



ESTUARY News Magazine asked well-known writer John Hart to investigate and comment on how well the region has succeeded in managing the Bay and Delta as one Estuary since the 1970s, and where the new CCMP, to be released in fall 2016, fits in.

Two Hearts Beating Not Quite as One

We're waiting now for the short plan with the long name: *The Comprehensive Conservation and Management Plan* for the San Francisco Estuary. That word "comprehensive" stakes quite a claim.

If the CCMP, the work of the San Francisco Estuary Partnership, is the closest thing we have to a master vision for the future of these waters in the era of climate change, it is also just one in swarm of plans and planning efforts purporting to shape that future. How do they all get along?

How does the CCMP fit with the *Bay Plan* and the *Bay-Delta Water Quality Control Plan* and the *Delta Plan*, not to mention the *Delta Land Use and Resource Management Plan*? Is it on the same page with *Plan Bay Area* and the *San Francisco Bay Basin Plan*? How do the *Bay Area Integrated Regional Water Management Plan* and the *California Water Action Plan* fit in? What about California WaterFix and California EcoRestore? For the non-initiate, the contours of the cause can disappear in a cloud of organizations and acronyms and abstractly titled calls to action.

In the following I'll attempt a sort of genealogy of players and plans, and try to answer my own questions: Are these people talking to one another? Do their ideas add up to one way forward, or tug in opposing directions? Is there authority and money to match all the good intentions? Do the pieces fit?

It didn't take me long to confirm one basic split. The effort to grapple with the future of the San Francisco Estuary has always really been two efforts: one centered on the lower Estuary and, by necessity, reaching upstream; one centered on the upper and, by necessity, reaching down. The two tracks influence each other, intertwine, come to share a vocabulary, but never really merge. They diverge, too, in that the "upstream" issues involve powerful interests the whole length of California, as the "downstream" issues do not.

Downstream: Road to the First CCMP

"When we try to pick out anything by itself," John Muir famously said, "we find it hitched to everything else in the universe." The issue that led to a "comprehensive" planning effort for the lower Estuary was not, as you might imagine, bay fill, dealt with very effectively by the San Francisco Bay Conservation and Development Commission from 1969 on. It was water pollution.

In 1972, the Clean Water Act made the preexisting San Francisco Bay Regional Water Quality Control Board a franchise of the national pollution control effort—and poured in \$1.2 billion in federal funds over the next fifteen years to upgrade sewage treatment plants and police industrial discharges.

Together with the advent of the San Francisco Bay Conservation and Development Commission, this investment changed the Bay. The sewage and industrial outflows that had been killing fish and fouling shorelines dwindled. As the cleanup of gross pollution visibly progressed,

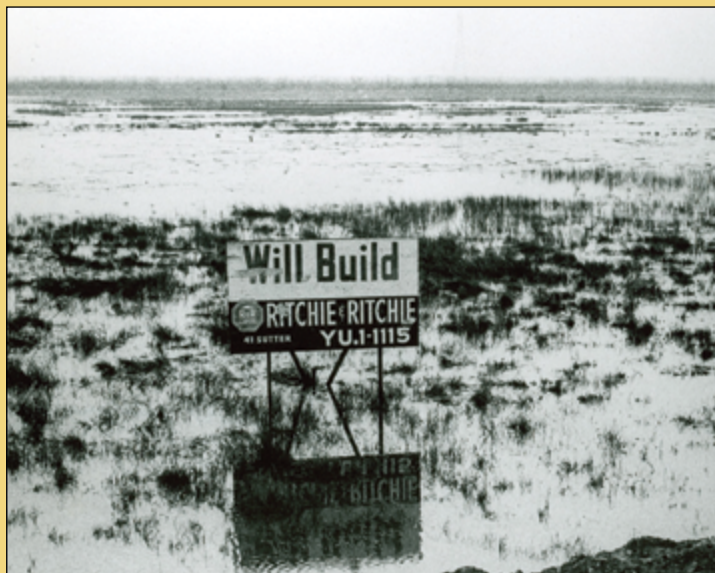
the conversation turned to subtler toxics like heavy metals, and to "non-point source" pollution dribbling out of whole watersheds, including oil and other fluids shed onto roads, pesticides and nutrients applied in gardens and on farms, and the ubiquitous plastic bag.

During this same period, scientists at the U. S. Geological Survey were doing their first real studies of the Bay-Delta system. They were coming to grasp the unity of these waters and sharing what was then startling news: that the health of the Bay depended on flows out of the Delta. "It's amazing how little we knew about the Bay in the late '60s," says biologist James Cloern, still a leader on the scientific scene. He and his colleagues proposed an unfamiliar name for the waters from the Golden Gate to Stockton: the San Francisco Estuary. The word spread.

