

SPUNKIAD for

Doyle, M. W. 2012. America's Rivers and the American Experiment. *Journal of the American Water Resources Association* 48:820-837.

Surprising?

I found surprising the correlates that Doyle (2012) drew between scientific thinking/method and politics and how the founding fathers used this framework to craft the US political system.

Puzzling?

I found puzzling the assumption that managing for human interests is the same as managing for ecosystem integrity. Not sure if the latter is as malleable as the former.

Useful?

I found useful the historical background and how perception on the uses of rivers has changed through time: from food (mills) to navigation to irrigation to electricity and to sewage.

New?

I found new Doyle's (2012) main thesis – the malleable, experimental system that might be actually good for both the political system and river management with redundancy and competition between agencies, and the different levels of governance (federal system).

Knew it already?

I already knew and am not surprised by the unsolved problems of flooding and non-point source pollution, despite their well-documented and relatively easy fixes.

Interesting?

I found interesting that the pressure of being efficient, less redundant, and have set-in-stone rules is not the best framework for river management or politics; yet it is probably the foundation that is taught in business school.

Do you agree or disagree with the findings?

I agree with the findings – at least at an ideological level – but am wary of the actual reality of it functioning. Doyle (2012) did not really address the underpinning of why the system had not worked for issues such as flooding and non-point source pollution. These are not small issues either.

Reflection

When I read the abstract of this paper, I perceived a negative tone. I thought Doyle (2012) was going to show the detrimental impacts of agencies overlapping governance, and the way experiments are very costly and do not guarantee a fix to the problem. This is the notion I've had of several stream management issues in the US, and had never thought of the positive impacts this type of management can have and has had. Below I reflect on temporal and spatial scale issues, the mistake of perceiving human society and nature as malleable, and the place for uncertainty within the framework.

Doyle (2012) goes back in time almost two centuries to show how since the inception of the US political system, the idea of a scientific experiment has been ingrained. This is a long time, and probably the appropriate time frame. Although I am curious to know if the US continues to manage from an experimental point of view, or if it has changed in recent decades to being efficient, less redundant and more rigid in the management. We might be seeing that being manifested with the lack of checks and balances in the financial system and in decreasing the dependence of fossil fuels. With that in mind, I wonder what the appropriate temporal and spatial scale to assess these changes in ideology is to be able to act in time before it is too late.

While I agree with Doyle (2012) reasoning of the advantages of having a malleable system, that can adapt and change to new circumstances, and the redundancy and competition between the difference levels of governance, however, there are fundamental differences between managing human society (regulations, policies, perception) and managing natural ecosystems (tipping points, threshold, resilience). I find it inherently wrong to believe that having a malleable system can save us from destroying our ecosystems. Ecosystem behavior and services are harder to predict and change once damage has been done.

Furthermore, Doyle (2012) does not address uncertainty. There is a lot of uncertainty in doing experiments, and many costs associated with them as well. For example, the introduction of a species of sturgeon that was supposedly extirpated from the Ohio River basin is now being re-introduced. This clearly is an experiment, but there are many uncertainties as to how this species is going to behave in the new environment and the impact that it is going to have on other species. If in case this sturgeon makes other species go extinct, it will be impossible to bring these back. The experiments that Doyle (2012) talks about can have serious consequences and many are irreversible and costly.