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The California Sea Otter: Emerging Conflicts in Resource Management

JAMES J. ARMSTRONG*

The California sea otter, once hunted by Man until nearly extinct, has now repopulated to a surprising extent. The growing number of otters, however, threatens both commercial and amateur harvests of shellfish in California. Mr. Armstrong describes the history and present status of the otter and analyzes in detail the various forms of protection afforded it by law. In particular, he examines the controversy relating to the expansion of the otter’s habitat. He also critiques the attempt by the State of California to reacquire management of the species from the federal government.

INTRODUCTION

Man’s varied interest in the sea otter dates from 1741, when the shipwrecked Danish explorer Vitus Bering and his crew survived a harsh winter in the Aleutian Islands by consuming the animal’s flesh and forming coats and bed coverings from its thick fur.1 Over later decades, interest in the otter has taken two forms. Initially it was motivated by a desire for the animal’s pelt, considered the finest and most beautiful of all furs.2 This economic exploitation, set in motion by Bering’s return to Russia with sam-

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2. See Ellisberg, supra note 1, at 14-15; Gilbert, Dept. of Otter Confusion, SPORTS ILL., July 26, 1976, at 62, 64.
ples from his Aleutian winter, nearly resulted in the extinction of the species. More recently, Man's interest in the otter has been stimulated by the animal's surprising repopulation. Ironically, the otter is viewed as a resource but, like the whale, it is both a symbol of conservation failures and a rallying point for reform.

Although much stringent conservation legislation has been enacted in the past decade, many problems are still associated with the sea otter—both despite this legislation and because of it. Fishermen in California claim that otters are incompatible with a productive shellfish industry. In response, the state has sought to limit the species' range.³ It has been frustrated, however, by the heavy blanket of federal protection now surrounding the otter as well as by the animal's enthusiastic private supporters.⁴ The result is indicative of an increasingly frequent conflict in resource management: At what point must necessary preservation measures give way to equally important non-conservation interests? This article examines the sea otter, its history, and its present status and analyzes California's attempts to reconcile economic burdens with the strict federal safeguards now protecting the species.

Historical Background of the Sea Otter

Historically, the sea otter's range covered a great arch from the Japanese archipelago across the Aleutian Islands and down the coast of North America as far south as Morro Hermosa in Baja California.⁵ At present, however, otters occupy only portions of that range, with populations in the Aleutians and Alaska and with a small but expanding California stock.⁶

The sea otter, *Enhydra lutris*, is the smallest marine mammal.⁷ A member of the family *Mustelidae*, which includes river otters, mink, weasels, skunks, and badgers, it has totally adapted to the marine environment, hauling itself out onto land only rarely.⁸

³. California first applied to regain management authority over sea otters in August, 1974, in an effort to restrict their range. A revised application was submitted in 1976. With modifications it is still pending, although a scientific research permit has been granted. See notes 157-67 and accompanying text infra. The combined applications total over 1,000 pages.

⁴. The most visible pro-otter society, the Friends of the Sea Otter, is a Monterey, California, based organization with over 4,000 members. The Friends engage in lobbying efforts on behalf of the otter, fund some limited scientific research, and publish a newsletter entitled the *Otter Raft*.

⁵. K. Kenyon, supra note 1, at 133; Cal. Dep't of Fish and Game, The Sea Otter, *Enhydra lutris*, Marine Resources Leaflet No. 7, at 1-2 (1974) [hereinafter cited as Cal. Leaflet]. The aboriginal population is estimated to have numbered as high as 300,000 animals. *Id.* at 7.


⁸. K. Kenyon, *supra* note 1, at 4; C. Scammon, *The Marine Mammals of the*
Born in the ocean, the sea otter spends its life in shallow coastal waters seldom deeper than thirty fathoms. Kelp beds above a rocky floor constitute its preferred habitat, where it lives primarily on its back, using broad, flipper-like feet for propulsion. During sleeping periods, large groups of animals “raft” together in the kelp, draping long strands across their bodies to prevent drifting. Besides providing protection from the otter’s few natural enemies—sharks and possibly killer whales—the kelp serves as a food source for shellfish such as sea urchins. The shellfish, in turn, become a food source for the otter.

Like many marine mammals, the otter is an intelligent, highly social animal. Fighting is uncommon, even during mating periods, and a large percentage of time is taken up in frolicking. Maternal solicitude is intense; females spend over a year caring for pups which may equal their own size. Smaller pups are carried high on their mothers’ chests, often clasped firmly in the forepaws. Numerous accounts have related the protective behavior displayed by mother otters toward their young, and dead pups may be carried for days before being released.

Unlike other marine mammals, sea otters lack an insulating
layer of blubber. Because of this they are voracious eaters, necessarily consuming between twenty and thirty percent of their bodyweight daily to sustain a 100-degree body temperature in frigid waters. This extremely high metabolism causes the animals to spend a third of their lives foraging for food and has resulted in physiological adaptations. The otter's primary foods are shellfish, such as urchins, crabs, abalone, and clams, as well as bottomfish, squid, octopus, and in extreme situations, birds. Shellfish are often broken from the ocean floor with rocks and then carried to the surface in pouchlike folds of skin. Floating on its back, the animal balances the shellfish on its chest and pounds it open with a rock or, in modern times, a beer can or a pop bottle. This use of tools, ascribed to habit rather than intelligence, once aided hunters who followed the loud report of rock against shell.

As additional compensation for its lack of blubber, the otter has developed a marvelous coat. A biological insulator to the animal, its shimmering beauty proved to be a near-fatal handicap. The fur is long, soft, and dense and changes in hue from silver at the base to dark brown at the tip. It hangs loose around the otter's body; the coat of a five-foot animal will stretch to as long as eight feet when removed. This looseness allows the otter virtually to turn around inside itself during long periods spent meticulously...

17. Id. at 105.
18. Id. at 126, 129. It is estimated that the average adult California otter consumes approximately 5,000 lbs. of food annually and that a population of 1,600 adult and juvenile animals consumes approximately nine million lbs. (4,500 tons) per year. Cal. Leaflet, supra note 5, at 4.
19. C. Woodhouse et al., supra note 11, at 23. The otter's liver is approximately twice as large as those of other marine mammals, apparently to maintain its extremely high metabolic rate. Its kidneys have enlarged to facilitate existence in a salt environment. Id. at 7-8. The average lifespan of the otter is approximately 20 years. Id. at 45.
20. K. Kenyon, supra note 1, at 110-31; C. Woodhouse et al., supra note 11, at 36-37. Although otters will consume a vast array of food, abalone, and sea urchins are the preferred diet in California, probably accounting for 90% of intake by volume in newly occupied areas and 15-20% in stabilized regions. Cal. Leaflet, supra note 5, at 4. Unlike the Alaskan stock, California otters apparently consume fish rarely, probably because the sluggish bottom species plentiful in the North are uncommon in warmer California waters. Id. at 5; C. Woodhouse et al., supra at 22.
21. K. Kenyon, supra note 1, at 111; Cal. Leaflet, supra note 5, at 3.
23. K. Kenyon, supra note 1, at 85.
25. K. Kenyon, supra note 1, at 31-35; A. Ogden, supra note 13, at 4-6.
26. K. Kenyon, supra note 1, at 26; Gilbert, supra note 2, at 64.
grooming and fluffing the pelage. Such attention, however, is not attributable to vanity. When clean, the fur retains a layer of insulating and buoyant air which the otter blows into it. If the fur becomes dirty, however, the animal will become wet and either sink and drown or die of exposure. The otter’s susceptibility to any soiling of its fur has presented particular problems with oil contact in its increasingly polluted habitat and with confinement in captivity.

Exploitation

It has been accurately stated that “[t]he commercial opening of the Pacific Ocean was begun because of man’s desire for the fur of an animal.” This exploitation, which eventually included the major sea powers of the nineteenth century, began with Vitus Bering’s shipwreck in the Aleutians in 1741. In the years following his return to Russia and Man’s first introduction to the luxurious pelts, otter became the imperial fur of China, and a thriving world market was established. For nearly 100 years the Chinese demand was virtually insatiable, and the mandarins crafted pelts into exquisite cloaks and gowns, even forming tails and paws into caps and mittens.

The first to fill the Chinese market were the Russian promishlennik, or fur traders, who moved eastward across the Aleutians in search of otters. By 1774, however, the Spanish in California had begun to recognize the potential value of the furs which, to their amazement, the native Indians would trade for old clothes, beads, and even abalone shells the Spanish picked up along Monterey beaches. By 1787, in only the second year of active trading, the Spanish shipped 1,750 pelts to China in exchange for quicksilver, a metal needed by Mexican miners.