In 1981, a new group, The Bay Institute, joined the ranks of advocates alongside the older Save San Francisco Bay Association. While Save the Bay stayed on guard against Bay encroachments, TBI looked eastwards toward the Delta and whole Central Valley watershed. "Save a River for the Bay," it proclaimed.

Two strands — the estuary concept and the need to control a wider range of pollutants — came together in the 1987 amendments to the Clean Water Act. Besides adding a section on non-point source pollution, Congress created a National Estuary Program singling out certain areas for special attention. San Francisco Bay, in its extended sense, was one of these.

The 1987 law is the



Real estate in the Bay, circa 1960s. Photo: BCDC

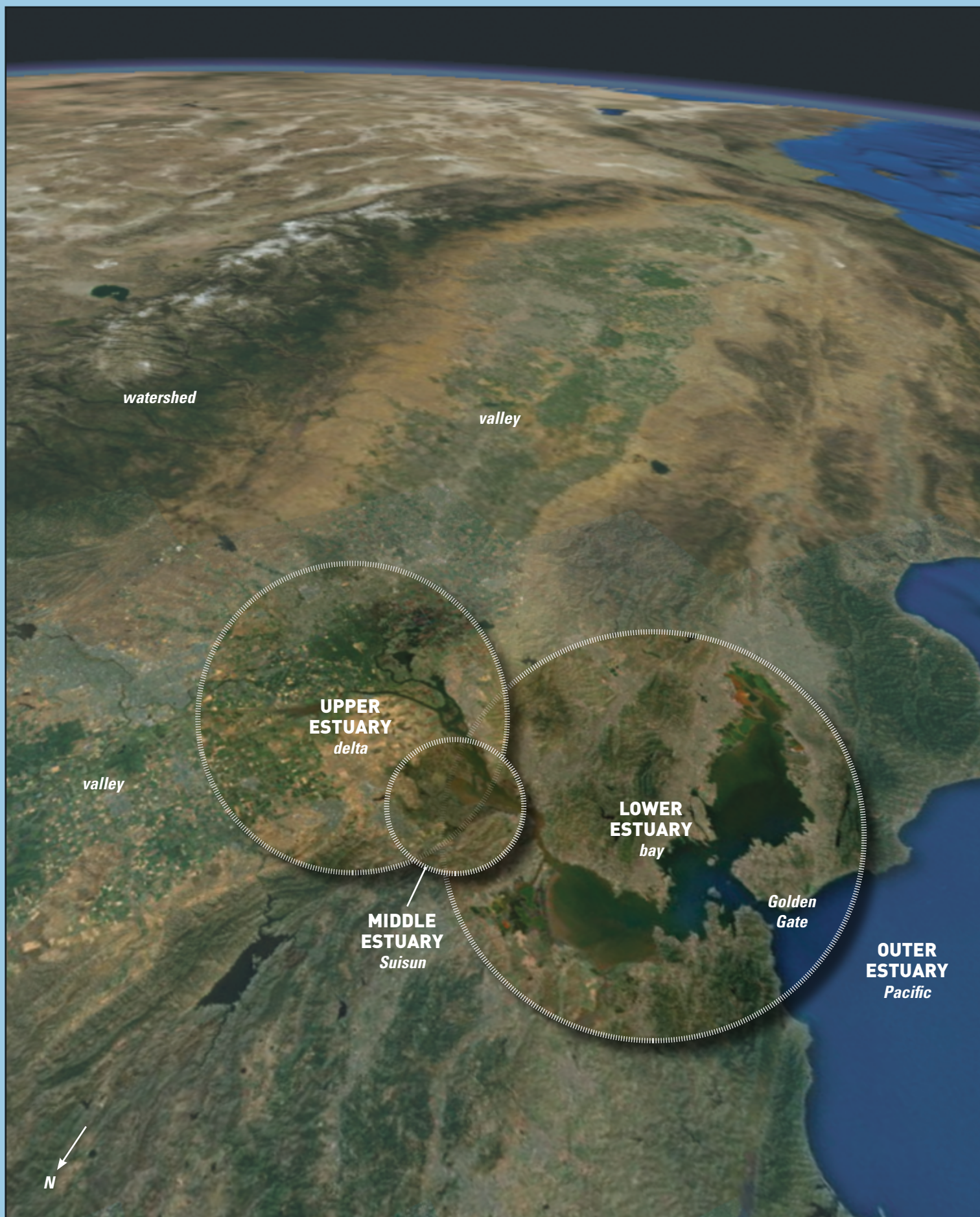


Photo: Amber Manfree

source of that mouthful, “*Comprehensive Conservation and Management Plan*.” Each region’s CCMP was to “restore and maintain the chemical, physical, and biological integrity of [its] estuary, including restoration and maintenance of water quality, a balanced indigenous population of shellfish, fish and wildlife, and recreational activities.” In short, it could cover just about everything — by no means limited, for the Bay, to waters west of the Carquinez Strait.

