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Fragmented Regulation of Multiple Stressors: A Cautionary Tale for Takings Law

Brian E. Gray*

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I. Introduction

My comments at the Annual Conference on Litigating Takings Challenges were prompted by the United States Supreme Court's decision in Sackett v. EPA,¹ in which the Court unanimously ruled that landowners who are subject to a compliance order issued to enforce section 404 of the Clean Water Act have, a right to judicial review under the Administrative Procedure Act. They also stem from an interdisciplinary study of multiple stressors on the Sacramento-San Joaquin River and Delta Ecosystem on which I am currently working with my colleagues from UC Davis, Stanford, and the Public Policy Institute of California.²

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1. 132 S. Ct. 1367 (2012).

2. Ellen Hanak, Jay Lund, John Durand, William Fleenor, Brian Gray, Josué Medellín-Azuara, Jeffrey Mount, Peter Moyle, Caitrin Phillips & Barton Thompson, Stress Relief: Prescriptions for a Healthier Delta Ecosystem (2013) (forthcoming) [hereinafter HANAK ET AL., STRESS RELIEF]; Brian Gray, Barton Thompson, Ellen Hanak, Jay Lund and Jeffrey Mount, Integrated Management of Delta Stressors: Institutional and Legal Options (2013) (forthcoming) [hereinafter Gray et al. Integrated Management]. Previous reports in this series include: PETER MOYLE, WILLIAM BENNETT, JOHN DURAND, WILLIAM FLEENOR, BRIAN GRAY, ELLEN HANAK, JAY LUND AND JEFFREY MOUNT, PUB. POL'Y INST. OF CAL., WHERE THE WILD THINGS AREN'T: MAKING THE DELTA A BETTER

Although neither directly presents takings issues, both of these examples highlight a deficiency in the regulatory process that may result in ineffective and unfair administration of the environmental laws *and* create a significant risk that important environmental protections will be perceived as unlawful takings of the regulated property.

II. Sackett v. EPA

Writing in the New York Times Green Blog,³ Felicity Barringer found Google Earth to be an illuminating way to view both the Sacketts' property at Priest Lake, Idaho, and the regulatory interests bound up in that property:

Zoom out, and it is clear that there is a large area of wetlands to the north, across Kalispell Bay Road. The wetlands' contours suggest that the Sackett property was, indeed, part of it at some point.

But if you zoom in, you see that other land that also could well have been part of these large wetlands—land that separates the Sackett property from the shores of Priest Lake—has sprouted houses, docks, streets and other amenities of a vacation community.

If Mr. Sackett, who owns an excavation company, filled wetlands on his property with rock and dirt, he may not have been doing anything much different from what his neighbors had done in the past. But this time, the E.P.A. stepped in and in 2007 told him that he was out of compliance with the Clean Water Act

[I]f the Sacketts violated Clean Water Act requirements by taking it upon themselves to build in the area, how did the homes around their property come to be built?

Perhaps those owners applied for permits from the Army Corps of Engineers, which shares jurisdiction with the E.P.A. in such matters. Or perhaps no one knew about it at the time.⁴

PLACE FOR NATIVE SPECIES (2012), and JEFFREY MOUNT, WILLIAM BENNETT, JOHN DURAND, WILLIAM FLEENOR, ELLEN HANAK, JAY LUND AND PETER MOYLE, PUB. POL'Y INST. OF CAL., AQUATIC ECOSYSTEM STRESSORS IN THE SACRAMENTO-SAN JOAQUIN DELTA (2012).

3. Felicity Barringer, Wetlands? What Wetlands?, N.Y. TIMES GREEN BLOG (Apr. 20, 2011, 1:26 PM), http://green.blogs.nytimes.com/2011/04/20/wetlands-what-wetlands.

