

Coastal Desalination, “Coastal-Dependency” and the California Coast: How Today’s Desalination Proposals Could Affect Tomorrow’s Coastline

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INTRODUCTION

Reverse osmosis seawater desalination plants currently produce three billion gallons of desalted water a day in 21,000 plants around the world.¹ Desalination facilities produce roughly three million gallons of water a day in eleven plants in California.² Still, the California Coastal Commission has yet to approve any large-scale seawater desalination plants in California.

Poseidon Resources is trying to change that fact. It has proposed two fifty million gallon a day reverse osmosis desalination facilities: one in Carlsbad in conjunction with the San Diego County Water Authority and one in Huntington Beach.³ Though each facility must be approved by the California Coastal Commission before permission to begin construction can be granted, neither proposal has been approved yet.⁴ In the case of the Carlsbad project, the Coastal Commission has scheduled a hearing and vote for November 15, after this issue goes to press.⁵ In the case of the Huntington Beach project, environmental advocates and two Coastal Commissioners have voiced concerns which Coastal Commission staff has said raise “substantial issues” that Poseidon must clear up before gaining approval for their project.⁶

One concern that the Commission staff said did *not* raise a “substantial issue” in the Huntington Beach proposal was whether or not the facility qualified as “coastal-dependent” under the California Coastal Act.⁷ The Coastal Commission did not resolve this issue because the Huntington Beach application was deemed incomplete, and the proposal has yet to move beyond this stage. Still, both Poseidon and then-Coastal Commission Chair Meg Caldwell have made a point of publicly opining whether or not desalination facilities are

¹ Symposium, *Desalination in California: Should Ocean Waters Be Utilized To Produce Freshwater?*, 57 HASTINGS L.J. 1343, 1354 (2006) (comments of Peter MacLaggan).

² TOM LUSTER, SEAWATER DESALINATION AND THE CALIFORNIA COASTAL ACT 15 (March 2004) [hereinafter CCC MARCH 2004 REPORT].

³ CALIFORNIA COASTAL COMMISSION, STAFF REPORT FOR APPEAL NO. A-5-HNB-06-101, at 3 (2006) [hereinafter CCC STAFF REPORT]; Letter from California Coastal Commission to Poseidon Resources 1 (Sept. 28, 2006) [hereinafter CCC Notice of Incomplete Application] (regarding Incomplete Application E-06-013) (on file with author). These documents and Poseidon’s response documents were kindly provided upon request by Tom Luster of the California Coastal Commission, whose help informed this Article in numerous ways.

⁴ CAL. PUB. RES. CODE § 30600(a) (West 2006).

⁵ The Coastal Commission decided to move forward with the hearing despite the fact the State Lands Commission has yet to approve the lease of the land necessary for construction of the facility. Letter from California Coastal Commission to Poseidon Resources 1 (July 25, 2007) (on file with author).

⁶ CCC STAFF REPORT, *supra* note 3, at 1. The Commissioners are Mike Reilly and Mary Shallenberger. The environmental advocates are the Surfrider Foundation and a group called “Residents for Responsible Desalination.”

⁷ *Id.* at 11-12.

“coastal-dependent,”⁸ and a 2004 Coastal Commission staff report analyzes the issue in detail.⁹ “Coastal-dependent development or use” is defined in the California Coastal Act as “any development or use which requires a site on, or adjacent to, the sea to be able to function at all.”¹⁰

The California Coastal Commission staff did recommend the Carlsbad application be interpreted as “coastal-dependent.”¹¹ However, it found the application inconsistent with other parts of the Coastal Act.¹² It then looked for ways the application’s “coastal-dependent” status could possibly override its inconsistency with the Act, and found it did not meet the tests the Act lays out to do so.¹³ Given that the determination of “coastal-dependency” is not the main issue in either the Huntington Beach or Carlsbad permit applications, why were Poseidon and the sitting Commission chair publicly jousting on this issue? If the Coastal Commission determines a large desalination facility is “coastal-dependent,” is consistent with other parts of the Coastal Act, or is inconsistent with other parts of the Act but meets the Coastal Act’s tests to override that inconsistency, what would the significance of one of those findings be, and what interpretive tools might the Coastal Commission use to make that determination?

This Article will agree with the California Coastal Commission staff and former chair that desalination facilities themselves are not necessarily “coastal-dependent” under the terms of the California Coastal Act. It will further posit that this interpretation is better for protection of coastal natural resources and coastal access, two of the Act’s stated goals.¹⁴ It will analyze the issue in the context of the two proposals Poseidon has placed in front of the Coastal Commission, and place those proposals in an overall discussion of whether it would be best to allow the Coastal Commission flexibility in determining

⁸ Ms. Caldwell’s remarks were made at the Annual Conference of the Environmental Section of the State Bar of California on October 21, 2006. Ms. Caldwell has since been replaced on the Commission by Steve Blank, and the new Coastal Commission Chair is Patrick Kruer. Poseidon’s comments are made in a letter to the commission in response to the Commission Staff Report regarding the Huntington Beach proposal cited *supra* note 3. See Letter from Poseidon Resources to California Coastal Commission 5-6 (April 7, 2006) (responding to Commission Staff Report and Recommendation on Substantial Issues in Appeal of City of Huntington Beach Approval of Poseidon Desalination Facility) (on file with author).

⁹ See CCC MARCH 2004 REPORT, *supra* note 2. The Commission’s analysis of the issue is discussed in this Part and Part V.

¹⁰ CAL. PUB. RES. CODE § 30101 (West 2006).

¹¹ California Coastal Commission, Staff Report — Coastal Development Permit Application E-06-013, at 70 (2007). Again, the Coastal Commission’s official ruling on this question came after this issue went to press.

