

WATER, VALUING URBAN & NATURAL ENVIRONMENTS

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- “The environment” is not an absolute value. It is not some sort of infinite “God” to whom we owe allegiance. We have no Ten Commandments telling us eternal damnation awaits those of us who walk upon or touch the Earth.
- We live here on this Earth and, by that fact alone; we make choices every day which affect the environment. We cannot avoid doing so.
- What do we really mean by “the” environment?
 - At a cosmic level, human animals are part of the whole global environment and we could say it is all one – “the environment”.
 - But this does not get us far. A logician could say that if we are part of the environment like the other animals it does not matter what we do – we are part of the environment and therefore whatever we do has no more “good” or “bad” about it than what lions or elephants do.
- But that is not what we mean when we talk about people “not harming the environment”.
 - There are many sub-environments about which we make conscious or unconscious decisions – a change in one sub-environment may have consequences for others.
 - There can be trade-offs between using a resource such as water for one environment, such as for fish in a river, versus other uses such as having clean and safe homes or flourishing urban public and private gardens.
- The environment cannot have a value outside human beings. If we did not exist, there would be no one to care whether we appreciated it or not.
- So when we talk about not harming the environment, we are saying some people (most of us) do not want you (whoever you are) to do something which diminishes the value to us of what we (most of us) cherish in this or that sub-environment.
 - For example, I hate seeing people throw bottles or cartons out of cars on the Hume Highway.
 - But I don’t mind if they throw bio-degradable apple cores to feed the ants.
- So how do we decide what is or is not a permissible use of the environment? Is it just majority rules, regardless?

- Or do we have to put values on alternative possible uses of this or that part of the environment and make sure this or that part is put to its highest and best use.
- If so, who values and who decides what you, me or Harry can do with the environment? On what basis? Who really *is* “we”?
- Should it be on the basis that bureaucrats, politicians or developers can do what they want? Should it always be a perpetual tussle between ideology and vested interest – between rabid tree-huggers and a rapacious white shoe brigade?
- First, who owns the environment? Is it owned by the community, by the government or is it a commons free to be used by all?
- John Locke and Henry George argued that natural resources were free for anyone to use so long as enough and as good was left for others. Each of us has the right to be here and an equal right, neither more nor less.
 - For example, a majority of 7 out of 10 miners trapped in a coal mine, have no moral right to bind up the mouths of the other 3 to stop them breathing in order to conserve oxygen for the majority. They do not “own” the air. (Doubtless, such thoughts have occurred to people in India and China in the current carbon dioxide emissions debate but that subject is outside this talk.)
- Herbert Spencer thought the earth and its resources were jointly owned:
 - which leads to the logical problem that a man on a desert isle should starve before using anything without the consent of the rest of humanity.
- If we take the John Locke-Henry George view, each of us has an *a priori* right to use the environment as we think fit so long as we are willing to compensate our fellows – that is, to pay as much as anyone else.
- But that idea implies there should be some objective way of finding out what the value of the environment is to all sorts of people before letting it be put to its highest and best use – which, in some cases, may be development and, in other case, conservation.
- Valuing the environment can only be done by human beings. The environment has no value outside our perceptions of its value.
 - But human beings may differ in their views over what this or that environment is worth, or how far one might go to save it.
 - It is easy to have a view on how high a value should be given to something when you do not have to pay for it. For example, many Westerners may say this or that species of chimpanzee must be protected but what if local people are starving and need meat?
 - Conversely, it is easy to put a low value on the environment when you have been given something for nothing and there has been no competitive tendering (take, for example, Ken Henry’s criticism of past logging practices).

- To make intelligent decisions about how to use a resource (being part of the environment), we need to rank its value in various uses, including conservation.
 - It should be stressed that conservation is a valid use for a resource. It should not be seen as mere “non-use”.
- Economists tend to find valuations in what people are willing to trade for this or that.
 - The problem is that it is easy for people to say “I want this left alone” when they don’t want to use it explicitly themselves – or don’t realize its non-use by others may affect them (for example, a naive animal liberation enthusiast who doesn’t realize he is sitting on a leather sofa.).
 - What a proper valuation requires is a “put up or shut up” valuation – your money, not your opinion or prejudice.
- An implicit social value for a specified environment can be computed by adding up what direct and indirect costs people have been willing to pay – or have been made to bear - for it.
- An interesting case study on valuing an environment can be seen in the case of ACT Government water restrictions since 2000.
- In the ACT, environmental flows have been mandated for rivers which limit net human use to less than 40 Gigalitres – less than 5% of average annual flows.
- Severe water restrictions have been imposed by the ACT Government on households for several years as a result of the choice to let large volumes of water out of dams through the drought.
- Between end 2000 and 2006 over 2 years’ worth of Canberra’s water usage was let out of ACT dams.
- A remarkable thing is that in both 2005 and 2006 “environmental releases” were above statutory environmental flow requirements, even though 2006 was the worst drought year ever experienced in recent times.
- Another remarkable thing is that right through most of the drought - right up to 2006 - enough water was coming into the dams to cover virtually unrestricted normal urban usage 60 Gigalitres a year. Indeed, in November 2005 ACTEW (the ACT Government-owned monopoly water supplier) and the ACT Government thought the drought was over.
- An estimate can be made of the direct and indirect costs of the ACT water restrictions.
- The ACT Government plans a deliberate reduction in water use per person of 25% over the next 20 years. This comes on top of a 20% fall in per capita consumption since 1992.