4. Id.

Ms. Barringer concludes that, whatever the state of the law, there is "a separate fairness question presented by the Sacketts' situation. If some people have filled and built on an isolated corner of larger wetlands, should others be constrained from doing likewise?"⁵

III. The Delta Ecosystem

Although I do not know enough about the details of the case to provide any good answers to Ms. Barringer's question, it does add an intriguing wrinkle to the analysis of multiple stressors in the Delta ecosystem: What are the legal risks of regulation of one source of stress, such as water exports, in isolation from (and often to the exclusion of) regulation of other sources?

To grapple with this question in the context of the Delta, one must understand that, since the Gold Rush, this system has been an essential driver of California's economic success and has been plagued by myriad and intractable environmental problems. For the past 160 years:

- We have diverted the waters of its tributary rivers for mining, irrigation, and municipal and industrial water supply.
- We have stripped its timber resources, excavated, developed, and paved over its watershed lands, and channelized its riparian areas.
- We have used the waters as receptacles for domestic waste, industrial discharges, and agricultural return flows.
- We have built thousands of miles of levees to protect bottomlands and Delta islands from floodwaters.
- And we have constructed dozens of large dams that provide more than fifty percent of California's surface water supplies—but these dams and water project operations have so profoundly altered the volume and flow of water throughout the system that all native salmonid species that pass through the Delta and spawn in its tributary rivers are now listed as endangered or threatened, as are several other species of fish that

inhabit the Delta itself.6

This hydroengineering of the Delta ecosystem has created the world's eighth largest economy (depending on how Italy is doing in any given year), but has done so in a way that now threatens both the ecosystem and the very economic interests that it was built to serve. As the California Legislature recognized in 2009, the "Sacramento-San Joaquin Delta watershed and California's water infrastructure are in crisis and existing Delta policies are not sustainable."⁷

This crisis has developed despite regulations setting water quality standards, total maximum daily loads (TMDLs), reasonable and prudent alternatives to govern water project operations, minimum stream flow standards under state water rights laws and Federal Energy Regulatory Commission (FERC) licenses, discharge limitations, basin plans, best management practices, and many other legal requirements.⁸ One of the most significant causes of this crisis is a fragmented system of planning and regulation that allows—indeed, often requires—agencies with jurisdiction over one (or a few) stressors to ignore other stressors on the system, which in turn results in isolated planning and regulatory decisions that fail to account for the interactions among the different types of stressors.⁹

The purpose of our study is to devise a means of enabling planners, regulators, resource users, environmental advocates, and other policymakers to understand these interactions, synergies, and cumulative effects and then to translate that scientific understanding into policies that will facilitate more comprehensive and effective administration of the system. We hope to learn from a variety of previous and on-going efforts to plan and to regulate in a more comprehensive and integrated manner. These efforts include the late, lamented CALFED Bay-Delta Program; various FERC licensing processes; basin planning conducted by the California State Water Resources Control Board, the Central Valley and San Francisco Bay Regional Water Quality Control Boards, and the U.S. Army Corps of Engineers; the

^{6.} For a more detailed history, *see* Ellen Hanak, Jay Lund, Ariel Dinar, Brian Gray, Richard Howitt, Jeffrey Mount, Peter Moyle & Barton Thompson, Pub. Pol'y Inst. of Cal., Managing California's Water: From Conflict to Reconciliation 19-86 (2011) [hereinafter HANAK ET AL., MANAGING CALIFORNIA'S WATER].

^{7.} Sacramento-San Joaquin Delta Reform Act of 2009, Cal. Water Code' § 85001(a).

^{8.} For more detailed analysis, see Gray et al. Integrated Management, supra note 2.

^{9.} HANAK ET AL., STRESS RELIEF, supra note 2.