The preparation of this plan was the charge of a “management conference,” which promptly named itself the San Francisco Estuary Project (later Partnership). Federal funding was routed through EPA and the Association of Bay Area Governments. Offices were first at EPA, then at ABAG, and finally at the Regional Water Quality Control Board.

Upstream

In the Delta, meanwhile, biologists were belatedly examining the effects of a huge decision made a decade earlier: the launch of the State Water Project. In the late 1960s, the SWP joined the federal Central Valley Project in shipping water southwards from the Delta. Might the combined withdrawals of fresh water harm fish? Might they suck salt water in from the west? In 1970, four water and wildlife agencies formed an Interagency Ecological Program to weigh these effects. Its field of vision was at first limited to two resources: striped bass, a favorite game fish; and the brackish duck marshes north of Suisun Bay, perhaps to be threatened by saltwater intrusion. In an ever-shifting landscape of agencies and studies, the IEP has been a hardy perennial, though of course its focus has broadened.

The State Water Resources Control Board, which unites pollution control responsibilities with oversight of the state’s crazy-quilt water rights system, was also trying to catch up to events. In 1978, the board issued the first of a series of momentous and hard-fought decisions governing the operation of the two water projects. Decision 1485 required that the operators maintain certain salinity levels at various points along the Bay-Delta gradient, releasing water from upstream reservoirs, or curtailing exports from the project pumps near

Byron, to do so. Everyone, more or less, sued, and it took a few years even to establish the principle that the federal Central Valley Project was in fact subject to state rules.

The First Estuary Mind Meld

How did these efforts interface with the emerging Estuary Project? Not very much or very well. The state was slow to adopt the new language of estuarine connectedness, and its agencies participated in the Estuary Project only on condition that their authority over the rivers not be called into question—as, under the Clean Water Act, it might have been.

The first *Comprehensive Conservation and Management Plan* nevertheless proceeded. When the CCMP appeared in 1993, it held an aspirational list of 144 action items, mostly clustered around the lower bays but also reaching far up the inland rivers. A lasting contribution was to introduce to the world the indicator called X2: the point,

measured in kilometers inland from the Golden Gate, at which salinity at depth has dropped to two parts per thousand. For various reasons, it was already clear, the estuary is healthier when X2 lies well west, that is, when fresh water flows through and out of the Delta are strong. Though the plan only called for further study, the mere mention of the topic drew indignant dissents from water agencies and a demurrer from Governor Pete Wilson. The Governor nonetheless signed off on the CCMP, and within a few years X2 was recognized as the best single measure of adequate seaward flows.

Next Steps on Pollution

If the Estuary Project had little support in Sacramento, it was downright chummy with the San Francisco Bay Regional Water Quality Control Board (which has hosted its offices since 1993). Having almost won the war against gross pollution and twice revised its *Water Quality Control Plan, San Francisco Bay Basin*, the board was ready to make its move on heavy metals and synthetic chemicals: the invisible toxins that, piling up in the food chain, keep us from eating too much bay-caught fish. But action was frustrated, as the CCMP noted, by skimpy information about the sources and travels of these pollutants.



Fish kills were fairly common around the Bay before pollution controls gathered steam. Photo: BCDC