In 1778 the British entered the otter trade when Captain James

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28. See K. KENYON, supra note 1, at 284-86; notes 139-42 and accompanying text infra.
29. A. OGDEN, supra note 13, at 3.
30. Ellsberg, supra note 1, at 15. Aboriginal tribes along the American west coast made a similar complete usage of the otter. C. WOODHOUSE et al., supra note 11, at 56.
31. A. OGDEN, supra note 13, at 1.
32. Id. at 2.
33. Id. at 19.
Cook, in search of the Northwest Passage, bartered with Indians for pelts needed to ward off the cold of winter. When his ships later sold even the most badly worn skins for astronomical prices in Macao, Britain was firmly committed to the otter trade, working primarily the Northwest while Spain concentrated on the South.34

By the turn of the century, however, it was the Americans' turn to exploit the seemingly inexhaustible resource. Beginning in the Northwest, the Yankee traders worked southward toward the California stocks. At the same time, the Russians moved down from the North and began encroaching on Spain's territory with the establishment of Fort Ross above what is now San Francisco.35 The Russians and Americans soon entered into an agreement for the mutual exploitation of the California otter. Originally, the agreement flourished, fueled by transactions with local Californians in violation of Spanish law.36 However, the use of efficient Aleut hunters and, for the first time, equally efficient firearms tolled what was to become the otter's death knell.37

In the final years of the otter trade, the Americans became dominant. The Russians, limited to one Chinese port of entry, were unable to supply great numbers of furs to the oriental market, while the Americans and British could.38 Britain, however, was itself handicapped by a controversy between its two trading monopolies—the East India and South Sea Companies—which eventually all but eliminated its entrenchment in the otter market.39 In the meantime, Spain lost its otter resources with the Mexican independence movement, leaving the Americans with a virtual lock on the trade.

The Yankees' dominance, however, was short-lived. By the early twentieth century, after a half-million to one million pelts had been taken,40 sea otters were commercially extinct, and biological extinction appeared imminent. Furthermore, otter fell from favor in China, and the great oriental demand waned. The few available furs, however, still brought well over $1,000 apiece

34. Id. at 2-3; Ellsberg, supra note 1, at 17-18.
35. A. OGDEN, supra note 13, at 59-60.
36. Id. at 63.
37. Ellsberg, supra note 1, at 18-19. For a detailed discussion of the various hunting methods and instruments used, see C. SCAMMON, THE MARINE MAMMALS OF THE NORTHWESTERN COAST OF NORTH AMERICA 170-75 (1874).
38. Ellsberg, supra note 1, at 18-19.
39. Id.
40. K. KENYON, supra note 1, at 136. Approximately 200,000 pelts were taken from the California population alone. Cal. Leaflet, supra note 5, at 8. Estimates of the entire unexploited population of sea otters run as high as 300,000 animals. Id. at 7.
on the London market, but by 1910 fewer than a dozen were harvested from all hunting grounds during the entire season. The following year, in what has been termed "a classic after-the-horse-is-gone move," the Fur Seal Treaty of 1911 was signed, forbidding the killing of otters on the high seas. No one was certain, however, that any animals were left to be protected by the agreement. Both Alaska and California later enacted their own laws banning otter hunting, but the animal's days appeared to be over. In fact, it has been said that a major reason Russia was willing to sell Alaska so cheaply was that, with the otter gone, the land appeared worthless.

Rebirth: The Sea Otter Today

For decades, many believed that remnants of the once-great sea otter populations survived only in Alaska. In 1938, however, construction workers on a new highway near Big Sur, California, discovered a small band of otters playing in the surf. These animals, saved by an unusually inaccessible portion of the California coastline, have since expanded from a population of 100 to approximately 1,500 today. Transplants from this area and from the Alaskan stocks have subsequently been made to the coasts of Washington and Oregon.

Almost immediately the California sea otter became a cause célèbre of the conservation movement. As its population rose, however, commercial shellfishermen began to complain of decreased catches in areas reinhabited by the marine mammals.

41. Ellsberg, supra note 1, at 63. One fur is reported to have brought $1,703.33. See Gilbert, supra note 2, at 64-65. In 1968, four pelts were sold for $2,300 apiece. K. Kenyon, supra note 1, at 42.
42. Ellsberg, supra note 1, at 63.
43. Gilbert, supra note 2, at 64.
44. The 1911 treaty was signed by the United States, Russia, Japan, and Canada, but was terminated in 1941 by Japan. The current Fur Seal Treaty, signed in 1957, does not include otters in its provisions. Interim Convention on Conservation of North Pacific Fur Seals, done Feb. 9, 1957, [1957] 8 U.S.T. 2283, T.I.A.S. No. 3946, 314 U.N.T.S. 105. See notes 210-16 and accompanying text infra.
48. See 41 Fed. Reg. 56,718, 56,725 (1976) for the current status of such transplants, including the sighting of pups.
The state and the general public quickly dismissed these complaints. In time, however, even recreational shellfishermen noticed declining yields of abalone and pismo clams. In response, the state proposed to limit the otter's continued expansion. At about the same time, Congress enacted the stringent Marine Mammal Protection Act of 1972, which imposes a moratorium on the taking of all marine mammals. Moreover, in 1977 the federal government afforded the otter an additional blanket of protection when the California stock was declared "threatened" under the Endangered Species Act of 1973. Any attempt by California to limit sea otter populations, therefore, must now comply with the various protective schemes that surround the species.

**The Marine Mammal Protection Act**

**The Act**

Finding that "certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities," Congress enacted the Marine Mammal Protection Act of 1972 (MMPA). The scope of the MMPA is ambitious: It endeavors to maintain all species of marine mammals at their "optimum sustainable population," a new concept in resource management and the first in a United States statute to require consideration of the entire ecosystem, not merely the managed species. At the same time, certain provisions of the Act—such as the definition of optimum sustainable population itself—are cryptic, and recent decisions arising out of the "porpoise-tuna" controversy have only begun the process of interpretation.

The heart of the MMPA is a moratorium on the "take" or the importation of all marine mammals. "Take" is defined broadly

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49. See Gilbert, supra note 2, at 66.
to include the capture, killing, or harassment of marine mammals or any attempt to do so.\textsuperscript{57} There are several exceptions to the moratorium: First, permits may be granted for scientific research or for public display;\textsuperscript{58} second, Alaskan natives may take marine mammals for subsistence and for handicrafts;\textsuperscript{59} and third, animals may be taken incidental to commercial fishing operations.\textsuperscript{60} This exception, tailored to the porpoise-tuna problem, sparked \textit{Committee for Humane Legislation, Inc. v. Richardson,}\textsuperscript{61} the only major litigation under the Act to date. In addition to these three specific provisions, the statute allows a general waiver of the moratorium in certain instances.\textsuperscript{62} Unless a proposed taking falls within one of the specific exceptions, it must be pursuant to a

\textsuperscript{57} \textit{Id.} § 1369(13). The regulations make clear that the term includes virtually any interference with marine mammals, including transportation or physical limitation of their range:

"Take" means to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal, including, without limitation, any of the following: The collection of dead animals or parts thereof; the restraint or detention of a marine mammal, no matter how temporary; tagging a marine mammal; or the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in the disturbing or molesting of a marine mammal.

\textsuperscript{58} 16 U.S.C. § 1371(a) (1) (1976). All permits must also comply with the provisions of § 1374, which requires specification of the number and the kind of animals to be taken and the method to be employed, which must be humane. Furthermore, the applicant must demonstrate that the taking will be consistent with the purposes of the Act. \textit{Id.} § 1374(b), (d)(3).

\textsuperscript{59} \textit{Id.} § 1371(b).

\textsuperscript{60} \textit{Id.} § 1371(a)(2). Before any such taking occurs, a permit must be granted. \textit{See} note 61 \textit{infra}.