Delta Stewardship Council's Draft Delta Plan; and the Bay-Delta Conservation Plan negotiations. $^{\rm 10}$

We have identified five groups of stressors—each of which embraces. an array of individual and sometimes varied sources:

- 1. Flow Regime Change: Alterations to the flow of water throughout the system due to water management facilities and operations, including volume, timing, hydraulics, sediment load, and temperatures. This category includes upstream dams and diversions throughout the greater Delta watershed, in-Delta diversions, and exports.
- 2. **Discharges:** Land and water use activities that directly alter water quality in the greater Delta watershed by discharging various contaminants that pollute the water, degrade habitat, disrupt food webs, or cause direct harm to populations of native species. This category includes point and nonpoint sources of conventional pollutants, nutrients, toxics, endocrine disruptors, and other substances that cause or contribute to water pollution.
- 3. **Physical habitat alteration:** Land use activities that alter or eliminate physical habitat necessary to support native species, including upland, floodplain, riparian, open water/channel, and tidal marsh. This category includes levees, channelization, draining of wetlands, and the narrowing or reduction of riparian zones, shallows, and tidal and fluvial marshes.
- Fisheries Management: Policies and activities that adversely affect populations of native species through commercial and sport harvest, hatcheries, and other management actions such as fish screens.
- Invasive Species: Alien species that invade habitats and harm native species by disrupting food webs, altering ecosystem functions, introducing disease, displacing native species, or predation."

10. See Gray et al., supra note 2; Hanak et al., Managing California's Water, supra note 6, at 56-65.

11. HANAK ET AL., STRESS RELIEF, supra note 2.

Climate change will exacerbate all of these stresses on the ecosystem.¹²

Management and regulation of these multiple stressors is, in turn, divided among a multiplicity of federal, state, and local agencies. To take but a few examples:¹³

- The major Delta exporters, the Central Valley Project (CVP) and State Water Project (SWP), are owned by two sovereign governments, managed pursuant to a Coordinated Operating Agreement, and governed both by water rights permits issued by the State Water Resources Control Board (SWRCB) and by biological opinions from two separate federal agencies (the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).
- The major upstream exporters and in-basin water users include other components of the CVP and SWP, as well as a diverse array of cities, municipal water supply agencies, irrigation districts, individual farmers, and some industrial users. The water rights of these users run the gamut of California surface water rights law, including riparians, pre-1914 appropriators, and permittees and licensees subject to the SWRCB's direct regulatory jurisdiction.¹⁴ Although many of these water users significantly alter the quantity and flow of water in the system, only a few are currently limited by federal and state Endangered Species Act regulations, with the CVP and SWP bearing the lion's share of these regulatory restrictions and attendant water shortages.
- In addition, several thousand municipal, industrial, and agricultural sources discharge pollutants into the system. The point sources are governed by Waste Discharge

12. Id.; see California Climate Change Center, Scenarios of Climate Change in California: An Overview (2006), available at http://www.energy.ca.gov/2005publications/ CEC-500-2005-186/CEC-500-2005-186-SF.PDF.

13. These are described in more detail in GRAY ET AL., supra note 2.

14. Compounding this fragmentation, groundwater is generally regulated under a separate legal system, despite demonstrated hydrologic interconnections and the vital importance of conjunctive surface and ground water use to overall state water management. *See* HANAK ET AL., MANAGING CALIFORNIA'S WATER, *supra* note 6, at 323-28.

Requirements of California law and by National Pollutant Discharge Elimination System (NPDES) permits issued by the Central Valley Regional Water Ouality Control Board (RWOCB) or the San Francisco Bay Regional Water Quality Control Board (RWOCB). In contrast, agricultural sources—including thousands of channels, pipes, and other conduits that discharge irrigation return flows into the system—are statutorily exempt from NPDES regulation and, historically have been exempted from specific WDR discharge limits by waivers from the regional board.¹⁵

The Central Valley RWQCB has promulgated a basin plan to protect ambient water quality in the Sacramento and San Joaquin River basins, and the SWRCB has established water quality standards for the Bay-Delta. Although the basin plan includes a variety of TMDL restrictions that effectively link the water quality goals with stricter regulation of point and nonpoint source discharges, it does not similarly link the water quality objectives with regulation of the impoundment and diversion of water from the system. While the Bay-Delta water quality standards do make this essential linkage, to date the State Board has only required two water right holders—the CVP and SWP—to contribute water to meet these standards, despite the California Court of Appeal's admonition in the "Racanelli Decision" more than a quarter century ago that a more "global perspective is essential to fulfill the Board's water quality planning obligations."16

15. The exceptions are the 2001 WDR that the Central Valley RWQCB issued for the aggregate discharge of selenium in agricultural drainage water in the grasslands bypass channel in the San Joaquin Valley and the 2012 WDR governing irrigation runoff and return flows from more than one million acres in the eastern San Joaquin River watershed. For more details, see GRAY ET AL., *supra* note 2.