- The ACT Government monopoly water supplier, ACTEW, in its *Future Water Options* project estimated this further 25% reduction (to little more than half of 1992 per capita consumption) would inflict costs on the community of \$400 million.
- Looking at the costs in more detail, it is likely that at least 16,000 trees have been lost due to lack of water. To take a “back of the envelope” computation, if it costs \$1,000 to \$2,000 to chop down a dead tree and dig out its roots for replanting and if a new tree costs \$100-\$200 and takes 30 years to grow, then the replacement cost of a tree at a 7% interest rate compounded over 30 years is \$8,000 to \$16,000.
- The cost of dead trees alone to the community could be \$300-\$400 million by now. This cost ignores the cost of trimming damaged and dangerous trees.
- The time cost of forced labour and wasted effort being inflicted on people also needs to be valued. If 80,000 ACT householders have to spend an average of 3 hours extra per week holding hoses or lugging buckets through 16 weeks of water restrictions, that cost comes to a labour time levy of 3,840,000 hours annually. Taking an hourly labour value of \$30.54, the total time cost of just one year of such water restrictions is then \$118 million.
- Turning to lawns and gardens generally, if we assume it would take an average of \$2,000 to restore lawns and gardens per household, that implies a cost over 100,000 households of \$200 million.
- If we took into account the structural damage done to buildings through clay soils reacting to extreme moisture changes around houses and took into account the loss of amenity from damaged and dangerous sports ovals, costs would be higher.
- All up, it seems a fair estimate that socio-economic costs which may exceed \$1,000 million have already been inflicted by water restrictions and the failure of the ACT Government and ACTEW to supply water to the people of Canberra and Queanbeyan.
- These costs may become perpetual if chronic ACT water supply failure continues. ACTEW itself put a very low figure of \$71 million on the costs of water restrictions prior to 2005. But even this under-estimate, if repeated, as a regular cost would represent the equivalent of a one-off loss of \$800-\$900 million.
- At the \$4.29 per kilolitre price now being charged for urban water, the 166 Gigalitres let out down the river since 2000 during the drought would be valued at over \$700 million on the ACT Government’s current valuation.
 - By contrast, the Federal Government paid something like 12 cents per kilolitre annualized for environmental flow water near Bourke.
- Hence, the total cost (or value) imposed upon (or accepted by), the ACT community to pay for preservation of the river environment to save allegedly endangered fish species may be something in the order of \$1,700 million or more.
 - One notes the same fish survived since 1968 with far lower mandated environmental flows and would, indeed, have been exposed to competition from carp coming upstream if the ACT dams had not been built.

- So was it worth \$1,700 million to avoid a questionable risk to endangered fish (bearing in mind native fish may have adapted to drought in any event)? Whether it was - or was not - worth it, is unknown.
- What is known is that no one has done the real figuring and told ACT households how much they have really paid for an environmental objective and what was actually achieved.
- One observes the cost of a new Tennent Dam to alleviate the ACT water shortage was estimated at \$240 million with water available for \$150 per household per year at an operating cost of 10 cents per kilolitre.
- It therefore appears that the environmental objective of water flows for fish could have been achieved at far less cost. Both fish and people could have been catered for.
- One might also note that the result of environmental flows from the dams has been to create an artificial river flow which would not have occurred naturally – the natural river flow would have been much higher and much less over the period.

Conclusion

- Unless the benefits and costs of “environmental” or conservation uses of natural resources are properly valued, set out and paid for by explicit budgetary appropriation, there is a real risk of massive unwarranted costs being imposed on the community.
 - “Environmental” use or apparent non-use is seen as inherently virtuous and not costed by bureaucrats or Government. But the community has to bear the private costs of being deprived of the use of the resource.
- It costs an Environment Department nothing to mandate a “conservation” use of a resource such as water or impose limits on use but the costs of resource non-availability are felt throughout the community.
 - No Environment Department has ever had to pay for dead trees in household gardens or pay for surgery to fix pensioners’ backs injured by carrying buckets of water into the garden.
- Unless environmental uses of resources are properly valued and paid for, it is likely that the community will suffer from unjustified resource deprivation.
- Instead of an extreme of “anything goes” over-exploitation of resources, we may well see the opposite extreme of “nothing goes”.
 - Unless all potential uses of a resource can be valued, there is no way to make rational decisions.
- Is the community really willing to pay the costs of locking up or preventing the use of resources when there is no good reason to do so?