The porpoise-tuna controversy arose when several environmental organizations filed suit against the National Marine Fisheries Service (NMFS), the agency responsible for enforcing the MMPA in regard to porpoise, seeking to halt commercial tuna purse-seining which incidentally killed hundreds of thousands of the marine mammals annually. The district court held that the agency had failed to comply with §§ 1373 & 1374 of the MMPA, which require: (1) all permit applicants to show that any taking will be consistent with the purposes of the Act and not to the disadvantage of the marine mammals involved; (2) all permits to specify the number and the kind of marine mammals that will be taken; and (3) the publication of existing population levels and of any impact of taking on the marine mammals' "optimum sustainable population" (OSP). Thus, the district court enjoined further purse-seine operations until the MMPA was complied with. The appellate court affirmed but stayed the injunction for several months. Regulations subsequently published have purported to meet the court's objections. Purse-seining has continued, although under more stringent quotas and gear restrictions. Further litigation is still pending. \textit{See generally} Nafziger & Armstrong, note 55 \textit{infra}.

waiver. Obtaining a waiver requires opportunity for a separate hearing.63

The MMPA also provides for the return to the states of management authority over marine mammals in certain instances.64 Absent such a return, management of the Act is divided between the Secretaries of Commerce and of the Interior, depending on the species of animal involved.65 To aid in this management, the MMPA created the Marine Mammal Commission, a committee of scientific advisors that oversees marine mammal research and advises the implementing agencies.66

Return of Management Authority to California

For decades wildlife was considered the property of the state in which it resided.67 In 1920, however, the Supreme Court in Missouri v. Holland68 initiated the current rule: State control over wildlife is subject to federal preemption.69 In the case of marine mammals, Congress has specifically preempted state management with the MMPA.70 Under section 1379 of the Act, however, states may reacquire management authority if the appropriate Secretary determines that local laws and regulations are consistent with regulations promulgated under the MMPA and under any provisions of the Act that apply to the species sought to be

63. Id. § 1373(d). See Gaines & Schmidt, supra note 53, at 50,100.
64. 16 U.S.C. § 1379(a) (2) (1976).
65. The Secretary of Commerce has jurisdiction over all marine mammals of the orders Cetacea and Pinnipedia, except walrus. This jurisdiction includes whales, porpoises, and seal-like mammals. The Secretary of the Interior has jurisdiction over all other marine mammals, including sea otters. Id. § 1362(12).
66. Id. §§ 1401-1407.
68. 252 U.S. 416 (1920).
69. Erosion of the doctrine of state ownership of wildlife has been based on the federal treaty power, the property clause, and the commerce clause. U.S. Const. arts. VI, IV, § 3; I, § 8, cl. 2. Holland, which upheld the constitutionality of the Migratory Bird Treaty of 1918, ch. 128, 40 Stat. 755 (1918) (current version at 16 U.S.C. §§ 703-711 (1976)), was based on the federal treaty-making power. The property clause can be read to allow virtually complete federal government control over wildlife on public lands. See Kleppe v. New Mexico, 426 U.S. 529 (1976) (upholding the constitutionality of the Wild Free-Roaming Horses and Burros Act, 16 U.S.C. §§ 1331-1340 (Supp. IV 1974) (current version at id. (1976))). The Supreme Court has not specifically interpreted preemption of state wildlife control by the commerce clause, the basis of the MMPA's provisions, although the consensus is that "there is little reason to believe that the authority [of the Commerce Clause] is of any lesser stature than that conferred by the Property Clause." Bean, Law and Wildlife: An Emerging Body of Environmental Law, [1977] 7 Envr'l L. Rep. (ELI) 50,013, 50,019. See also Toomer v. Witsell, 334 U.S. 385 (1948); Etling, Who Owns the Wildlife?, 3 Envr'l L. 23 (1973).
In August, 1974, California applied to the Fish and Wildlife Service (FWS), the branch of the Department of the Interior with responsibilities over sea otters, for a return of such management authority to the state. A second application made in 1976 is still pending. The California application brings into focus section 1379, a provision that may be the most obscurely drafted portion of the MMPA. It is unclear from the section's wording, or from its sparse legislative history, exactly what the requirements and effects of a return of management authority are. Moreover, no courts have interpreted section 1379, although Alaska reacquired management authority under it for walrus in 1975 and, recently, for eight other marine mammal species, including Alaskan sea otters.

To obtain a return of management authority under section 1379, a state must submit a request to the FWS accompanied by the state laws and regulations to be given effect if the waiver is granted, along with a scientific description of the species of

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72. Gaines & Schmidt, supra note 53, at 50,111.
73. See notes 157-67 and accompanying text infra.
74. 16 U.S.C. § 1379(a)(1), (2) (1976):
(1) Except as otherwise provided in this section, no State may adopt any law or regulation relating to the taking of marine mammals within its jurisdiction or attempt to enforce any State law or regulation relating to such taking.
(2) Any State may adopt and enforce any laws or regulations relating to the protection and taking, within its jurisdiction, of any species or population stock of marine mammals if the Secretary determines, after review thereof, that such laws and regulations will be consistent with (A) the regulations promulgated under section 1373 of this title with respect to such species or population stock, and (B) such other provisions of this chapter, and any rule or regulation promulgated pursuant to this subchapter, which apply with respect to such species or population stock. If the Secretary determines that any such State laws and regulations are so consistent, the provisions of this chapter except this section and section 1371 (except to the extent that the Secretary waives the application of section 1371 to permit such State laws and regulations to take effect) and 1380 of this title, and subchapter III of this chapter, shall not apply with respect to the species or population stock concerned within the jurisdiction of the State.
75. See note 83 infra.
76. Alaska has obtained control over Pacific walrus, sea otters, polar bears, northern sea lions, harbor seals, ringed seals, ribbon seals, bearded seals, and beluga whales. The final waiver of the moratorium and return of management authority over the species was approved in January, 1979. 44 Fed. Reg. 2,540 (1979). The new regulations allow for the annual harvest of 3,000 Alaskan otters. Id. at 2,546-47.
marine mammals to be managed.\textsuperscript{77} The Secretary will then determine whether the state program is consistent with the MMPA and with any regulations concerning the animals involved.\textsuperscript{78} The regulations require the state to demonstrate to the FWS that its laws provide for a modern resource-management program based on the best scientific evidence available and that its primary goal is to maintain the health and stability of the marine ecosystem.\textsuperscript{79}

The interpretation of section 1379 derived from the Alaska application and from FWS regulations is apparently that the section allows only the return of management authority and does not by itself permit the taking of marine mammals.\textsuperscript{80} This interpretation is a fair reading of the Act, which specifically states that section 1371, the provision establishing the moratorium and exceptions, continues to apply after management is returned.\textsuperscript{81} It appears, therefore, that if a state is to “take” marine mammals in the course of its management—an almost certain deduction—its proposal must come within one of the three exceptions to the moratorium, or the state must seek a general waiver of the moratorium’s terms. It should be noted, however, that the statute’s wording suggests the Secretary can additionally waive all the provisions of section 1371, not just the moratorium, in allowing state management to take effect.\textsuperscript{82} In other words, the state would neither be required to come within an exception to the moratorium nor seek and satisfy a general waiver of its terms. The Secretary, in returning authority to the state, would merely determine simultaneously that section 1371, in its entirety, did not apply to the extent required for the state’s management activities to take effect. Although the face of the statute suggests such a

\textsuperscript{77} 43 Fed. Reg., 45,370, 45,372 (1978) (to be codified in 50 C.F.R. § 18.53(a)).
\textsuperscript{80} Neither interpretation is particularly clear. The Alaska application sought both a return of management authority and a waiver of the moratorium. See 44 Fed. Reg. 2,540 (1979); Gaines & Schmidt, supra note 53, at 50,110-13. The implementing regulations of § 1379, 50 C.F.R. §§ 18.51-.58 (1977), as amended by 43 Fed. Reg. 45,370, 45,372-74 (1978), indicate that a waiver of the moratorium is not necessarily required before a return of management authority takes effect. This is despite the fact that virtually any state interference with the marine mammals during management would technically be a “take” under the MMPA’s broad definition of that term, thus requiring permission to circumvent the moratorium. See notes 56-63 and accompanying text supra. Presumably, however, management authority could technically also be returned without some lifting of the moratorium or, because taking would almost invariably occur, under one of the other three exceptions to it. California’s decision to seek a return of management authority along with a scientific research permit rather than a waiver is precisely the latter approach. See notes 157-67 and accompanying text infra.
\textsuperscript{81} See note 74 infra.
\textsuperscript{82} The last sentence of subsection (a)(2) provides that the Secretary may waive the application of § 1371, not merely the moratorium contained in § 1371(a).
procedure, the procedure has not been utilized or apparently even considered in either the Alaska or the California applications and will not be further discussed here. 83

**Waiver of the Moratorium**

Alaska, and initially California, sought to reacquire management authority under section 1379 coincidental to a general waiver of the moratorium under the MMPA's specific waiver provision so that "taking" of animals could occur. 84 For reasons discussed below, California found that such an approach was most likely foreclosed under present conditions. In response, it has sought to come within one of the other three exceptions to the moratorium and has been granted a limited scientific permit that allows some taking, 85 although the request to reacquire management authority is still pending.