16. United States v. State Water Res. Control Bd., 182 Cal. App. 3d 82, 119 (1986). In 2010, the SWRCB announced flow criteria for the Delta and its tributary rivers and has stated that it plans to study "potential changes to water rights and other requirements needed to implement changes to the Bay-Delta Plan" and set "flow requirements for priority Delta tributaries." California State Water Resources Control Board, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (2010), *available at* http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.; California State

- In addition, fisheries management is divided among the California Department of Fish and Wildlife (DFW) and the federal fisheries agencies, USFWS and NMFS.
- Finally, hundreds of cities and counties within the Delta ecosystem have principal jurisdiction over land use, but they share this jurisdiction with the U.S. Army Corps of Engineers (USACE) wherever development and construction—including levee maintenance and repair falls within the definition of the "waters of the United States."¹⁷

The consequences of this fragmented management and regulation are manifold and go far beyond the topic of this keynote. But one consequence stands out: The absence of a forum or process to address the multiplicity of stressors means that regulation of one problem is likely to focus on one or a few sources to the exclusion of other contributing causes.

For example, the water supply operations of the CVP and SWP are a significant threat to the survival of the various pelagic and salmonid species listed for protection under the Endangered Species Acts—but they are not the only significant cause. Upstream impoundments and diversions, in-Delta diversions and return flows, discharges from municipal and industrial facilities, salt loading and other nonpoint source pollution, channelization of the Delta and tributary rivers, predation by nonnative fish, competition from hatchery-raised fish, ocean harvest, and disruption of the food chain by invasive plant and fish species all contribute to the problem as well.¹⁸

Yet, most of the regulatory agencies with jurisdiction over activities that affect the Delta ecosystem as a whole only have jurisdiction to deal with its component parts—often in isolation from one another. As Lester Snow, at the time the Director of the California Department of Water Resources, noted in criticizing the 2008 biological opinion for the Delta Smelt:

We know there are many stressors causing havoc in the Delta including toxic pollutants, invasive species, climate impacts, power plant operations, illegal diversions and overall loss of habitat and food. Today's action by the federal government looks

18. HANAK ET AL., STRESS RELIEF, supra note 2.

Water Resources Control Board, Water Quality Control Plan for the Sacramento and San Joaquin Rivers (2012), *available at* http://www.waterboards.ca.gov/rwqcb5/ water_issues/basin_plans.

^{17.} See Clean Water Act of 1972 §§ 404 & 502(7); 33 U.S.C. §§ 1344 & 1362(7) (2012).

only to the water projects [the CVP and SWP] rather than having a complete view of all causes for Delta fish decline.... Until more holistic approaches are taken to address all these environmental stressors, the delta ecosystem will continue to not improve.¹⁹

In other words, Lester Snow was asking—as Felicity Barringer did in reporting on the *Sackett* litigation—"Why us, and us alone? Why is it fair (or effective) for the government to put the regulatory burden on some water users, but not others who also contribute to the problem? Why water right holders (even the two largest), but not dischargers, riparian land users, fisheries managers, and other known sources of stress?"

And in doing so, Snow and Barringer pose an interesting takings question that, I believe, highlights a significant risk for environmental regulatory policy: If the sources of stress on an ecosystem are various and functionally integrated, but the governing laws and regulations only address one source or source category, the regulated parties may plausibly claim that they have been unfairly singled out and that the restrictions on the exercise of their water or property rights are not justified because the government regulators have ignored other critical stressors.