¹² *Id.*

¹³ *Id.* at 71-78.

¹⁴ CAL. PUB. RES. CODE §§ 30001.5 (a), (c) (West 2006) (“Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources,” and “Maximize public access to and along the coast . . .”).

whether or not coastal desalination in general is “coastal-dependent.” It will also look to parallel terms in resource protection law for guidance, namely the interpretation of “water-dependency” in the context of wetlands for federal Clean Water Act section 404(b) determinations made by the U.S. Army Corps of Engineers.

I. THE RELEVANT LAW

A. *The Federal Coastal Zone Management Act*

Before rushing into California’s complex Coastal Act and its nuances, this Article first examines relevant statutes that set the stage for the determination of “coastal-dependency.” The federal Coastal Zone Management Act offers to each state the management of the coastal waters from its coastline — the mean high tide line in California — to three miles from the shore, an area which is defined as the “coastal zone”¹⁵ The Coastal Zone Management Act then dictates that California (and all other “coastal” states, including those bordering the Great Lakes) has the right to review “(e)ach Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone,” which “shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.”¹⁶

B. *The California Coastal Act*

1. The General Process for Approving Development on the California Coast

The California Coastal Act is California’s approved state management program for purposes of the Coastal Zone Management Act.¹⁷ The California Coastal Act of 1976, California Public Resources Code (“PRC”) sections 30000 to 30900, codified the coastal protections laid out in the California Coastal Zone Conservation Act initiative passed by popular vote in 1972.¹⁸ The California Coastal Commission is given the power under the terms of the Act to implement the provisions of the Act in all areas except those covered by the (San Francisco) Bay Conservation and Development Commission.¹⁹

¹⁵ 16 U.S.C. § 1453(1) (2006); 43 U.S.C. § 1312 (2006).

¹⁶ 16 U.S.C. § 1456(c)(1)(A) (2006).

¹⁷ CAL. PUB. RES. CODE § 30004(b) (West 2006); *Am. Petroleum Inst. v. Knecht*, 456 F. Supp. 889, 893-94 (C.D. Cal. 1978).

¹⁸ *California v. Norton*, 311 F.3d 1162, 1167 (9th Cir. 2002).

¹⁹ CAL. PUB. RES. CODE § 30330 (West 2006).

The Coastal Commission implements the Coastal Act primarily through approval of Local Coastal Programs.²⁰ The Act charges localities to submit these programs, including a detailed land use plan, to the Commission describing how they will comply with the overall strictures of the Act.²¹ The Commission reviews each plan and program for consistency with the overall terms of the Act and, after a public hearing, either accepts or rejects the zoning ordinances, zoning district maps, and any other required implementing actions, "certifying" the Local Coastal Program if it accepts them.²² If the Commission rejects any of the relevant implementing mechanisms (zoning ordinances, zoning district maps, etc.), the Commission may suggest modifications to them, which the locality can accept as a way of getting the program approved.²³ The locality can also propose its own changes to rejected implemented mechanisms that the Commission can choose to accept.²⁴ Once approved, any amendments to a Local Coastal Program or the zoning implementation mechanisms on which it rests must be certified by the Commission in order to take effect, unless those changes are de minimis.²⁵

In order to develop in the coastal zone, an applicant such as Poseidon must obtain a coastal development permit.²⁶ If the locality has a certified Local Coastal Program, such as is the case in Huntington Beach, the coastal development permit must comply with that program and any zoning ordinances, etc. upon which the program rests. If it does conform, then the locality must issue the permit.²⁷ However, permits issued in this way, may be appealed to the Commission, which hears the appeal if it determines the appeal raises a "substantial issue."²⁸ This has happened with the Huntington Beach proposal, with the locality claiming the desalination plant proposal conforms to the Local Coastal Program, and the appellants claiming it does not. The Coastal Commission has determined appellants have raised several "substantial issues,"²⁹ so it is now up to the Coastal Commission itself to resolve the controversy.

Some geographic areas in the coastal zone do not have certified Local Coastal Programs. Such is the case with the area on which Poseidon proposes to place the Carlsbad desalination plant. In such cases, a coastal development permit is

²⁰ §§ 30500-30534.

²¹ §§ 30510, 30512.

²² § 30513.

²³ *Id.*

²⁴ *Id.*

²⁵ § 30514(a), (c).

²⁶ § 30600(a).

²⁷ § 30600.5(c).

²⁸ § 30600.5(d).

²⁹ CCC STAFF REPORT, *supra* note 3.

still necessary, as Poseidon proposes to develop in the coastal zone here as well.³⁰ However, as there are no approved local zoning ordinances or regulations with which Poseidon must comply, the permit application must comply generally with the California Coastal Act and the approval comes directly from the California Coastal Commission.³¹ The specifics of each of Poseidon's coastal development permit applications will be discussed further in Part IV.

2. Determining Whether or Not a Project is "Coastal-Dependent" Under the California Coastal Act

The California Coastal Act gives special status to coastal-dependent projects. Section 30001.2 of the PRC, part of the Legislative Findings and Declarations of the California Coastal Act, reads:

The Legislature further finds and declares that, notwithstanding the fact electrical generating facilities, refineries, and coastal-dependent developments, including ports and commercial fishing facilities, offshore petroleum and gas development, and liquefied natural gas facilities, may have significant adverse effects on coastal resources or coastal access, it may be necessary to locate such developments in the coastal zone in order to ensure that inland as well as coastal resources are preserved and that orderly economic development proceeds within the state.³²

Coastal-dependent developments are also given priority over other developments later in the Act. PRC section 30255 begins: "Coastal-dependent developments shall have priority over other developments on or near the shoreline." There is a provision that coastal-dependent developments, except in certain contexts, should not be situated in a wetland.³³ Coastal-related developments, on the other hand, have lesser priority per PRC section 30255: "When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support."³⁴

Initially, then, what is at stake is the Commission's flexibility in dealing with large-scale desalination proposals along California's coast. If the facility is "coastal-dependent" even if it has significant adverse effects on coastal resources or coastal access, the Coastal Act provides language that favors its approval over other development in PRC section 30001.2. If a desalination facility proposal is compared to non-coastal-dependent development on or near the shoreline, the desalination facility shall have priority.

