FIVE WAYS TO BOTCH AN INTEGRATED RESOURCE PLANNING ANALYSIS

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Many integrated resource planning (IRP) analyses, while managing to dissipate considerable public resources, have provided misinformation to decision makers in the process. In the interest of improved resource efficiencies, this paper proposes five easy ways to botch the results of an IRP analysis. By following one or more of these cost-effective and easy-to-implement suggestions, analysts will be able botch their results at lower cost. (The authors prefer a reformulation of this problem, where analysts produce accurate and informative IRP analyses for the same cost.)

Pretend Uncertainty Away

Analyses can be made simpler and cheaper by suppressing or compressing uncertainty. Analysts should remember that uncertainty is bad. Uncertainty causes anxiety. Anxiety causes ulcers. By contrast, sticking your head in the sand is snug, comforting, and only a wee bit ungainly. Further, the long planning horizon associated with water resource decisions also reduces the likelihood that any analyst would be held to account.

Ignore Demand Management (Price And Nonprice Induced Conservation)

Many analyses performed in support of IRP processes have, in effect assumed that demand is immutable. This certainly simplifies the water resources planning problem -- future demand is known, build supply to match. Increasing system costs can have a feedback effect on future demand that, though real, is messy.

Water conservation programs have documented effects on both the level and shape of demand. Recognition of programmatic conservation as an equivalent supply option can generate a larger number of resource portfolios.

Calculate Drought Likelihood Based On A Blink Of History

Reliability calculations using a series of recorded hydrological conditions will not directly yield an accurate picture of the likelihood of long droughts.

Prior to California's recent five year drought, direct calculations of likelihood based on the previous century yielded an estimated probability of zero for the occurrence of a five year drought. Of course, treating the last seventy years of recorded precipitation as God's definition of a drought probability distribution has the additional advantage of being easy to explain than the alternatives (such as paleoclimatological methods, Extreme-value statistics, or Monte Carlo simulations of autocorrelated time series.)

Use Inoculation-Style Analysis

Once an inoculation-style analysis has been performed, the user is immune and the analysis need not be performed again. IRP analysis should be thought of as part of an ongoing learning process. An initial depiction of system linkages and uncertainties inevitably teaches lessons about which unknowns drive total system uncertainty and are in need of further analytic attention. Analysts can quickly and cheaply botch an IRP analysis by rejecting the possibility of adaptive learning. Since ignorance is a prerequisite for learning, analysts recognizing the possibility of learning would necessarily admit to some level of ignorance.

Ignore Public Input Confusing Values With Facts

Analytic methods can play two roles in an IRP analysis. On the one hand, analysis can be used to document the

different types of outcomes that matter to public decisions about water resources (water system reliability, future financing commitments, effects of ecosystems, etc.). On the other hand, analysis can be used to convert valid public controversies into technical quandaries that only experts can understand. By moving simple value conflicts into the realm of experts, analysts can produce analyses that void the value of public input in an IRP process.

Analysts desiring to quickly botch their analysis should pretend that the outcome of their analysis will be the one true answer on which no dissent can be tolerated. All the silliness about fully informing stakeholders about the consequences of resource alternatives should be rejected forthwith.

CONCLUSION

The truly efficient planner may wish to follow all of the above suggestions in developing an IRP analysis that is both cheap and technically imposing. He or she will be praised for keeping down costs and for producing a document so dense as to be above criticism. Pity the poor planner who squanders precious resources by getting the analysis right and clearly communicating results in ways that can be understood and critiqued by all stakeholders.

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