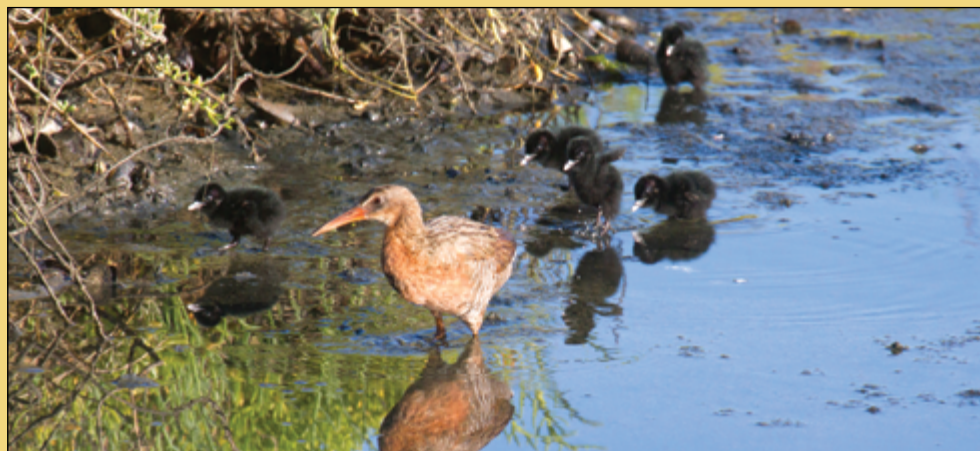
In 1992, the board set out to fill the gap with a Regional Monitoring Program, collecting more data, on more substances, at more points, than had hitherto been possible. Dischargers would pay the bills; the sampling would be done by a new entity, the San Francisco Estuary Institute. In the decades since, the RMP has provided the basis for regulations on well-known toxic substances, like mercury, selenium, and PCBs, and on new or newly understood ones, like the chemicals in flame retardants and stain repellents. SFEI, meanwhile, has outgrown its initial task to become one of the major sources of information about the state and evolution of the Estuary.

The Suisun Bay Overlap

Suisun Bay and the extensive brackish-water marshes north of it have been a border region, sometimes aligned with the lower Estuary, sometimes with the upper. The area is in the jurisdiction both of BCDC and of the Delta Stewardship Council; it is covered by both Baylands Ecosystem Habitat Goals and EcoRestore; it is split on complicated lines between the Bay Area Joint Venture and its inland counterpart the Central Valley Joint Venture. "We share Suisun, that's a good thing," says Josh Collins of SFEI.

Keeping salt water out of these marshes, mostly diked and managed for ducks by hunting clubs, was an early focus of the Interagency Ecological Program. Urban encroachment was the other recognized threat. In 1977, the Suisun Marsh Preservation Act added the area to jurisdiction of BCDC. The commission would guard the area's existing land uses; the landowner-based Suisun Resource Conservation District, assisted by DWR and the U. S. Bureau of Reclamation, would see to water management. This arrangement codified the duck-centered status quo, despite murmurs from biologists who wanted to see more areas restored to tidal action — and in the face of the mounting physical pressures of soil subsidence (due to oxidation during the months when managed marshes are dry) and heretofore gradual sea level rise.

Since then a slow rethinking has occurred, given a sharp nudge by the federal agency Biological Opinions of 2008-2009. In 2014, the stakeholders, led by the federal agencies, adopted a *Suisun Marsh Habitat, Restoration and Management Plan* raising the targets for tidal restoration to some 6,000-7,000 acres in Suisun alone. Threats to the peace and quiet of the marsh remain (see Buckler, p.18).



Endangered Ridgway's rail, with chicks, in tidal marsh habitat. Photo: Rick Lewis

Marshland Mission

The CCMP's most striking and implementable proposal was the wholesale restoration of the Bay's historic ring of marshes. Many of these had not been actually filled but only diked off, for salt ponds, agriculture, or hunting clubs, and were recoverable. For the next fifteen years, much of the Project's energy would flow down this channel.

In aid of the great project, the San Francisco Estuary Institute set out to build a detailed picture of what the bay's margins had once been like. This "historical ecology" work was reflected in the blueprint titled *Baylands Ecosystem Habitat Goals* (1999). This called for some 100 square miles of former marshes, about one third of the total that once existed west of the Delta, to be reconnected to the tides. Another 45 to 60 square miles were to be restored as non-tidal wetlands.

The claim was staked. At the center of the effort to carry it out is another made-to-order umbrella body, the San Francisco Bay Joint Venture. Organized in 1995 under the authority of the U. S. Fish and Wildlife Service, this partnership links nearly all the public agencies and private organizations with an interest in restoration projects around the Bay. Since it published its Implementation Plan in 2001, the SFBJV has received steady, if modest, federal funding. Unlike other joint ventures, which focus solely on migratory waterfowl or at most on birds in general, this one explicitly covers all animal life.

As marsh restoration projects stepped up from tens of acres to hundreds to thousands, a problem became apparent. Many of the

diked-off lands had lost several feet of soil due to the decomposition of bay-bottom mucks exposed to the air. Reintroducing water to overly subsidized fields would yield deep ponds, not shallow, shifting waters where cord-grass and pickleweed could thrive.