Waiver of the moratorium is a detailed and relatively complex process which requires two separate determinations by the Secretary, each with its own administrative requirements. The moratorium may be waived only if the Secretary first determines that the taking is in accord with sound principles of resource conservation and with the policies of the MMPA. 86 This decision must be made "on the record after opportunity for an agency hearing," 87 a requirement that should invoke the extensive administrative safeguards afforded adjudicatory actions and normally not applied to rulemaking. 88 Furthermore, the Secretary must pro-


It seems unlikely that Congress intended such a procedure because it would grant virtually complete discretion in the Secretary to return authority and would bypass the substantive requirements that must be followed under a § 1371(a)(3)(A) waiver of the moratorium. These requirements include a decision based on the best scientific evidence available and in consultation with the Marine Mammal Commission as well as the population impact statements required under § 1373 and the restrictive permit provisions of § 1374. However, until Congress or the courts interpret the statute differently, such a "superwaiver" procedure should be considered a possibility.


85. See notes 166-67 and accompanying text infra.


87. Id. § 1373(d).

88. See K. DAVIS, ADMINISTRATIVE LAW TEXT 527 (1972); Coggins, Legal Protec-
ceed only on the basis of the best scientific evidence and in consultation with the Marine Mammal Commission, having due regard for the marine mammals’ distribution, abundance, breeding habits, and migratory movements.89

An important requirement of a moratorium waiver is compliance with sections 1373 and 1374 of the MMPA90—the provisions at issue in the porpoise-tuna litigation and, as the tuna industry and the National Marine Fisheries Service (NMFS) learned, requirements of substantial force.91 While section 1374 may not pose as great an obstacle in the otter situation,92 section 1373 is in many respects the heart of the MMPA, requiring that before regulations are promulgated under the Act, the Secretary must provide another opportunity for a hearing and publish both a statement of the estimated population levels of the species and stocks to be taken and a statement of the effect of such taking on the species’ optimum sustainable population (OSP).93

In the porpoise-tuna litigation, the NMFS was unable to make these statements because of both a paucity of scientific knowledge and confusion over the meaning of OSP.94 Subsections for Marine Mammals: An Overview of Innovative Resource Conservation Legislation, 6 Env. L. 1, 32 (1975). The requirement may also mandate a more stringent standard of judicial review. See generally Nafziger & Armstrong, supra note 55, at 234-36.

90. Id.
91. See Nafziger & Armstrong, supra note 55, at 235-52.
92. Section 1374 requires specification of the number and kind of marine mammals to be taken as well as the method to be used, which must be humane. Moreover, it requires each applicant to demonstrate that any taking will be consistent with the purposes of the Act. 16 U.S.C. § 1374(b), (d)(3) (1976). Both these requirements posed difficulties in the porpoise-tuna litigation because of the wording of the permit granted and because of inadequacies in the American Tunaboat Association’s application. See Nafziger & Armstrong, supra note 55, at 247-52. In the otter situation, however, it should be possible to avoid such problems through more careful drafting, although if an OSP for the species is not determined it will be extremely difficult for the state to show that any taking is in the otter’s best interest and consistent with the strong conservationist policies of the Act, as interpreted by Committee for Humane Legislation, Inc. v. Richardson, 414 F. Supp. 297 (D.D.C.), aff’d, 540 F.2d 1141 (D.C. Cir. 1976). See note 167 and accompanying text infra.

“[O]ptimum sustainable population” means, with respect to any population stock, the number of animals which will result in the maximum productivity of the population of the species, keeping in mind the optimum carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.

Id. § 1362(9).

“[O]ptimum carrying capacity’ means the ability of a given habitat to support the optimum sustainable population of a species or population stock in a healthy state without diminishing the ability of the habitat to continue that function.” Id. § 1362(8).
94. See Nafziger & Armstrong, supra note 55, at 235-47.
quently, however, the agency was able to arrive at population estimates and promulgated a working definition of OSP as "a population size which falls within a range from the population level of a given species or stock which is the largest supportable within the ecosystem to the population level that results in maximum net productivity."95 Under this somewhat controversial definition,96 an OSP for a given species represents a range of population sizes and not one "optimum" level. Furthermore, it allows marine mammals to be reduced to approximately half their unexploited or virgin populations while still technically remaining within their OSP, a result that may be in conflict with sound resource management and the intent of the MMPA's drafters.97

The FWS did not promulgate its own working definition of OSP until 1979. Regarding the return of management authority over walrus to Alaska, the agency simply determined that, while it was not certain what the concept represented, the walrus stocks were within its scope.98 However, because of the strict judicial interpretation in Committee for Humane Legislation, Inc. v. Richardson99 and in order to promote uniformity of interpretation and to avoid a duplication of time and effort, the FWS adopted the NMFS definition and followed it in the recent decision to return

95. 41 Fed. Reg. 55,536 (1976). "Maximum net productivity" is defined as "the greatest net annual increment in population numbers or biomass resulting from additions to the population due to reproduction and growth less losses due to natural mortality." Id. Under general principles of population dynamics, it has been determined that a population's "maximum net productivity," or what would be the lower limit of the OSP range, is usually between 50-60% of the pre-exploitation population. The application of such principles to marine mammals, however, is subject to several criticisms. See Nafziger & Armstrong, supra note 55, at 242-47.
96. See Nafziger & Armstrong, supra note 55, at 242-47.
97. This amount of taking is equivalent to maximum sustainable yield, an increasingly criticized, harvest-oriented concept that has been rejected by the United States for fisheries management and which seems inconsistent with the protection of species under a conservation statute the principal feature of which is a moratorium on taking. Moreover, the NMFS definition conflicts with the legislative history behind OSP, is based on questionable interpretations of data, and raises serious conflicts with other MMPA concepts such as "optimum carrying capacity" and "depletion." The plain wording of the MMPA and its legislative history would suggest that, instead of the NMFS definition, OSP should represent the policy of allowing marine mammals to exist without interference from man unless their populations interfere with the carrying capacity of the environment. See id. at 236-47.
99. 414 F. Supp. 297 (D.D.C.), aff'd, 540 F.2d 1141 (D.C. Cir. 1976). To comply with the courts' interpretation of § 1371 and to publish the required statements, the NMFS was forced to adopt a working definition of OSP.
management authority over the other Alaskan species.\textsuperscript{100}

Determining an Optimum Sustainable Population for the Sea Otter

If a marine mammal population is not at its OSP, taking may not occur under the MMPA except for scientific research purposes.\textsuperscript{101} The key to any general waiver of the moratorium for the California sea otter, therefore, is a determination of the species' current population with respect to its OSP.

The role of the sea otter in the marine environment is still largely unknown.\textsuperscript{102} However, state and federal authorities, prodded by the California controversy, are currently conducting research on various aspects of the otter/environment interaction.\textsuperscript{103} Available evidence indicates that otters exert a profound influence on the nearshore community they inhabit. Studies conducted in the Aleutians, for example, have found that islands with large otter populations have luxuriant kelp growth in nearshore waters while islands without otters do not.\textsuperscript{104} This growth is apparently caused by a staple of the otter's diet, the sea urchin, which is an algal grazer that destroys vast amounts of kelp.\textsuperscript{105} As the otter reduces urchin populations, the kelp flourishes.\textsuperscript{106} In turn, this relationship between otter, urchin, and kelp determines the structure and complexity of the nearshore environment. Kelp beds are one of nature's most productive habitats, harboring a great diversity of life forms, including fish.\textsuperscript{107} The presence of kelp, however, can reduce wave turbulence, causing sessile in-

\textsuperscript{102} \textit{See} \textit{Annual Report of the Marine Mammal Commission, Calendar Year 1976}, at 11-13 (1977); C. Woodhouse \textit{et al.}, supra note 11, at 37; Palmisano & Estes, supra note 1, at 52.
\textsuperscript{105} \textit{Sea Otters}, supra note 104, at 1058. As bottom-dwellers, the urchins cannot feed on the large upper portions of the kelp, but instead gnaw through the fibrous holdfasts that secure it to the ocean floor. Once severed, the kelp drifts away, its weight often carrying other plants with it. \textit{See} Branning, \textit{Giant Kelp: Its Comeback Against Urchins, Sewage, Smithsonian}, Sept., 1976, at 102, 103.
\textsuperscript{106} \textit{Sea Otters}, supra note 104, at 1059.
\textsuperscript{107} \textit{See} Palmisano & Estes, supra note 1, at 48-50. This is particularly true of the giant kelp \textit{Macrocystis pyrifera}. As one California Department of Fish and Game biologist has stated, "[t]he importance of giant kelp as a fish habitat cannot be underestimated. It is estimated that a rocky bottom can support about 100 pounds of fish per acre, but the same area covered with kelp can support three
vertebrates to smother in sediment. Moreover, otter foraging in kelp-rich areas tends to depress shellfish populations as a whole. Thus the Rat Islands, where otters are prevalent, have low urchin populations and dense kelp beds; filter-feeding invertebrates such as barnacles and mussels are scarce, but substantial populations of bottom fish exist. By contrast, in the Near Islands, which have no otters, the ocean floor is covered with dense populations of sea urchins. As a result, kelp is heavily grazed, sessile invertebrates flourish, and the diversity of marine life, including fish, is limited. By feeding on urchins, therefore, the otter helps both to establish and to sustain its preferred habitat.