IV. Cautionary Tales

Two recent decisions reviewing the application of the environmental laws to the Central Valley Project address this very question. The first, *Stockton East Water District v. United States*²⁰ was a breach of contract and takings challenge to the Bureau of Reclamation's dedication of 800,000 afa of CVP water supplies to fish and wildlife purposes as required by the Central Valley Project Improvement Act of 1992 (CVPIA).²¹

The plaintiffs were two water agencies that purchase water from the CVP's New Melones Unit on the Stanislaus River for distribution to agricultural, municipal, and industrial users. The plaintiffs alleged that the enactment and implementation of the CVPIA had caused chronic shortages as the majority of the water impounded by the New Melones Reservoir was

20. 583 F.3d 1344 (Fed. Cir. 2009).

21. Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. No. 102-575, 106 Stat. 4706, 4715-16, § 3406(b)(2) (1992).

^{19.} Press Release, Cal. Dep't of Water Res., Delta Water Exports Could Be Reduced By Up to 50 Percent Under New Federal Biological Opinion: DWR Director Snow Responds to Delta Smelt Biological Opinion (Dec. 15, 2008), available at http://www.water.ca.gov/ news/newsreleases/2008/121508smeltbo.doc.

used for downstream fisheries and to meet water quality requirements in the Delta.²²

The Federal Circuit concluded that the United States was in breach of its obligations under the New Melones water service contracts and that the government could not assert the sovereign acts doctrine as a defense. The Court of Appeals focused on the fact that the Bureau had placed an inordinate share of the burden of complying with the CVPIA, the Endangered Species Act, and state and federal water quality standards on the New Melones contractors:

The only users affected negatively by Reclamation's actions were the Districts. The conduct of Reclamation in shorting the Districts, *presumably in order to make the water available for other users*, was directly aimed at the contracts and Reclamation's duties under them, nullifying the rights of the Districts to receive water under the contracts.²³

Whether viewed in terms of having a "substantial effect of releasing the Government from its contractual obligations," or as a 'governmental action ... specifically directed at nullifying contract rights," the court concluded, the Bureau's actions "cannot qualify as public and general."²⁴

The second example is the *Consolidated Delta Smelt Cases*,²⁵ a challenge by CVP and SWP contractors to the USFWS's 2008 biological opinion for the Delta Smelt. U.S. District Court Judge Oliver Wanger invalidated the biological opinion, in part, based on his perception of flaws in the Service's consideration of the multiplicity of stressors in addition to CVP and SWP water supply operations.²⁶

Judge Wanger found that the scientific evidence that formed the basis of the biological opinion demonstrated that CVP and SWP operations were a significant factor in the decline of the Delta Smelt. But he also found that the FWS did not adequately explain why it was necessary to limit CVP and SWP diversions as much as called for in the biological opinion in light of the other stressors that affect the Delta Smelt:

It is undisputed that numerous stressors, including ammonia and other toxics, food limitation, predation, the introduction of non-native species and other factors, all have adverse impacts to

22. 583 F.3d at 1351-53.

23. Id. at 1367 (emphasis added).

24. Id.

- 25. 760 F. Supp. 2d 855 (E.D. Cal. 2010).
- 26. Id.

delta smelt. Yet, the BiOp concludes that Project Operations are 'a *primary factor* influencing delta smelt abiotic and biotic habitat suitability, health, and mortality.' FWS rationalizes this conclusion, at least in part, by attributing the impacts of many of the 'other stressors' to the Projects. This attribution has not been justified, nor is it logical or explained by any science. Given that the impacts of regulating Project Operations are so consequential [to water supply, agricultural production, and employment], such unsupported attributions (a result in search of a rationale) are unconscionable.²⁷

V. Lessons for Takings Law

As we learn more about the multiplicity of stressors that beset ecosystems such as the Sacramento-San Joaquin River and Delta system, I believe that we are likely to encounter more such challenges to regulations that isolate one or a few stressors and place an inordinate burden on them to the exclusion of others that—both as a matter of sound science and regulatory fairness—should be included in the solution.