Here another late-century problem-solving effort intersected neatly with marsh restoration. The Army Corps of Engineers, responsible for maintaining shipping channels, had been accustomed to dumping most of the dredged sediment inside the Bay, at sites where tidal currents were supposed to take it out to sea. They didn't. In 1982 it was discovered that a great underwater mound had accumulated at the favorite dumpsite near Alcatraz. The Corps joined with BCDC and the state and regional water boards to look for a better way. In 1999, they agreed that, after a transition period, no more than 20% of the sediment would be dumped inside the Bay; at least 40% would be used in marsh restoration and other habitat projects; and the remainder would be barged out to sea. Looking back in 2013 at this Long-Term Management Strategy, the agencies could report that in-bay discharge had declined on schedule, and that 44% of sediments had gone to "beneficial use."

The Sea Level Challenge

A remarkable record. But, as so often happens with environmental matters, the problems were evolving as fast as the solutions, if not faster.

In 2005, BCDC Executive Director Will Travis read a *New Yorker* article about the prospect of dramatic sea level rise. The topic was not new to

the agency — the *Bay Plan* had mentioned it since 1989 — but he asked his staff for a fresh examination. It soon became apparent that even a moderate rise would be very bad magic for the shoreline zone and its people and wildlife alike. The Commission published maps showing areas at risk, and was accused of scheming to expand its jurisdiction. Plan amendments in 2011 dropped the maps but kept the relevant language. At about the same time, the agency launched its program "Adapting to Rising Tides," a kind of floating planning conference, introducing local governments and other "stakeholders" to possible responses.

Among these responses was the buffering of naked urban shorelines and levees with entirely new marshes. Unlike prior wetland projects, these would require building a substrate for wetland plants by placing fill in open water. The thought of deliberately dumping material in the Bay, after decades of struggle to keep it out, has required an adjustment on the regulators' part. What once might have been decried as "bay fill" is now welcomed as "shallowing." And in-bay disposal of muck is looking like a not-so-bad idea, if just the right locations can be found.

The restorers of historic marshes also find themselves in a race against sea level rise. Marshes established in the next few years will, with luck, have time to adapt, thickening themselves in response to rising tides and also shifting inland where undeveloped land adjoins. But wetlands begun after about 2030, scientists fear, may not be able to keep pace with sea level, and will be overwhelmed.



The Water Board's Tom Mumley chairs a meeting with SFEI staff Marcia Brockbank and Joan Patton, as well as EPA's Luisa Valiela and others on the 2007 revision of the CCMP.

A compounding problem is the overall lack of sediment from the much-dammed feeder rivers. Bay waters are growing clearer, which is now understood to be a bad thing. The shortage means that every gooey bucketful dredged from a shipping lane or flood-prone creek is precious. Yet finding good homes for displaced sediments is not so easy. The first round of big restorations is about over; only the Montezuma Wetland Restoration project in Solano County is still taking mud. And ocean dumping, the Army Corps complains, is almost mandated by federal rules requiring disposal in "the least cost and environmentally acceptable manner." "That standard," says Amy Hutzel of the Coastal Conservancy, "is the nut we have to crack." Hope is waning that Congress will change it in this session.

The New CCMP

The CCMP underwent a tuneup in 2007, but, with the clear onset of climate change, a major revamp was in order. In the last several years, several building blocks have been put in place. The *Subtidal Habitat Goals Report* of 2010 looked at the scientifically neglected world of underwater habitats, especially eelgrass beds and native oyster reefs. In 2015, along with a Habitat Goals revision entitled *The Baylands and Climate Change: What We Can Do*, the Partnership produced the latest of three *State of the Estuary Reports*, reflecting decades of work on how to take the system's ecological temperature. Now comes the *Comprehensive Conservation and Management Plan 2016*.

The CCMP is not well represented by its legally mandated title. It is not

actually a plan, if that word implies any element of coercion. It is rather an ambitious work program, a to-do list for 28 partners labeled as task "owners" and dozens of other "collaborators." As for comprehensiveness, this version actually narrows the focus geographically, as compared to the 1992 plan, and it focuses on a shortened list of perhaps more achievable ambitions. Compared to prior versions, "there are fewer ornaments on the tree," says Sam Ziegler of EPA Region 9.

On some pages the draft CCMP reads like a prologue to something more committing. Many of the 32 specified "Actions" consist largely of setups for concrete steps to come. There are calls for further studies, conferences, the formulation of best practices. There are research projects to be completed, reports to be disseminated, tools to be refined, grants to be targeted.