Extension of the Aleutian studies to the California otter population requires some qualification because the nearshore ecosystem is more complex. Other predators of sea urchins are present, such as sheephead fish and sea stars, as are other kelp grazers such as abalone. There is little doubt, however, that the otter's influence on the environment is as extensive, if not more so, than it is in the Aleutians. In fact, two researchers have concluded that the sea otter in general is a "keystone species" and "an evolutionary component essential to the integrity and stability of the ecosystem." It appears, therefore, that the sea otter radically affects the nearshore ecosystem. One result of that influence is a reduction in shellfish stocks. California's applications for a return of management authority have sought primarily to protect those stocks, in particular the state's twenty million dollar per year abalone industry, by limiting the otter's expanding range. Where present,

108. See Sea Otters, supra note 104, at 1059. The presence of fewer sessile invertebrates in abundant kelp areas may also be caused by otter foraging.
109. See also C. Woodhouse et al., supra note 11, at 65; Cal. Leaflet, supra note 5, at 8-11.
110. Palmisano & Estes, supra note 1, at 49-51; Sea Otters, supra note 104, at 1059.
111. Sea Otters, supra note 104, at 1059.
112. Palmisano & Estes, supra note 1, at 52.
113. Id. at 50-52.
114. Sea Otters, supra note 104, at 1060.
115. The otter's range has expanded an average of 0.92 miles/year to the north and 1.61 miles/year to the south since 1938. Once established, otters tend to average only 12 per mile. C. Woodhouse et al., supra note 11, at 3. Expansion occurs through a "migrant front" of subadult males most likely seeking a more plentiful
abalone forms a basic part of the otter's diet, and commercial yields have decreased markedly following the influx of otters into previously unoccupied areas. California, in fact, contends that there can be virtually no commercial or sport harvest of abalone and a variety of other shellfish where sea otters regularly forage. Although otters apparently reduce the abalone population, however, there appear to be contributing factors to the industry's decline, such as increased pollution and severe overfishing. For example, recreational abalone hunting alone has expanded by 400% in the past decade, and commercial pressure has increased accordingly. Furthermore, evidence exists that abalone once thrived while being harvested both by aboriginal man and by uncontrolled otter population, which would suggest that any blame for the current decrease in shellfish stocks cannot be placed entirely on otter foraging.

The prevailing interpretation of OSP, as noted earlier, encompasses an entire range of populations from approximately fifty percent of the unexploited stock up to the largest supportable by the environment; if a marine mammal population is below its OSP, no taking may occur under the MMPA except for scientific food supply, although it has been alternatively suggested their actions are caused by an evolutionary tendency for excess young males to seek out new habitats. 

116. K. Kenyon, supra note 1, at 129-32; C. Woodhouse et al., supra note 11, at 36-38; Palmisano & Estes, supra note 1, at 51-52. But see A. Daugherty, Marine Mammals of California 74 (1965), questioning whether large numbers of abalone are taken by otters.

117. K. Kenyon, supra note 1, at 129-30; C. Woodhouse et al., supra note 11, at 65; Gilbert, supra note 2, at 70.

118. Cal. Leaflet, supra note 5, at 8-10. The species affected include abalone, sea urchins, red and rock crabs, Pismo clams, and possibly spiny lobsters.

119. Gilbert, supra note 2, at 72.

120. The number of licensed abalone fishermen in California increased from 11 in 1928 to 505 as early as 1963. K. Kenyon, supra note 1, at 130. Moreover, not until 1976 did the state take limited steps to close seasons and areas to abalone harvesting and to restrict the number of licensees in the fishery. Cal. Fish & Game Code §§ 8300-8306 (West Supp. 1977).

121. Such conclusions are based largely on studies of sea otter and shellfish remains in Indian shell middens along the California coast which date to a period before the commercial extinction of the otter. The existence of otter skeletons and large abalone shells in shell mounds leads some researchers to conclude that otter predation has little effect on the shellfish. Rashkin, Monterey Peninsula Shell Mounds—Some General Remarks, Monterey County Archaeol. Soc'y Q. 5 (1972). See also R. Orr, Marine Mammals of California 43 (1972). Such studies, however, have been criticized on the ground that shell middens are not a representative sample of populations existing in nature but rather reflect the harvesting capabilities of the aboriginal tribes, as middens could have developed over many years of low abalone yields. Cal. Leaflet, supra note 5, at 7. A resolution of this controversy will require a more detailed examination of the middens with emphasis on such factors as whether large shells are plentiful, which would tend to support the conclusion that an extensive, stable abalone population was present along with the otter. See C. Woodhouse et al., supra note 11, at 65-67.

122. See note 95 and accompanying text supra.
research purposes. However, if a population is within its OSP, taking is allowed. In determining whether to permit the taking of such marine mammals and to what extent, the Secretary must consider several factors. These factors include international obligations, the marine ecosystem and environmental considerations, the economic and technological feasibility of implementing the taking and, of importance, the conservation and utilization of fishery resources. These factors, therefore, are to be considered in determining the level at which a marine mammal population should be maintained within its broader OSP range. Thus if the Secretary determines that a fishery is adversely affected by a marine mammal, then, taking the other factors into consideration, the species can be reduced in population so long as it does not fall below the minimum range of OSP. In the tuna industry, for example, several species of porpoise used to locate and maneuver yellowfin tuna have been reduced to the lower range of their OSP solely for commercial fishery purposes. It appears, therefore, that the Secretary determined the “optimum” level of those porpoise stocks within their OSP spectrum to be the lowest population allowed under the MMPA.

Assuming for the moment that the sea otter is within its OSP

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123. See text accompanying note 101 supra.
125. Although this statement represents the prevailing view of fishery/marine mammal conflicts under the MMPA, legislative history strongly suggests that it may be erroneous, especially in regard to protecting abalone stocks from sea otters. Note the following discussion in the House:

Mr. Biaggi. Mr. Chairman, the committee bill requires the Secretary in setting limitations to take into consideration the “conservation, development, and utilization of fishery resources” and “the economic and technological feasibility of implementation.” Is not this the same as saying if the abalone fishing industry, for example, was allegedly being threatened by the sea otters, the Federal Government could order a selective killing of the otters to protect the fishing industry?

Mr. Dingell. No. The answer to that is the basic consideration to be kept in mind by the Secretary... that the taking must not be to the disadvantage of the species of marine mammals. The protection of fish and shellfish is secondary.

126. See Nafziger & Armstrong, supra note 55, at 231 n.55. Such a result would appear to conflict with the MMPA’s primary purpose, which has been interpreted as protecting marine mammals and not sanctioning a “balancing act” between their interests and those of the fishing industry. Committee for Humane Legislation, Inc. v. Richardson, 414 F. Supp. 297, 306-09 (D.D.C.), aff’d, 540 F.2d 1141 (D.C. Cir. 1976). As long as a species remains within its OSP, however, it appears that the interests of the animals are considered satisfied and that taking may occur.
range and that taking may therefore occur under a waiver of the moratorium, a determination of the species’ “optimum” level may be more complex than in the porpoise situation. First, if the reason for reducing a marine mammal’s numbers is overpopulation, as with the California otter, the Secretary must first consider transplanting the excess members before any taking is allowed. Second, the otter adversely affects only shellfish stocks, and current evidence indicates that other potentially more valuable fisheries, especially bottom species, may benefit from the otter’s presence and any resulting kelp growth. This second consideration is becoming increasingly strong in light of urchin overpopulation, which is largely responsible for destroying the giant kelp *Macrocystis pyrifera* in California waters. This plant, considered “one of the key links needed to maintain the precious chain of ecological balance in Pacific coastal waters,” supplies an extremely fertile habitat for fish by attracting small animals to serve as food and by providing protection. Moreover, when harvested the kelp is the basis of a multi-million-dollar industry producing algin. Kelp is also being studied carefully as a food supply and as a source of energy in the form of methane gas. Present efforts to check urchin growth have necessitated the usage of chemical controls. However, it is generally agreed that the otter, through its voracious predation, can contribute to a restoration of