³⁰ See *supra* text accompanying note 22.

³¹ CAL. PUB. RES. CODE § 30520(b) (West 2006).

³² § 30001.2.

³³ § 30255.

³⁴ *Id.*

Further, if the Coastal Commission deems desalination facilities to be “coastal-dependent,” by analogy a number of other types of development could be deemed “coastal-dependent.” The Coastal Commission discusses oil and gas processing facilities and aquaculture as two types of development that could be considered in the same category as desalination facilities for “coastal-dependency” determination purposes.³⁵

To begin to understand the contours of the problem, it is useful to have a deeper understanding of large-scale desalination facilities and their impacts. (Aquaculture and oil and gas refining will be addressed in Part V.) The Article now turns to a closer examination of desalination facilities.

II. LARGE-SCALE DESALINATION FACILITIES AND THEIR IMPACTS

A. *What is Reverse Osmosis Desalination and How Does It Work?*

The California Coastal Commission March 2004 report describes the reverse osmosis process as follows:

This process involves pumping feed water at high pressure through semi-permeable membranes to separate salt and other minerals from the water. The pores in the membrane are large enough to allow water molecules to pass through, yet are too small to allow the passage of salt and other minerals. Reverse osmosis facilities generally involve four separate processes: pretreatment, pressurization, membrane separation, and post-treatment stabilization. Both physical and chemical pretreatment can be used to remove suspended particles from the source water to keep the membrane surfaces clean and to treat the water to prevent growth of microbes on the membranes. The feed water is then pressurized to about 800-1000 pounds per square inch, a process that results in most of the energy demand for the reverse osmosis desalination method. The pressurized feed water is then forced through the reverse osmosis membrane. Once the feed water is separated into two streams, the product water is treated to meet drinking water requirements, and then to the water distribution or storage system.³⁶

B. *Why Would There Be Opposition to Reverse Osmosis Desalination Facilities?*

Desalination’s obvious advantage is a drought-proof supply of water in a state

³⁵ CCC MARCH 2004 REPORT, *supra* note 2, at 28.

³⁶ *Id.* at 32.

that has tens of millions of people living in arid and semi-arid regions.³⁷ A host of objections, however, have been raised with regard to large-scale desalination facilities.

First, if the water is taken directly from the ocean then there are impingement and entrainment issues. Intake involves screening out large organisms from water that is taken in to the facility; these screens can kill (impinge) adult fish, birds, invertebrate species, and marine mammals, all of which are sucked into and then smashed against the screen.³⁸ Entrainment involves the killing of smaller marine organisms, such as plankton, eggs, larvae, and small fish, which slip through the initial screen but do not survive the reverse osmosis process.³⁹ The Coastal Commission raises this as a “substantial issue” Poseidon must address in its Huntington Beach proposal.⁴⁰ In the Carlsbad case, the Commission staff concluded there would be significant impingement and entrainment.⁴¹ Poseidon proposed several mitigation measures for these impacts, which the Commission staff deemed inadequate.⁴²

Second, reverse osmosis uses quite a bit of energy to separate the salt and minerals from the water.⁴³ To provide this energy, desalination plants are often co-located with a power plant. The Huntington Beach proposed plant would be next to an AES Power Plant.⁴⁴ The Carlsbad desalination plant would be on a site where the Encina Generating Station stands, but does not propose to use that plant to provide the energy required for reverse osmosis.⁴⁵ The Carlsbad facility would thus rely on, and possibly strain, the southern California electricity grid.⁴⁶

³⁷ HEATHER COOLEY, PETER GLEICK & GARY WOLFF, DESALINATION, WITH A GRAIN OF SALT: A CALIFORNIA PERSPECTIVE 45 (2006).

³⁸ *Id.* at 59.

³⁹ *Id.*

⁴⁰ CCC STAFF REPORT, *supra* note 3, at 5.

⁴¹ California Coastal Commission, Staff Report — Coastal Development Permit Application E-06-013, *supra* note 11, at 28.

⁴² *Id.* at 43–46.

⁴³ COOLEY, GLEICK, & WOLFF, *supra* note 37, at 72.

⁴⁴ CCC STAFF REPORT, *supra* note 3, at 4.

⁴⁵ CCC Notice of Incomplete Application, *supra* note 3, at 1.

⁴⁶ The fact that each desalination facility requires so much energy, and the potential problems that entails for a state that relatively recently had an energy crisis, is a problem that I do not believe any permitting or planning process adequately contemplates. That set of problems, however — how do we address energy supply issues for desalination plants, and how do we decide how to best allocate our limited energy resources in a world that desalts the ocean for a significant portion of its water supply? — is much larger than the scope of this Article.