Yet the plan has a hidden power in the form of its authorship. Thirty-odd members of the Management Committee, including agencies with very real authorities, have signed off on this program. As the record of the last decades shows, this kind of consortium can function surprisingly well. ABAG, the Water Quality Control Board, the Bay Commission, the Army Corps of Engineers, the state and federal Environmental Protection Agencies, the Coastal Conservancy — these have worked matters out, in thousands of hours of meetings, with little publicly visible jostling. "It's easy to take the helm," says Caitlin Sweeney, the new director of the Estuary Partnership, "when there is so much trust built up over the years."

In one respect this CCMP opens new territory. Several of its proposals apply to near-shore urban zones outside the jurisdiction of BCDC. It also focuses attention on the creeks and small rivers that drain to the lower Estuary. The very first action is to develop a "watershed approach" to Bay issues. True, this is cast in terms of process, framework, criteria, pilot projects. But in even broaching this subject, the plan confronts an interest as potent as the California water establishment: the territoriality of the region's one hundred and ten local governments. As Marc Holmes of The Bay Institute puts it, "This is the last taboo."

Non-threatening though it strives

to be, at a couple of points the CCMP does hint at something more than sunny cooperation. It does so by invoking *Plan Bay Area*.

In climate change legislation passed in 2008, the Association of Bay Area Governments and the Metropolitan Transportation Commission were instructed to write a regional plan aimed at cutting carbon emissions from vehicles by concentrating development and beefing up transit. First published in 2013, *Plan Bay Area* specifies zones that are favored for growth and others to be kept free of building altogether. While local governments do not have to amend their own plans to match, those that don't will miss out on certain subsidies. *Plan Bay Area* is due for a second edition next year.

At two points, the CCMP hitches

cars to this controversial engine. In response to the "rising tides" problem, Action 15 urges that shoreline protection be accomplished with marsh buffers or in other ways that are good for wildlife. To this end, the *Plan Bay Area* update should have a section on shoreline resiliency, and "lay the groundwork for a more comprehensive resiliency effort." Action 23 calls for improved water management — conservation, recycling, stormwater management — and suggests covering these matters, too, in *Plan Bay Area*.

Plan Bay Area draws fire not least because it is the work of boards that, while appointed largely from the ranks of county supervisors and city council members, are not directly chosen by the public. Even as these two agencies flirt with a merger, a bolder thought is once again being

heard: that regional powers should be vested in a multi-purpose regional government with a popularly elected board (see *Merger Anxiety*, p. 6).

At the May 6 Spring Summit of the business-oriented Bay Planning Coalition, speaker after speaker complained that existing governmental setups are not going to do the job in the era of sea level rise. "In the Bay Area our challenge is of governance and funding," said SFEI's Warner Chabot. "We're going to have to have a real plan," said David Williams of the Bay Area Regional Collaborative. "Somebody's going to have to take the lead." "The only solution is to create a vision for the whole bay," said landscape architect Kevin Conger. Just who would do these things remained unclear. For all its strengths, the CCMP is not such a plan or vision.

The question is: Can the great metropolis wrapped around the lower Estuary respond to the challenges it faces in the era of climate change with the balkanized governance system it now has?

One of the virtues of the June 2016 Measure AA parcel tax to fund a restoration authority was the training it afforded us in larger-scale thinking. As Save the Bay's David Lewis remarks, "We never before had a chance to get a region-wide vote on a regional matter."

Delta Deadlock

If the Lower Estuary community is scrambling, perpetually but with some success, to adjust to a changing world, their upper Estuary counterparts often seem stuck in an endless loop of old controversies, revisited but not resolved, as physical challenges grow.

As the water projects increased their draws and the biotic health of the Delta began an obvious decline, the State Water Resources Control Board continued its struggle to set rules for river flows, a process again and again begun and again derailed.

In 1993, on petition by environmental groups, the Delta smelt was listed as Threatened under the federal Endangered Species Act. This brought the federal authorities thundering onto the Delta scene. In 1994, the two big water agencies, the Department of Water Resources and the U. S. Bureau of Reclamation, and the two big wildlife agencies, the Department of Fish and Game and the U. S. Fish and Wildlife Service, joined assorted

Regional Land-Use Rules in Action

Regional, rather than strictly local, land-use controls are always controversial. But it's interesting to note that the entire San Francisco Estuary is now enveloped in zones of limited but real regional control.