Now, one could argue that I am making too much of these cases. They involve one project—combined CVP and SWP water supply operations—inone state. And they aren't even takings cases. The Federal Circuit decided *Stockton East* on breach of contract principles, and Judge Wanger reviewed the Delta Smelt biological opinion under the Administrative Procedure Act, not the Fifth Amendment. But I offer these cases as cautionary tales, rather than as strict applications of—or embellishments to—takings law.

Moreover, concerns about unequal treatment—placing unjustified burdens on a single landowner to achieve putative environmental and public safety objectives that did not constrain his similarly situated neighbors—

27. Id. at 936. This decision is problematic, not because Judge Wanger focused on the need to regulate multiple stressors in a cohesive and integrated manner, but because USFWS *did* consider the relationship between CVP and SWP operations and other stressors on Delta smelt populations. Indeed, the biological opinion itself explained that:

[W]hile many of the other stressors that have been identified as adversely affecting delta smelt were not caused by CVP and SWP operations, the likelihood and extent to which they adversely affect delta smelt is highly influenced by how the CVP/SWP are operated in the context of annual and seasonal hydrologic conditions. While research indicates that there is no single primary driver of delta smelt population dynamics, hydrodynamic conditions driven or influenced by CVP/SWP operations in turn influence the dynamics of delta smelt interaction with these other stressors. Id. at 929-30. was a subtext of the Supreme Court's Lucas decision.²⁸ And, as Felicity Barringer reminds us, this concern continues to animate the public debate about wetlands protection, endangered species management, and other environmental regulatory programs.²⁹

Nor are the potential lessons of the *Stockton* East and *Delta Smelt* cases limited to water project operations. Anywhere one may find a river or lake or wetland or endangered species habitat at risk from multiple sources of harm—water diversions, discharges, construction of levees, farming, homebuilding, timber harvest, cattle grazing, etc.—the risk of regulating one or a few stressors to the exclusion of the others may become manifest.

For those interested in effective and prudent environmental management of multiple stressors, the *Sackett* and Delta ecosystem cases offer at least two important lessons:

- Resource managers and regulators whose jurisdiction extends to ecosystems that are affected by a multiplicity of stressors especially where the multiple stressors are of different types and influence—must create a decisionmaking forum or process that will facilitate comprehensive analysis and integrated regulation that accounts for the interactions, synergies, and cumulative effects of those various sources of stress.
- 2. As applied to individual stressors, the regulatory decisions that come out of these forums or processes must explain why the restrictions imposed on one activity that is a source of the stress is appropriate and fair in light of the contributions from other sources and the interactions among the regulated entity and the other various stressors.

The reviewing courts should give considerable deference to these regulatory judgments, just as they defer to the scientific, factual, and policy decisions that regulatory agencies make in other settings. In other words, the courts should not require the regulators to prove a precise fit between the restrictions they place on any one stressor and the stressor's contributions to the overall problems that plague the ecosystem—a task that would be scientifically impossible in any complex system (as even this brief discussion of the Delta suggests).

Rather, a reviewing court should ensure that the agencies have taken a comprehensive look at the ecosystem; have done their best to understand the interactions, synergies, and cumulative effects of its various stressors; have coordinated their actions; and have apportioned responsibility for

29. Barringer, supra note 3.

^{28.} Lucas v. South Carolina Coastal Council, 505 U.S. 1003 (1992).

contributing to the solution to the overall problem in a reasonably fair manner among the various relevant stressors.

These guiding principles of regulation should not just apply to direct judicial review of regulatory decisions under the Administrative Procedure Act³⁰ and comparable statutes. Integrated understanding and treatment of multiple stressors is good science and is the basis of sound environmental decisionmaking. It also is fair and prudent takings policy.

30. 5 U.S.C. § 702 (2012).

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Highway I Haze

By Jamie Kelly

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