It is worth noting that the Coastal Commission staff did analyze the potential energy consumption effects of the proposed Carlsbad facility, per the Coastal Act’s directive that “[n]ew development should . . . minimize energy consumption.” See CAL. PUB. RES. CODE § 30253(4) (WEST 2006). The Commission staff concluded the project did not minimize energy consumption. See California Coastal Commission, Staff Report — Coastal Development Permit Application E-06-013, *supra* note 11, at 68. Still, the possibility exists of a large desalination plant that *does* minimize its energy consumption, yet still consumes a significant amount of energy, a prospect for which the

The third potentially detrimental effect of reverse osmosis desalination plants is the impact on regional water quality. The chemicals used to rinse the reverse osmosis membranes wash into nearby waters and degrade coastal water quality, which could be an environmental justice issue if the plant is located in a lower-income area.⁴⁷ The discharge of the brine into coastal waters also raises concerns about water quality and recreational fishing, as the brine is significantly saltier than the ocean it reenters, which could drive away any fish in the area.⁴⁸

The fourth and largest potential impact of desalinating ocean water is growth inducement. The Pacific Institute notes: "In coastal areas throughout California, clean, potable water is sometimes considered a limiting resource and constrains development."⁴⁹ Indeed, since the passage of Senate Bill ("SB") 221 in 2002, development throughout California is tied to having the water supply necessary for that development.⁵⁰ Senate Bill 221 constrains development, dictating that all proposed subdivisions of over 500 dwelling units must identify their water supply in order to receive a permit under California's Subdivision Map Act.⁵¹ Without such a permit, such subdivisions can not proceed.⁵²

Desalinated ocean water could provide a virtually unlimited supply, constrained only by the technological ability to convert it cheaply — cost has always been the primary impediment to such projects.⁵³ The cost of reverse osmosis desalination is declining,⁵⁴ and Poseidon would not propose its plants if it did not think it could make money on the ventures. Thus, these plants could provide the impetus for subdivision proposals of more than 500 units to go forward if such proposals can identify desalted water as their guaranteed supply to satisfy SB 221's strictures.

Finally, desalination plants could raise a host of issues on a case by case basis. The cost of the desalted water could raise the cost of water generally, which could raise environmental justice concerns.⁵⁵ Visual and scenic resources could be negatively impacted, depending on the facility. And, as is the case with the

Coastal Act does not adequately safeguard.

⁴⁷ The Pacific Institute Report raises this as a possible environmental justice concern. See COOLEY, GLEICK, & WOLFF, *supra* note 37, at 76. The Coastal Commission raises this simply as an environmental concern in the Huntington Beach application only. CCC STAFF REPORT, *supra* note 3, at 5. Huntington Beach, in wealthy Orange County, is not a lower-income area.

⁴⁸ See the COOLEY, GLEICK, & WOLFF, *supra* note 37, at 60-63; CCC STAFF REPORT, *supra* note 3, at 7; CCC MARCH 2004 REPORT, *supra* note 2, at 76; California Coastal Commission Addendum to Findings for Appeal #A-5-HNB-06-101, at 4.

⁴⁹ COOLEY, GLEICK, & WOLFF, *supra* note 37, at 67.

⁵⁰ Senate Bills 610 and 221 are chaptered at CAL WATER Code §§10910-10914 (West 2006).

⁵¹ CAL. GOV'T. CODE §§ 65867.5, 66473.7 (West 2006).

⁵² CAL. BUS. & PROF. CODE § 11010(a)(6) (West 2006).

⁵³ COOLEY, GLEICK, & WOLFF, *supra* note 37, at 39.

⁵⁴ *Id.* at 44.

⁵⁵ See *id.* at 77.

Huntington Beach Marsh next to the proposed Huntington Beach plant, soil contamination from the chemical rinse could occur in environmentally sensitive areas, such as those containing wildlife or plants.⁵⁶

III. EVALUATING POSEIDON'S "COASTAL-DEPENDENCY" CLAIM IN THE TERMS OF THE COASTAL ACT

The Huntington Beach desalination plant is in the coastal zone,⁵⁷ for which the city of Huntington Beach has a "Local Coastal Plan," or LCP, which the Coastal Commission approved for the city to manage its portion of the coastal zone.⁵⁸ To include a major project such as a fifty-million-gallon-a-day coastal desalination plant in the coastal zone, the project must either be consistent with that Local Coastal Plan (in which case the local government issues the Coastal Development Permit compulsorily) or the Local Coastal Plan must be amended to include such a development, which the Commission must certify.⁵⁹ The issue at the Coastal Commission level is that though Huntington Beach found the project consistent with their Local Coastal Program, the appellants assert the development proposed does not conform to the certified Huntington Beach Local Coastal Program.⁶⁰

As stated above, the applicant, any "aggrieved person," or two commissioners can raise such an appeal at the Commission level.⁶¹ Commissioners Mike Reilly and Mary Shallenberger, the Surfrider Foundation, and a local community group calling themselves "Residents for Responsible Desalination," appealed the finding of consistency with the Huntington Beach LCP.⁶² The Commission must then hear the appeal unless it determines no substantial issue exists with regard to the grounds for the appeal.⁶³ The Commission staff in the Huntington Beach instance found several substantial issues to exist, though it found the question of coastal-dependency to not be a substantial issue because the approved coastal development permit that changed the LCP did not provide a

⁵⁶ The Huntington Beach Marsh is within 100 feet of parts of the proposed project; the Coastal Commission raises this as a "substantial issue" in their staff report. CCC STAFF REPORT, *supra* note 3, at 7-8.

⁵⁷ CAL. PUB. RES. CODE § 30103(a) (West 2006).

⁵⁸ All local governments within the coastal zone are supposed to submit Local Coastal Plans to the Commission for approval; this is the term for the land use plans for Local Coastal Programs, discussed *supra* Part II(B)(1). See also CAL. PUB. RES. CODE § 30500(a) (West 2006).