BCDC, of course, came first. Its jurisdiction extended to tidal waters west of the Delta and to a shoreline strip one hundred feet wide. Later, Suisun Marsh was added to its purview. It is an odd side-effect both of sea-level rise and of marsh restoration that the agency's jurisdiction creeps landward. Some voices have proposed that BCDC be given responsibility for the whole zone threatened with inundation — an idea from which the agency itself recoils.

In the 1980s, as cities on the edge of the Delta expanded into it, concern about development of this flood-prone and agriculturally valuable landscape

mounted. In 1992, the Legislature created a Delta Protection Commission with the authority to overturn development approvals in a large region mapped as the Primary Zone. Unlike BCDC, the Commission does not review all projects in its area, but acts following appeal. The lines set in the Commission's first *Land Use and Resource Management Plan*, published in 1996, have held. In a region that powerful agencies seem to regard as an object to be fought over, the Commission has also functioned as a voice for the Delta in itself.

In 2013, similar controls were extended to the rest of the Delta, the peripheral Secondary Zone, where the pressure to build has been highest. Under the *Delta Plan*, the Delta Stewardship Council can block development approvals on land not already firmly committed to urbanization.



Early meeting concerning the formation of the Delta Stewardship Council and the origins of the Delta Plan. Photo: DSC



Liberty Island in the Delta. Photo: Bird's Eye View

others in a consortium known as CALFED. It promised a fresh start, and an infusion of federal money, to accomplish two things at once: the steadying of California water supply and the ecological restoration of the Delta and, indeed, the entire estuarine system. "Getting Better Together" was the slogan of the day.

For quite a while, all bets were on CALFED, which was institutionalized as the Bay Delta Authority in 2002 and blessed by Congress in 2004. A swarm of pilot habitat improvements, mostly in the Delta but also some downstream, were carried out. A science branch became the locus of much important research. In this era the Water Board succeeded in promulgating a new water rights decision, D-1641, in 1999, and new salinity rules, in 1995 and 2006.

The Delta, however, continued to founder, undergoing what scientists call an aquatic regime change. CALFED itself was not far behind. It had no real power over its strong-willed constituent agencies, and its initially generous funding waned. The Little Hoover Commission complained of "a governance system that cannot . . . withstand the hurricane-force political pressures of water policy in California." A reboot in 2005 was unsuccessful. The program limped on for a time, a sort of Holy Roman Empire of the water map, before it quietly dissolved.

On Beyond CALFED

In 2006, on the ruins of CALFED, the familiar roster of water supply and wildlife agencies launched the Bay Delta Conservation Program. One of its two thrusts was to improve water export plumbing by constructing an "isolated conveyance facility"; this became Jerry Brown's "twin tunnels." At the same time, it promised to do wonders for the ecosystem, both by eliminating the distorted flows that have helped to decimate the fish and by embarking on vast wetland restorations and other ecosystem repairs, a sort of Habitat Goals East. These solutions were to form one grand package, meeting the requirements of both state and federal Endangered Species Acts for a long time to come.

In 2014, however, the Fish and Wildlife Service declared that it lacked enough information to issue the requested 50-year permit under the Endangered Species Act. As a result, the program was split into two parts. The tunnels plan went on to review as California WaterFix; a more modest habitat improvement plan, emphasizing actions doable in the short term, became California EcoRestore.

The WaterFix planning process is grinding forward, with the initial decision expected this fall. If adopted by the Department of Water Resources, the lead agency, the plan will have to run a gauntlet of approvals including

the State Water Resources Control Board and now also the Delta Stewardship Council.

In 2009, the Legislature directed the State Water Board to get moving on another review of flow standards, essentially unchanged since 1995, when the Delta had seemed much healthier. As a preliminary, the board was asked to determine what flows the ecosystem actually needed. Completed on schedule in 2010, this report gave the board's weighty blessing to a familiar conclusion: that fish need much more water, especially in the spring and summer, than they are getting now.

That was a benchmark. Now the process moves on to the weighing of interests that will result in enforceable rules. As ever, this has proved a slow business. A new *Bay-Delta Water Quality Control Plan* was scheduled for 2011, then 2014; it has now been delayed to 2018, a target date the new CCMP endorses.

This delay has an odd effect. Long before adopting the new flow standards, the Water Board will be called upon to decide the fate of WaterFix, applying the older rules. "Completion of the Board's [flow] work is essential for fully informed decisions on the BDCP," the federal EPA opined in 2012. Yet there is no legal requirement for "plan before plumbing," and Steve Moore, a member of what is generally considered the "greenest" water board in history, insists that his colleagues will not hesitate to tighten the rules after a construction start.