129. The decline of the kelp is blamed primarily on urchin overpopulation and sewage, which allows the urchins to sustain themselves after a kelp bed has been devoured, thus preventing the plants from rejuvenating. A gradual warming trend in California coastal waters has also contributed to the kelp’s destruction. Branning, supra note 105, at 103-04.
130. Id. at 103.
131. See note 107 and accompanying text supra.
132. Branning, supra note 105, at 102. Algin, which is extracted from the kelp, is used as a thickening, emulsifying, or film-forming agent in a vast array of products from beer to pharmaceuticals. Id.
133. Continuing research has shown that 300 lbs. of kelp can produce 3 lbs. of methane in a process that captures 90% of the energy the kelp would release if burned while also producing a residue that can be converted to fertilizer, cattle fodder, algin, and human foods. Usage of kelp to generate energy is expected to take on greater significance as existing energy sources dwindle. Id. at 107-08.
the ecological balance in the nearshore ecosystem and permit a resurgence in kelp growth.\textsuperscript{135}

The California situation thus presents a delicate balancing in determining the “optimum” otter population within the OSP spectrum. It may not be possible for vast numbers of shellfish, kelp, and bottomfish to coexist without chemical manipulation and the unknown and unwanted side effects which often result. Moreover, evidence indicates that the extensive west coast shellfish stocks are themselves a result of Man’s interference with the natural balance of the nearshore ecosystem in removing the otter originally.\textsuperscript{136} Reintroduction of the urchin’s natural predator may restrain urchin growth and readjust the ecological balance, although with a likely decrease in shellfish yields enjoyed during the past few decades. Also, it is possible that as the otter becomes established and completes the filling of what is now an empty environmental niche, food selection will expand to include a wider variety of prey species.\textsuperscript{137} These elements should weigh heavily in any determination of the otter’s optimal level within its OSP range and in approval of California laws, in light of the MMPA’s primary goal of maintaining the health and stability of the marine ecosystem with particular emphasis on the role of marine mammals in that ecosystem.\textsuperscript{138}

Another important factor in any consideration of the otter’s “optimum” population level within its OSP spectrum is its particular susceptibility to oil pollution. Exposure to oil destroys the water-repellent properties of the otter’s fur and causes the fur to lose the blanket of trapped air that provides buoyancy and insulation against chill waters, resulting in death from overexposure or

\textsuperscript{135} See C. Woodhouse et al., supra note 11, at 37; Branning, supra note 105, at 108; Sea Otters, supra note 104, at 1060. Although reintroduction of the urchin’s natural predator should benefit the kelp, otters are probably not a panacea for all kelp problems. For example, otters can do nothing to cool warming California waters. See note 129 supra. Moreover, studies have noted kelp resurgences in areas outside the otter’s range, suggesting that many complex factors may be operating concurrently. C. Woodhouse et al., supra at 37. Cal. Leaflet, supra note 5, at 8. Without otters, however, one scientist has concluded that “the coast will never be returned to its original state.” Branning, supra at 108.

\textsuperscript{136} See Palmisano & Estes, supra note 1, at 51.

\textsuperscript{137} C. Woodhouse et al., supra note 11, at 65. After otters have become established in an area, their population tends to stabilize at only 12 per mile. This low density will possibly allow some regrowth in shellfish stocks from levels of maximum otter population. Id. at 3. See also note 115 supra.

drowning. The California otter population is particularly susceptible to oil pollution because major petroleum unloading facilities are located at both ends of its present range, and current plans call for expansion of the facilities. Because the California stock consists of between only 1,000 to 2,000 members, a major spill could destroy a significant portion of the population. Any determination of an “optimum” population level, therefore, must examine both the otter’s biological susceptibility to oil and the increasing likelihood of such exposure in California waters.

The discussion above has focused on an “optimum” population level of the sea otter within its OSP range. It necessarily assumed, therefore, that the otter was currently within that range. This, however, may not be the case. The FWS definition of OSP focuses on existing population sizes in relation to pre-exploitation populations, and because the large Alaskan otter stock may approach pre-exploitation levels, it is conceivable that the population level of the species in general—Alaskan plus California animals—is above fifty percent of the pre-exploitation level and therefore within the lower limit of OSP. However, the MMPA affords protection to both species and “population stocks,” a term that includes part of a species or subspecies. If the California otter population is viewed as a separate stock, it is almost certainly below its OSP.

A heated debate over whether the California and Alaskan sea otters are separate subspecies has been underway for some time, and prominent scientists have reached conclusions on both sides of the question. For purposes of federal law, however, the issue

141. Id. at 2,965.
142. Id. at 2,967. The otter’s susceptibility to oil was a major factor in the FWS decision to list the species as “threatened” under the Endangered Species Act. Id. Much of the animal’s aboriginal environment has, of course, been affected by pollution, and DDT and its derivatives are now found in otter tissue. C. WOODHOUSE et al., supra note 11, at 17-20.
143. Kenyon estimates that the total population of sea otters before exploitation was between 100,000 and 150,000 animals. Other estimates place the number between 150,000 and 300,000. K. KENYON, supra note 1, at 198; Cal. Leaflet, supra note 5, at 7. Today, the Alaskan population is around 120,000 animals while the California stock is between 1,500 and 2,000. 41 Fed. Reg. 56,718, 56,725 (1976). Although population estimates of ocean-dwelling mammals are tenuous at best, it is therefore possible that the sea otter, if one species, is within its OSP range. See notes 95-97 and accompanying text supra.
145. The FWS estimates that possibly 16,000 otters existed in California waters before exploitation while 1,500 - 2,000 animals survive today. 42 Fed. Reg. 2,965, 2,966 (1977). The population stock, therefore, is not at 50% of the pre-exploitation level and would be below its OSP.
146. The taxonomic argument is based on differences and similarities in mark-
was decided in early 1977 when the FWS declared that the California population is indeed a separate subspecies and listed it as "threatened" under the Endangered Species Act.\textsuperscript{147} It would be difficult for the agency to adopt a disparate view of the otter's taxonomy for purposes of the MMPA. The subspecies designation, and the fact that the California otter is presently a distinct, interbreeding unit widely separated from the Alaskan population,\textsuperscript{148} argue forcefully for treatment of the southern otter as a distinct population stock. Such a determination has important consequences because, viewed separately from the Alaskan otter, the California population is well below fifty percent of its pre-exploitation levels and therefore not within its OSP as that concept has been defined by the FWS.\textsuperscript{149} As such, taking cannot occur through a general waiver of the moratorium at this time.

Depletion

A determination that the southern otter is a separate population stock and the decision to list it as "threatened" under the Endangered Species Act raise additional issues for the taking of California otters because most likely these actions also signal that the population is "depleted" under the MMPA. One commentator has concluded that "[t]he concept of depletion... creates a class one step removed from the more critical classifications of endangered or threatened species [under the Endangered Species Act]."\textsuperscript{150} Although not entirely settled, such an interpretation finds support in the MMPA and indicates that once the otter came within the sphere of protection of the Endangered Species Act, it also became "depleted" for purposes of the MMPA.\textsuperscript{151} Such a de-

\textsuperscript{148} Id. at 2,966.
\textsuperscript{149} See note 145 supra.
pleted species or stock is given almost complete protection and is not subject to taking except for scientific research.\(^{152}\)

A finding that the California sea otter is a distinct population stock and the decision to protect it under the Endangered Species Act, therefore, may have decided not only the OSP issue but also that the subspecies is depleted. Either determination forecloses the taking of California otters through a waiver of the moratorium.

**Application for a Scientific Permit**

Because California's efforts to reacquire effective management authority through a waiver of the moratorium have apparently been foreclosed, a scientific permit has become one of the few alternatives left to the state. As a specific exception to the moratorium, no waiver and corresponding hearing are required on the permit decision,\(^{153}\) and the other two specific exceptions—take incidental to commercial fishing and Alaskan natives—obviously do not apply. More important, if the California sea otter is now "depleted" under the MMPA, which it most likely is,\(^{154}\) a scientific permit is the only means under the Act by which the species may be taken.\(^{155}\) Additionally, the Act allows the state to receive federal funding for its research program.\(^{156}\)

On June 24, 1976, apparently recognizing such considerations,
California withdrew its application for a waiver of the moratorium and sought instead a scientific permit in its attempt to reacquire management authority over sea otters. The state proposed an experimental program that would maintain otter populations in areas with minimum human impact for public observation and scientific study. More important, however, it would restrict the southern expansion of the otter to north of Point San Luis to protect shellfisheries and research preserves and to enable the development of mariculture in nearshore waters. Collected otters would be transported to the northern portion of their range.