⁵⁹ This process is explained *supra* Section II.B.1. See generally CAL. PUB. RES. CODE §§ 30600-30627. (West 2006).

⁶⁰ § 30603(b)(2); CCC STAFF REPORT, *supra* note 3, at 2.

⁶¹ CAL. PUB. RES. CODE § 30625(a) (West 2006).

⁶² CCC STAFF REPORT, *supra* note 3, at 1.

⁶³ CAL. PUB. RES. CODE § 30625 (b)(2) (West 2006); see *City of Half Moon Bay v. Superior Court*, 106 Cal. App. 4th 795, 804 (Ct. App. 2003 (citing CAL. PUB. RES. CODE § 30625 (b)(2))).

sufficient basis to prove coastal-dependency.⁶⁴ As the appeal raised several substantial issues for the Commission to consider, the staff essentially dodged the coastal-dependency question for Huntington Beach.

In the Carlsbad case, the area of the proposed desalination plant has no Local Coastal Plan in place,⁶⁵ so there is no appeal of a coastal development permit under an approved plan. Instead, the question for the Commission is consistency with the Coastal Act as a whole.⁶⁶ As noted in the introduction, the Coastal Commission staff recommended the Carlsbad application be interpreted as “coastal-dependent.”⁶⁷ However, it found the application inconsistent with other parts of the Coastal Act.⁶⁸ The Commission staff then looked to Coastal Act section 30620, which states:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.⁶⁹

The Commission staff concluded that the Carlsbad application met none of the three tests laid out in this section.⁷⁰ In any event, the Commission staff recommended rejection of the permit application.⁷¹ If the Commission rejects the Carlsbad application even though its staff report determines the application to be “coastal-dependent”, the precedent is not set for Commission permits to view future desalination applications as “coastal-dependent.” There would be no approved permit application on record determining coastal desalination “coastal-dependent.”

⁶⁴ CCC STAFF REPORT, *supra* note 3, at 11-12.

⁶⁵ E-mail from Tom Luster, Analyst, Energy and Ocean Resources Unit, California Coastal Commission, to author (Oct. 3, 2006, 15:42:00 PST) (on file with author).

⁶⁶ CAL. PUB. RES. CODE § 30520(b) (West 2006).

⁶⁷ California Coastal Commission, Staff Report — Coastal Development Permit Application E-06-013 *supra* note 11, at 70. Again, the Coastal Commission’s official ruling on this question came after this issue went to press.

⁶⁸ *Id.*

⁶⁹ CAL. PUB. RES. CODE § 30260 (West 2006).

⁷⁰ California Coastal Commission, Staff Report — Coastal Development Permit Application E-06-013, *supra* note 11, at 71-78.

⁷¹ *Id.* at 5.

IV. COASTAL-DEPENDENCY DETERMINATION — WHAT'S THE BIG DEAL?

A. *What the Act Says and What It Potentially Means*

As this seems a relatively innocuous issue, one might ask: Why has there been a public debate over it in the first place?

The first question one might ask in approaching the problem is: Are the proposed large desalination plants in Carlsbad and Huntington Beach “coastal-dependent”? According to the California Coastal Commission staff, speaking generally, they might not be. In a 2004 report entitled “Seawater Desalination and the California Coastal Act,” the Commission staff explained that “desalination, in and of itself, is not necessarily a coastal-dependent development or use.”⁷² The Commission staff explained that the source of desalinated water may not be seawater — it could be inland brackish water or groundwater.⁷³ The Commission then reasoned that “(e)ven for facilities using seawater, the actual processing of that water does not depend on being in or adjacent to the ocean. While a desalination facility itself might not be coastal-dependent, the pipelines for getting seawater to and from the facility may be.”⁷⁴

So, are the specific proposals “coastal-dependent”? Poseidon’s Huntington Beach Coastal Development Permit, granted by the city but currently under appeal at the Coastal Commission level, conclusorily stated in its Findings for Approval that “the project proposes a coastal-dependent industry use.”⁷⁵ After appeal by environmental and community interests, the Commission staff stated that it is not definitive yet whether or not the Huntington Beach proposal is “coastal-dependent.”⁷⁶ The Commission staff only stated that “(t)he project has not yet been adequately reviewed to determine whether it is coastal-dependent.”⁷⁷ The Commission staff rests its conclusion on the fact that “(t)he CDP does not provide the findings or analysis necessary to make a determination of coastal-dependency pursuant to these policies.”⁷⁸ The Commission pointed to Huntington Beach LCP section C 8.2.4, which says that coastal-dependent facilities are to be consistent with PRC section 30260.⁷⁹ PRC section 30260 says the “coastal-dependent industrial facilities” may be permitted if “(1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse

⁷² CCC MARCH 2004 REPORT, *supra* note 2, at 28.

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ CCC STAFF REPORT, *supra* note 3, at 12.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

environmental effects are mitigated to the maximum extent feasible.”⁸⁰ Even if the Huntington Beach desalination plant is “coastal-dependent,” none of these findings are made in the Huntington Beach LCP to conform to PRC section 30260.

If the Commission’s findings interpret “coastal-dependency” one way and the LCP’s in a contrary way, the LCP must change to conform to the Commission’s interpretation. Here, the Coastal Commission staff goes on to state that because the requirements within PRC section 30260 are not incorporated into nor addressed in the LCP, adequate findings have not been made.⁸¹ As the LCP references the Coastal Act for its determination of “coastal-dependency”, it is subject to the Coastal Commission’s interpretation of what is “coastal-dependent.” Thus, if the Coastal Commission’s general interpretation of what is and is not “coastal-dependent” does not square with Huntington Beach’s interpretation, the Commission’s interpretation will trump Huntington Beach’s interpretation.

