Sometimes there is no evidence for evidenced based policy making: need to create evidence, and SNA useful for communication and engagement
- SNA is good fun as a researcher!



Phew.. The end!



Thank you for your
time



Hope that there is
something you
can take away
with you



Questions?