A scientific research approach to a return of management authority is not without problems. The exception appears designed for limited research takings, not a massive management program such as that proposed by California. The regulations promulgated for the exception bear this out. For example, they require such specific information as the date, location, and manner of taking, as well as the age, sex, size, and condition of the animals involved—information difficult to supply in large-scale takings. Also, if a marine mammal has been listed as endangered, threatened, or depleted, the regulations require a detailed justification of the need for any taking along with a discussion of possible alternatives. The FWS must also consider the application in consultation with the Marine Mammal Commission and must determine whether the taking is consistent with the MMPA and required to further a bona fide and necessary or desirable scientific purpose.

The latter two requirements would raise particular problems for California’s application, as its purpose would appear to be directed more toward preserving shellfish stocks than toward pursuing a bona fide research program that could not be effected without a restriction on the otter’s range. Furthermore, it is doubtful that a complete removal of a marine mammal from an

160. See Gaines & Schmidt, supra note 53, at 50,113-14.
162. Id. § 18.31(a)(5).
163. Id. § 18.31(b).
164. Id. § 18.31(c).
area in order to benefit a fishery is consistent with the MMPA, as the clear thrust of the Act calls for a balanced ecosystem in which the otters play a necessary role.165

California subsequently modified its original research application to correspond more fully with the intent of the scientific exception to the moratorium. It applied for, and was granted, on August 26, 1977, a permit to capture, tag, and release up to 100 otters throughout their range and to capture and relocate to the north up to forty animals during the first year.166 The application for a return of management authority is still pending. This severely circumscribed version of the state's original request will allow it to evaluate the impact of translocation on both the northern migrant front and on the animals that are transported from the south. Depending on the results of these initial relocations, a greater number of animals may be moved in the future.167 As such, the permit should be viewed as a preliminary measure to granting the state's more ambitious plans for halting the southern migration of otters through the scientific permit and return of management authority device. It does not, however, circumvent the problems described above in using a scientific permit to achieve such ends.

**Conclusion**

In its effort to reacquire management authority over the sea ot-

167. Id. The granted permit raises an interesting question of compliance with § 1374, which requires each permit applicant to demonstrate that any taking is consistent with the purposes of the Act and the regulations promulgated under § 1373. 16 U.S.C. § 1374(d)(3) (1976). In the porpoise-tuna decisions, the District of Columbia Circuit held that such language required the applicant to provide a "discussion of the predicted impact of the proposed takings on the optimum sustainable population of the porpoise species involved." Committee for Humane Legislation, Inc. v. Richardson, 540 F.2d 1141, 1151 (D.C. Cir. 1976). The court thus interpreted the language requiring consistency with the purposes of the MMPA as forcing the applicant to discuss the impact of any taking on the species' OSP, implying that the major purpose of the Act is to force such consideration before taking occurs. Because § 1374(c) makes it clear that § 1374 applies to the issuance of scientific permits, the question arises whether the permit granted in the otter situation complied with the interpretation of § 1374 handed down in *Humane Legislation*, in that no statement of impact on the otter's OSP was given. It may well be that such a requirement is unrealistic for the granting of scientific permits, whose very function is often to acquire knowledge necessary for making an OSP statement. This conclusion also follows strongly from the Act's policy of not permitting the taking of species that are depleted or below their OSP except for scientific research purposes. Until qualified, however, the interpretation given in *Humane Legislation* would appear to conflict with such a reading, suggesting a heavy burden for all permit applicants.
ter, it is unlikely that California could be granted a waiver of the MMPA's moratorium under present conditions. Although a scientific permit provides an alternative means to take what is most likely a "depleted" species, unless the scope of the permit is kept narrow, there are grave questions as to its propriety. One official for the Department of the Interior, moreover, had been quoted as saying that any other approach is "not compatible" with the threatened status of the species. 168

Aside from scientific research, the alternative approaches to reacquiring management authority become more limited and imaginative. The state could, for example, seek a complete waiver of the moratorium and its exceptions under the "superwaiver" provision, although the availability of this device is merely theoretical. 169 The state may be forced to contest the apparent "depleted" status of the Southern otter population either by arguing that it is not a separate population stock or through evidence of population growth. It may, however, simply be forced to wait until the otter population expands or until transplants from the California stock take hold along the less oil-threatened coastal waters of Oregon and Washington. The last alternative, and one currently under consideration by the state, is to challenge the constitutionality of the MMPA itself. 170

The Endangered Species Act

In January, 1977, the FWS declared the California sea otter, designated the "Southern Sea Otter," a "threatened" species under the Endangered Species Act of 1973 (ESA). 171 This action afforded an additional layer of protection to the California population by calling into play what has recently proven to be a most important environmental statute. 172 The ESA, however, specifi-

169. See notes 82-83 and accompanying text supra.
170. MARINE MAMMAL NEWS, Jan., 1977, at 5. Such an action would most likely challenge the federal government's right to assume control over wildlife management, traditionally an area within state jurisdiction. The success of such an action, however, seems highly doubtful in light of the Supreme Court's recent decision in Kleppe v. New Mexico, 426 U.S. 529 (1976). See note 69 supra.
172. See notes 198-203 and accompanying text infra. The Supreme Court has
cally defers to the MMPA whenever that Act is more protective,\textsuperscript{173} so if taking is restricted under the MMPA, the ESA designation will have little effect on California’s direct take of sea otters. The ESA remains significant, however, when taking is allowed under the MMPA. It is also significant because it offers protections that are more stringent than the MMPA’s, in particular, provisions regarding habitat preservation and regulation of actions by federal agencies.

The Act

The American commitment to vanishing wildlife has been evidenced by a series of congressional actions culminating in the 1973 version of the ESA. Beginning with the Lacey Act of 1900,\textsuperscript{174} Congress enacted several laws to protect specific wildlife such as migratory birds,\textsuperscript{175} wild horses,\textsuperscript{176} and eagles.\textsuperscript{177} The first was passed in 1966,\textsuperscript{178} but was quickly replaced in 1969 with a more comprehensive statute.\textsuperscript{179} After only four years, however, Congress again substantially amended the law with the passage of the current ESA, a statute that bears a strong resemblance to the MMPA, adopted only a year before.\textsuperscript{180}

The present version of the ESA allows the Secretary of the Interior to designate jeopardized plants and wildlife as either “en-
dangered” or “threatened.” An “endangered” species, one in danger of extinction throughout all or a significant portion of its range, is given complete protection under the Act and cannot be imported, taken, possessed, sold, or transported by anyone subject to the jurisdiction of the United States. “Take,” as in the MMPA, is defined broadly and would include any transportation of otters or physical limitation on their range. The effect of this extensive list of prohibitions is to outlaw completely traffic in “endangered” species by forbidding all aspects of such trade.

Recognizing that it is important to protect vanishing wildlife before it reaches the critical “endangered” status, Congress allowed certain species to be listed as “threatened.” Unlike the “endangered” designation, however, the implementing agencies are allowed almost unlimited discretion in the protection of such species. They may require anything from minor controls to the full prohibitions surrounding “endangered” wildlife.

The FWS based its decision to list the California sea otter as “threatened” on several factors. First, it found that the otter’s population had been reduced from approximately 16,000 animals before exploitation during the fur trade to an estimated 1,700 today, while its range had undergone proportional reductions. Second, the agency found that pollution, particularly from oil, jeopardizes the present and potential habitat of the otter and that the small size of the population makes it particularly vulnerable to any sort of disruption. Finally, the agency found that all...
though the MMPA provides adequate insurance against direct taking, its protection of the otter's habitat is insufficient and would be strengthened by the ESA.\textsuperscript{189}

\textit{Effect on the California Sea Otter}

Under existing regulations, the "threatened" status of the sea otter prohibits all taking except as specifically provided.\textsuperscript{190} The result, therefore, is basically a duplication of the MMPA's moratorium. As with the MMPA, however, there are several exceptions to the prohibition.\textsuperscript{191} These include taking when an economic hardship would otherwise result, for display or educational purposes, for scientific research, and for any special purpose consistent with the Act. The latter two exceptions in particular would seem applicable to the California situation,\textsuperscript{192} and once the FWS determined that an exception applied, it would have full discretion in allowing whatever amount of taking it considered desirable under the ESA.\textsuperscript{193}

Because the "threatened" designation gives the FWS almost unlimited discretion, a permit for the taking of sea otters under the ESA could arguably be easier to obtain than under the MMPA. This is because the MMPA ordinarily requires several prior determinations.\textsuperscript{194} However, as long as taking is absolutely prohibited under the MMPA, the ESA's more relaxed prohibition and exceptions are largely superfluous because the more restrictive statute controls. With the granting of California's scientific permit under the MMPA, however, the ESA became more restric-

\textsuperscript{189} Id. Although the MMPA contains no direct provisions for habitat protection, as the ESA does, an expansive reading of the "take" prohibition could control actions that threaten marine mammals' habitats.