In the Carlsbad case, the issue seems to slip into the room and then out a side door. The staff determines the application “coastal-dependent”, but then says because the application has so many other inconsistencies with the Act, and it doesn’t qualify for PRC section 30260’s override powers, so the determination doesn’t end up having much effect in this instance. Still, it could — one could imagine a large-scale desalination plant proposal that lacks these problems. Particularly in the Huntington Beach appeal, one can see why the Coastal Commission’s interpretation of what is and is not “coastal-dependent” means so much. Speaking generally, the former chair of the Coastal Commission, Meg Caldwell, has publicly made the argument that desalination plants are *not* “coastal-dependent.”⁸² Ms. Caldwell opined that the intake and outfall pipes for desalination projects are coastal-dependent or use,⁸³ fitting the definition in the California Public Resources Code as a “development which requires a site on, or adjacent to, the sea to be able to function at all.”⁸⁴ The plants themselves would fit the statutory definition of “coastal-related development,” which is “any use that is dependent on a coastal-dependent development or use.”⁸⁵ The plants would rely on their intake and outfall pipes, which are “coastal-dependent,” as coastal location of these pipes is essential to pipe in the seawater and out the brine associated with such plants.

⁸⁰ CAL. PUB. RES. CODE § 30260 (West 2006).

⁸¹ CCC STAFF REPORT, *supra* note 3, at 12.

⁸² Meg Caldwell, former Chairperson, Cal. Coastal Comm’n, Remarks at the Annual Conference of the Environmental Section of the California State Bar (Oct. 21, 2006).

⁸³ The terms coastal-related “development” and coastal-related “use” are used interchangeably in the California Coastal Act. See CAL. PUB. RES. CODE § 30101 (West 2006).

⁸⁴ *Id.*

⁸⁵ *Id.* § 30101.3.

Ms. Caldwell's remarks follow a tack suggested in the 2004 Coastal Commission staff report. The report gives the example of the Las Flores Canyon oil and gas processing facility in Santa Barbara county, where in 1992 the Commission found the pipelines delivering oil and gas from offshore oil platforms were "coastal-dependent" but the facility processing the oil and gas was only "coastal-related."⁸⁶ The report generally points to other instances in which the Commission has made similar determinations in the context of aquaculture, finding seawater aquaculture not necessarily "coastal-dependent" but the water supply lines to inland aquaculture are "coastal-dependent."⁸⁷

This analogy splits "offshore petroleum and gas development" into two parts and essentially finds refineries may *not* be necessary to locate in the coastal zone, despite the listing of refineries in PRC section 30001.2. This argument is not lost on Poseidon, who raised it in the answer to the Coastal Commission's Appeal letter regarding Huntington Beach. Poseidon argued:

To suggest that the plant is not coastal-dependent because only the intake requires a coastal site is inconsistent with other examples identified as coastal-dependent in the Coastal Act. See Pub. Res. Code § 30001.2. Using the Report's reasoning, one could argue that electric generating facilities, refineries, and offshore drilling for oil and gas are not coastal-dependent because these land uses can also be sited outside the coastal zone.⁸⁸

Poseidon also argues that the Coastal Commission's interpretation conflicts

⁸⁶ CCC MARCH 2004 REPORT, *supra* note 2, at 28; SANTA BARBARA COUNTY LCP MAJOR AMENDMENT NO. 3-91 11 (1992). Noteworthy is the process by which this shift occurred: Santa Barbara changed its LCP, which the Coastal Commission ratified. This gives an example of how "coastal-dependency" meaning in a county LCP influenced the interpretation of that phrase at the Commission level.

⁸⁷ CCC MARCH 2004 REPORT, *supra* note 2, at 28. The Point Arena LCP update, which was approved by the Coastal Commission on September 15, 2006, lists a number of specific activities as coastal-dependent development. City of Point Arena General Plan/Local Coastal Plan 18 (2006) ("commercial and recreational fishing, boat mooring, storage and launching, and surfing"). It omits aquaculture from this list, though aquaculture is mentioned as an industry that the LCP addresses. *See id.* at 17. By omission, the Point Arena LCP treats aquaculture as non-coastal-dependent, which Tom Luster cited as an example of aquaculture as deemed non-coastal-dependent in personal communication with him. The Coastal element of the plan can be found at www.cityofpointarena.com and clicking on "coastal" under "General Plan elements." Again, this shows how "coastal-dependency" is determined by LCPs treating certain industries as "coastal-dependent" or not, and then the Coastal Commission certifying those LCPs.

The entire analysis of aquaculture is complicated by the fact that the Coastal Act names as a priority use of the coast "coastal dependent aquaculture." *See* CAL. PUB. RES. CODE § 30222.5 (West 2006). This could be read one of two ways: that all aquaculture is "coastal-dependent," or that some aquaculture is "coastal-dependent" and other aquaculture is not. No LCP or case offers a clear interpretation one way or the other on this point.

