WRAP UP SUMMARY OF THE DAY
John Madsen

I enjoyed hearing from Sir Toby and one of the things that really stood out from his comments was including all stakeholders. It is a great mistake not to hear from everybody and to ensure that everybody is included. If you overlook somebody that is the person most likely to object to whatever it is you finally decide to do.

Professor Hamilton demonstrated the importance of having good information on the lakes being managed, understanding the trajectory of those lakes and the causes of degradation as well as looking at which lakes are improving. He also made the comment that the morphology of the lake affects water quality and by implication we often think that pristine means the lake will be oligotrophic but that is simply not the case. Many lakes are not naturally oligotrophic, they might be mesotrophic or even eutrophic. Historically their water quality may never have been clean and they may naturally be very productive lakes.

The message I wanted to convey was that effective applied research can lead to long term management options and in fact control the population of invasive weeds. Also that prevention is more effective than waiting to see what weeds come and it is better to manage early than later on.

Dr Clayton pointed out that the status of the weeds is not necessarily a direct reflection of the water quality. Lakes with good water quality can have bad weed problems, and that has certainly been my experience as well. He indicated that native plants are very desirable for lakes which I totally agree with. The problem is that we introduced plants that created the problem and there are a number of threats to all vegetation including degradation of water quality.

The Hon Dr Nick Smith commented about the tragedy of the commons. While we may not all own the lakes, we are all responsible. It is probably wise as a foreigner not to comment too strongly on the direction your country is taking because that is your decision not mine. But I appreciated his comments and in particular that strong science underpins the decisions being made, and I wish that was more often the case in my own country. While I think good science is important the last thing I would advocate is a technocracy leaving it to the experts. It is important that all stakeholders understand at least the basics of the issues and make an informed decision.

Mary de Winton said that invasive weeds are the problem and that humans are mostly the cause of moving the weeds around. As my wise philosopher Pogo would say, 'That we have met the enemy and they'd be us.' She also said that nutrient enrichment or abatement will not solve the weed problems; they can access nutrients in the sediment, not necessarily just the water column.

Richard Mallinson talked of the harvesting project to remove nutrients. I think you have to devise your own goals and solutions for how to meet those goals. I wondered how you could separate the alum effects from removing nutrients from the harvesting?

Dr Paynter talked of biocontrol and noted that the hornwort programme must start from scratch. My unit also does biocontrol on aquatic weeds and our budget for just the biocontrol component is about $A1 million a year for about 4 to 6 insects. We plan to take anywhere from 10 to 20 years. They are expensive programmes but then that is the United States Government who specialise in wasting money.

Dr Hofstra talked about the herbicide tools. I liked your graphics and your drawings are much better than mine. She said that there are different goals to weed management; simply controlling the nuisance to keep it at some acceptable level versus controlling to ensure the natural restoration of native plants or to eradication. Moving from one step to the next step takes more input and effort.

Dr Gibbs said that lakes need aquatic macrophytes. I think that looking at the tools and trying to determine which tool is best for your given situation is very important.

Paul Scholes looked at nutrient release, trying to explain the phenomenon. Certainly any management is going to have other effects and sometimes they are unpredictable. I was curious why the algal blooms happened 3 months after a diquat treatment because the plants seem to fall apart much more quickly than that period of time. When I have used diquat I typically see complete degradation of plants within 1 to 2 weeks.

I liked Rohan Well's statement, 'The learning never stops'. We keep finding new technologies and tools. I also enjoyed your gaze into the past; we often forget things that have been done in the past. The use of sodium arsenate was used quite extensively in the United States. The toxicity of the herbicides we now use has really changed and that would be a good contrast right there.

Paul Champion looked at predicting which species might be the next problem which is a very effective tool. I know that the model you presented has been examined extensively. You mentioned the paper by the group in Florida that examined a number of different risk assessment tools. These tools are very important if we are to prevent the next introduction of a major weed.

That is a pretty precise and quick overview of the presentations today. I want to leave you with the thought that while it is important to have scientists and other technical experts give you their understanding of the causes and possible solutions it is really up to the stakeholders to make a decision rather than leaving it just to the experts.