Photo: Rick Lewis

The Delta Reform Act of 2009 also brought into being a formal successor to CALFED: The Delta Stewardship Council. This body inherits the double charge of stabilizing water supply and restoring ecosystem health, while paying due attention to the value of the Delta as a place in its own right. Its first *Delta Plan*, published in 2013, is part local study and part statewide water policy manifesto. Unlike its predecessor (and unlike the Estuary Partnership), the Stewardship Council has certain real though artfully delimited powers. Actions that violate 14 specified policies — for land use, for ecosystem restoration, for flood control, and also for some water matters outside but related to the Delta — can theoretically be appealed to the Council. A WaterFix go-ahead will certainly draw such an appeal. Whatever the Council decides, the game will end in the courts.

The Plans Compared

The Delta Plan and the new CCMP are certainly the two broadest visions for the Estuary. Each is centered in its own realm, but each radiates to the other. While the CCMP's provisions are directed mainly at the Bay, it also endorses certain actions in the upper Estuary. The *Delta Plan*, for its part, makes no claim to cover the lower Estuary, yet its language on water supply actually implicates much of California, including the zone downstream.

Comparing the actions and milestones of the CCMP with the performance measures of the *Delta Plan*, it is clear that the lines of communication have been open. Each plan, for example, calls for the restoration of 8,000 acres of tidal wetland in the Delta, a number going back to biological

opinions issued in 2008 and 2009 by the National Marine Fisheries Service and the Fish and Wildlife Service. Each endorses more work on one of the few aquatic habitat successes in the region: the Cache Slough complex in the northwestern Delta, including flooded Prospect and Liberty Islands and the Yolo Bypass.

Both plans take up the huge problem of land subsidence in the western and central Delta (vastly more dire than at points downstream), and recommend "tule farming" as a way of reversing it (and sequestering atmospheric carbon), specifying similar acreages. Both urge completion of a study of Delta levees (without mentioning the painful proposition that some Delta islands may be indefensible in the climate-change future). Both look to the Water Board to resolve the issue of flows; neither ventures an opinion on the issue of conveyance. (If the Governor's WaterFix should go off the rails, the latter question will land squarely in the lap of the Delta Stewardship Council.)

The Big Water Picture

Maybe the most interesting overlap between the plans, though, is in the way they seek to influence water thinking in general.

One of the goals of the Delta Reform Act of 2009, and of the *Delta Plan*, is to take some pressure off the Delta by lessening the state's reliance on it for water supply. All water agencies tapping the Delta or the rivers in its watershed are supposed to show that they are on track to take less, either in absolute terms or as a percentage of their total supply. This mandate absolutely extends to the Bay Area, where the biggest water suppliers all draw either from the Delta or from the mountain streams that feed it. The plan promotes regional self-reliance through conservation, stormwater capture, better groundwater management, and wastewater recycling: a package widely endorsed these days, notably in the Governor's California

Water Action Plan of 2014. All of these ideas are reflected in the CCMP. They also take their place in the *San Francisco Bay Area Integrated Water Management Plan*, a set of goals and grant-making guidelines adopted by local water agencies and partners (including SFEP) and last updated in 2013.

Even if the current drought should ease, the long-term need to move toward what is being called One Water — the management of fresh water, stormwater, groundwater, and highly treated wastewater as a single, inseparable flux — can only intensify.

Do the Pieces Fit?

Let's give (and accept) some credit: A great deal is being done, by a great many good people, to improve the outlook for the San Francisco Estuary. Many problems would be far worse today if timely actions had not been taken in decades past.

Yet decades future are looking perilous indeed, and we have to step up our game.

For the lower Estuary, there is substantial agreement about what needs doing. What is slowing things down is the fragmentation of responsible agencies and the need to force practically any significant action through the fine mesh of local interest and, often enough, local inertia. When power is dispersed and money scarce, it is hard to get people to pay attention. Hence the endless calls for coordination; the task forces and "partnerships"; the multiplicity of sparsely attended meetings.

For the upper Estuary, the challenge is a bit different. Here the obstacle is deep disagreement about fundamentals: the allocation of available river flows, the shape of future water supply plumbing, even the physical future of the Delta itself. Stasis seems likely to persist until some painful and deeply controversial decisions are made.

The machinery grinds on. We learn. We do some things. We solve some problems, shy away from others. The Delta deteriorates. The water rises.

Do the pieces fit? Sometimes. In some places. Better than once they did. But not yet nearly well enough.

JH