⁸⁸ Letter from Peter MacLaggan, Senior Vice President, Poseidon Resources, to California Coastal Commission 6 (Apr. 7, 2006) (on file with author and California Coastal Commission).

with the “plain meaning of the language of the Act.”⁸⁹ A closer analysis of the language of the Coastal Act, however, yields the opposite conclusion. PRC section 30001.2 applies to “electrical generating facilities, refineries, and coastal-dependent developments,” and then goes on to provide examples of coastal-dependent developments. Thus, electrical generating facilities and refineries are *separate* from coastal-dependent developments, by their position as separate clauses in the sentence (“electrical generating facilities, refineries, *and* coastal-dependent developments”).⁹⁰ This leaves offshore drilling for oil and gas development. The statute lists “offshore petroleum and gas development” as an example of coastal-dependent development.⁹¹ The Las Flores Canyon decision clearly speaks to this. The staff recommendation, which was adopted, accepted Santa Barbara County’s Local Coastal Plan amendment that “onshore processing facilities for offshore oil and gas development will no longer automatically be considered as coastal-dependent industry.”⁹² The staff found “(t)his amendment sets up a process where industrial facilities, including processing facilities, will be decided to be coastal-related or coastal-dependent *on a case-by-case basis*.”⁹³

The analysis that accompanies the Santa Barbara LCP makes clear that the “Coastal-dependent development or use” definition in section 30101 (that “which requires a site on, or adjacent to, the sea to be able to function at all”) can clearly be read to not include an oil and gas processing facility, which can be sited inland, *not* requiring a site on or adjacent to the sea to be able to function at all.⁹⁴ The oil can be piped inland. The decision leaves open the possibility for future processing facilities that for some physical reason may not have their oil piped inland, but clearly here that is not the case. It does not take a stretch of the imagination to see that, for coastal-related uses such as desalination and aquaculture, the water can be pumped inland.

B. *Why the Coastal-Dependency Determination is Important*

The coastal-dependency determination is important for several reasons. First, the California Coastal Act deems a number of uses of the coast to have priority, all other things being equal. This includes lower-cost visitor and recreation facilities,⁹⁵ commercial recreational facilities designed to enhance public opportunities for coastal recreation for visitors,⁹⁶ coastal-dependent aquaculture

⁸⁹ *Id.*

⁹⁰ CAL. PUB. RES. CODE § 30001.2 (West 2006).

⁹¹ *Id.*

⁹² SANTA BARBARA COUNTY LCP MAJOR AMENDMENT NO. 3-91, *supra* note 86, at ii.

⁹³ *Id.* at 10.

⁹⁴ *Id.* at 16.

⁹⁵ CAL. PUB. RES. CODE § 30213 (West 2006).

⁹⁶ § 30222.

facilities,⁹⁷ upland areas for coastal recreation,⁹⁸ recreational boating and associated facilities,⁹⁹ commercial fishing and recreational boating facilities,¹⁰⁰ prime agricultural land,¹⁰¹ and coastal-dependent development.¹⁰² If coastal desalination were *not* a “coastal-dependent development,” then these other priorities would block a desalination plant’s siting on the coast. That is to say, recreation or public access (or any of the uses that have priority listed above) would block non-coastal-dependent development such as a desalination plant where there is inconsistency.

The March 2004 Coastal Commission report points out that desalination facilities could directly affect other priority uses. It gives the example of a proposed desalination facility near Marina and Seaside that would have hurt recreation and public access opportunities, so the Coastal Commission concluded a site inland of Highway One was preferable.¹⁰³ The report also points out the water supply provided by the plant could facilitate the building of higher-cost visitor facilities along the coast, as lower-cost facilities may not be able to afford a desalination plant’s higher-cost water.¹⁰⁴

Second, coastal-dependent industrial facilities are given the right to place fill in coastal waters, “where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.”¹⁰⁵ PRC section 30233(a) presents a limited list of activities that are allowed to engage in this environmentally damaging activity. If desalination facilities aren’t “coastal-dependent,” they can’t place fill in coastal waters.

Third, the precedent the “coastal-dependent” determination sets for other uses is important, including for oil and gas processing, aquaculture, and future seawater desalination plants. If the Carlsbad and Huntington Beach plants aren’t coastal-dependent, it is difficult to see what sort of plant would be, and the priority for desalination plants versus other coastal uses does not trump those other uses. If oil and gas processing is similarly only coastal-dependent in its pipelines to oil platforms offshore, but not for its processing, it too does not receive priority coastal use status. Santa Barbara clearly decided it environmentally preferable to take such determinations on a case-by-case basis,

⁹⁷ § 30222.5.

⁹⁸ § 30223.

⁹⁹ § 30224.

¹⁰⁰ § 30234.

¹⁰¹ § 30241.

¹⁰² § 30255.

¹⁰³ CCC MARCH 2004 REPORT, *supra* note 2, at 59.

¹⁰⁴ *Id.* at 60.

¹⁰⁵ CAL. PUB. RES. CODE § 30233(a) (West 2006).

emphasizing the flexibility such a determination offers localities.¹⁰⁶

Finally, the ability to locate aquaculture inland could have significant positive environmental benefits.¹⁰⁷ As with determining desalination not necessarily coastal-dependent, determining aquaculture not necessarily coastal-dependent could provide more access to the coast in places where an aquaculture farm is placed. More importantly, it could cut down on the prospects of farmed fish escaping their pens and cross-breeding in the open waters with non-farmed fish. T.V.R. Pillay writes that that this can have several harmful environmental effects:

Besides predation or competition with local fauna, there are dangers of hybridization and reduction of genetic diversity. The inadvertent introduction of pathogens and diseases carried by the exotics is a particularly serious danger if adequate precautions are not taken.¹⁰⁸

V. “COASTAL-DEPENDENCY” AND ITS PARALLEL TO “WATER-DEPENDENCY” IN CLEAN WATER ACT SECTION 404(B) — IS THIS HELPFUL IN ADDRESSING THE COASTAL ACT’S ISSUES?

A. *Clean Water Act Section 404(b)*

A parallel can be drawn from the “coastal-dependency” determination in California’s Coastal Act to the “water-dependency” determination in the federal Clean Water Act section 404(b) permitting process made by the U.S. Army Corps of Engineers. In that process, a project is “water-dependent” if it “require(s) access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose.”¹⁰⁹ The “special aquatic site” referenced is typically a wetland. If the project is “non-water-dependent,” however, the Corps presumes practicable alternatives exist that do not involve use of the special aquatic site, and the project cannot develop on the proposed site.¹¹⁰ Like “coastal-dependency,” “water-dependency” can be a ticket to allow environmentally harmful development in environmentally sensitive areas if there is no other choice but to develop adjacent to the resource in question — that is, the development is dependent on that resource.

¹⁰⁶ SANTA BARBARA COUNTY LCP MAJOR AMENDMENT 3-91, *supra* note 86, at 39.

¹⁰⁷ This presumes, of course, that other places in the statute do not deem aquaculture automatically coastal-dependent. See *supra* note 87. For a counter to the statutory argument in note 87, consider that aquaculture is listed separately from coastal-dependent development in clause (7) of CAL. PUB. RES. CODE § 30233(a) (West 2006).

¹⁰⁸ T.V.R. PILLAY, *AQUACULTURE AND THE ENVIRONMENT* 20 (2d ed. 2004).

¹⁰⁹ 40 C.F.R. § 230.10(a)(3) (2007).

¹¹⁰ *Id.*

The case law on this topic can enlighten the Coastal Commission's approach to the question of "coastal-dependency." In a 1991 Permit Elevation Decision regarding a project called the Twisted Oaks Joint Venture, the Corps and courts found a project that proposed an earthen dam and residential development dependent on the power from that dam to be "water-dependent" in part and "water-related" in part.¹¹¹ The "water-dependent" part was the earthen dam — clearly it needed the water from the resource to be sited on the "special aquatic site." The residential development, however, was only "water-related"— the development required the water-created power, but the development did not require an adjacent site to that water-fueled power for its location. "Water-related" development does not garner the special status in the Clean Water Act that "water-dependent" development does per Clean Water Act section 404(b).¹¹² The Corps and the courts found that this project being "water-dependent" only in part did not make the project "water-dependent" as a whole.¹¹³

This parallels the definitions of "coastal-dependency" and "coastal-related development" in the California Coastal Act. Recall, "coastal-related" developments have lesser priority than "coastal-dependent" developments per PRC section 30255: "When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support."¹¹⁴ This is not the same as the higher priority status "coastal-dependent" development receives per PRC section 30255.¹¹⁵

Examples of non-"water-dependent" activities include housing, restaurants, cafes, bars, retail facilities, and convenience stores.¹¹⁶ Every time an applicant tries to "tack on" development on a waterfront property, the Corps and the courts have found the development does not qualify as "water-dependent" just because it sits next to a body of water. The Corps and the courts have found such a development can exist elsewhere, and have decided to protect "special aquatic sites" by not affording development that does not rely on that resource "water-dependent" status under section 404(b) of the federal Clean Water Act.

¹¹¹ U.S. ARMY CORPS OF ENGINEERS, PERMIT ELEVATION DECISION, TWISTED OAKS JOINT VENTURE 6-8 (1991).

¹¹² 40 C.F.R. § 230.10(a)(3) (2007). The statute only preferences "water-dependent" projects; water-related projects are not included by omission.

¹¹³ TWISTED OAKS JOINT VENTURE, *supra* note 111, at 6-8.

¹¹⁴ *Id.*

¹¹⁵ See discussion *supra* Part II.B.2.

¹¹⁶ U.S. ARMY CORPS OF ENGINEERS PLANTATION LANDING PERMIT ELEVATION DECISION 12 (1989); STATEMENT OF FINDINGS, ADAM'S RIB RECREATION AREA, APPL. NO. 9561 (Feb. 22, 1993), reprinted in C855 ALI-ABA 341 app. B at 391 (June 21, 1993). For cases finding waterfront contiguous housing developments not to be water-dependent, see *Korteweg v. Corps of Engineers of the U.S. Army*, 650 F. Supp. 603, 605 (D. Conn. 1986); *Shoreline Assocs. v. Marsh*, 555 F. Supp. 169, 179-80 (D. Md. 1983).

The parallels to coastal desalination are simple to draw. Coastal desalination uses coastal resources (ocean water for intake), but does not have to be next to that resource to necessarily facilitate the intake. Waterfront housing, restaurants, cafes, etc. do not have to be next to wetlands — they can exist apart from them, even if their power is drawn from a dam that relies on the resource. In both cases, it is better for the environment to draw clear lines that exclude developments that do not truly *have* to sit adjacent to the resource.

CONCLUSION

The 1992 Santa Barbara Local Coastal Plan amendment emphasized taking the determination of oil and gas processing facilities as “coastal-dependent” or not on a case-by-case basis.¹¹⁷ The Coastal Commission would do well to approach the coastal-dependent status of desalination plants the same way. Doing so could allow higher priority for building of lower-cost recreation facilities on the coast and public access to the coast. It could also maintain consistency with previously accepted Local Coastal Plans that deem similar activities that could be environmentally harmful (oil and gas processing facilities on the coastal, coastal aquaculture) non-coastal-dependent.

The Coastal Commission may not set such a precedent in Poseidon’s applications for Huntington Beach and Carlsbad for reasons specific to those permit applications. Still, it is an issue worth keeping in mind for these applications and future applications, for if one is approved it will likely set precedent for all future desalination plants. As this Article explains, desalination plants do not *have* to be found to be “coastal-dependent”; the Coastal Commission would do well for recreation and access to the coast to continue to assert desalination plants are not “coastal-dependent” under the California Coastal Act.

¹¹⁷ SANTA BARBARA COUNTY LCP MAJOR AMENDMENT 3-91, *supra* note 86, at 39.