\textsuperscript{190} 50 C.F.R. § 17.31(a) (1977), as amended by 43 Fed. Reg. 18,180 (1978). Permits will be granted only for scientific research, enhancement of propagation or survival, economic hardship, exhibition, education, or special purposes consistent with the Act. \textit{Id.} § 17.32.

\textsuperscript{191} \textit{Id.} The regulations provide detailed application requirements and list criteria the agency will consider in granting permits, such as whether the purpose of the taking justifies interference with wild species, whether the permit conflicts with any known conservation program (arguably the MMPA), whether it would likely reduce the threat of extinction, and the opinions of scientists and concerned persons as well as the expertise of the permit holder. \textit{Id.}

\textsuperscript{192} The scientific research exception would seem broader than the research exception under the MMPA because the agency is given almost absolute discretion in granting permits and because the regulations anticipate a single taking as well as activities over a period of time. \textit{Id.}

\textsuperscript{193} The ESA also provides for cooperative agreements that allow states to retain control of "resident species" and to receive federal funding for conservation programs. 16 U.S.C. § 1535 (West Supp. 1978). A cooperative agreement, however, does not provide a means around the ESA's provisions as it cannot be less restrictive than the Act with respect to the taking of animals. \textit{Id.} § 1535(f).

\textsuperscript{194} See note 93 and accompanying text \textit{supra}.
tive, and its moratorium has technically barred any capture of otters until the FWS exercises its discretion to allow taking also under that statute. 195

Although the ESA's safeguards in relation to direct taking are thus largely duplicative of the MMPA's for "threatened" species such as the sea otter, the ESA does provide greater protections than the MMPA against federal agency actions that do not result in a direct taking. Section 7 of the ESA provides that all agencies must ensure that their actions do not jeopardize the existence of listed species or destroy or modify any critical habitat that has been so designated by the FWS. 196 Although overlooked for several years, section 7 has recently emerged as one of the most stringent environmental controls on federal actions, providing an absolute mandate to ensure against jeopardizing protected species and to consult with the agencies responsible for their preservation. 197 In *National Wildlife Federation v. Coleman,* 198 for example, a 1976 Fifth Circuit decision, a major highway project was enjoined because it threatened the habitat of the Mississippi Sandhill Crane. The Department of Transportation had dutifully recognized and considered possible dangers to the crane, as required by the National Environmental Policy Act of 1969.

195. Of course it would be both contradictory and highly improbable for the agency to allow taking under one Act and deny it under a more discretionary one, but nonetheless under present regulations approval is required under both statutes, a requirement that may have been overlooked in the California situation. Neither the notice given in the *Federal Register* nor the permit itself refer to the ESA; both list only the MMPA as the authorizing statute. 42 Fed. Reg. 44,314 (1977) (permit on file). Although the substantive requirements for an ESA permit were largely followed in the MMPA procedures, any present taking is technically in violation of regulations promulgated under the ESA that require permits to be issued before any such taking occurs. 50 C.F.R. §§ 17.31-32 (1977). The agency, of course, is bound by such prior rulemaking, and must formally give notice that it intends to allow taking not only under the MMPA but under the ESA as well. See Vitarelli v. Seaton, 359 U.S. 535 (1959); Administrative Procedure Act, 5 U.S.C. §§ 551(5), 553 (1976); B. Schwartz, Administrative Law 159-61 (1976).


198. 529 F.2d 359 (5th Cir.); *cert. denied,* 429 U.S. 979 (1976). See also Sierra Club v. Froehlke, 534 F.2d 1289 (8th Cir. 1976) (dam in Missouri did not threaten the endangered Indiana bat and therefore did not violate § 7 of the ESA).
(NEPA), but had decided to proceed with the project anyway. The court, however, found the agency’s duty under the ESA was not one of mere consideration, as with NEPA, but rather was to insure that a listed species is not jeopardized or its critical habitat modified or destroyed, a duty the agency had failed to meet. In 1978 the Supreme Court reached a similar determination in TVA v. Hill and permanently enjoined the filling of a virtually completed $100 million dam because it threatened a small endangered fish that had not been discovered until construction was well underway. The Court found that section 7’s mandate was strict and was to be applied without regard to the portion of the project completed or to the amount of money expended.

In response to the Hill decision Congress amended the ESA in late 1978, establishing a review process under which programs can be exempted from the provisions of section 7. Under this procedure, a project will be considered for review if a good faith effort has been made to seek an alternative to exemption. The final determination will be made by a Cabinet-level Committee, which may grant an exemption only if it is determined that the project is of regional or national significance, is in the public interest, and no other “reasonable or prudent alternatives” exist.

200. 529 F.2d at 371-72. Coleman can also be read as holding that the FWS has the power to postpone other agencies’ approval of projects until required changes are made. See Comment, Wildlife Protection: Section 7 of the Endangered Species Act Comes of Age, 7 ENVTL. L. REP. 10,049, 10,051 (1977).
201. 98 S. Ct. 2279 (1978), affg 549 F.2d 1064 (6th Cir. 1977).
202. The project at issue, the Tellico Dam on the Little Tennessee River, was found to jeopardize the existence of the snail darter, a unique and previously unknown species of fish inhabiting only a 17-mile stretch of the river. The dam was more than 80% completed at the time of the Court’s decision. Construction had taken place for six years before the fish was first discovered in late 1973. Id. at 2287-80.
203. Id. at 2291-92, 2298. Hill also indicates that, unlike NEPA, § 7 will be applied retroactively to works in progress and will not permit a balancing of costs with environmental factors. The regulations bear out this indication. See 43 Fed. Reg. 870, 874-75 (1978). Moreover, the regulations make clear that an environmental impact statement under NEPA is not a substitute for a § 7 consideration, which may be triggered when NEPA is not triggered and may require more. The regulations also limit irreversible commitments of resources to projects before a § 7 review is undertaken. 43 Fed. Reg. 870, 873, 875 (1978).
205. Id. The seven-member Committee is composed of the Chairman of the Council of Economic Advisors, the Administrators of the Environmental Protection Agency and the National Oceanic and Atmospheric Administration, the Secretaries of Agriculture, the Army, and the Interior, and a presidential appointee from the affected state. Before a project is referred to the Committee for review, administrative hearings are conducted by a three-member Committee which prepares a report on the merits of exemption.
206. Id. The amendment also calls for the review Committee to examine the
The significance of this procedure to the California sea otter, as with all other "endangered" or "threatened" species, is that section 7's mandate is no longer absolute, and in certain instances actions detrimental to the species will not be halted by the ESA. The exemption process, however, is designed for the exceptional situation where an irresolvable conflict between Man's needs and the protection of jeopardized species exists and will most likely be administered with caution. In the vast majority of cases section 7's mandate will continue to apply. Under its provisions federal agencies are now restrained from jeopardizing the California otter's existence and, because the FWS is currently in the process of drafting a critical habitat for the species, the full protections of section 7 will soon be afforded the otter. As a result all federal actions, including approval of projects such as oil terminals or nuclear power plants, will require reevaluation and must be halted if either the otter or its existing or projected habitat is threatened or unless an exemption can be obtained. Moreover, unlike most species protected by the ESA, the otter enjoys concurrent protection under another federal statute, the MMPA, the provisions of which take precedence when more restrictive. An expansive reading of the MMPA's "take" definition can afford the otter's habitat much of the same protections found in section 7, protections the ESA review Committee is powerless to waive.

Conclusion

The ESA thus provides safeguards for the California sea otter in addition to those supplied by the MMPA. With respect to the direct taking of otters, the ESA will usually be less stringent than the MMPA, although the ESA can theoretically be applied more

Tellico case immediately. A decision must be made within 90 days of enactment or the project is exempt from the ESA.

207. In signing the legislation, President Carter called the amendments "unnecessary" and urged restraint in the use of the exemption process. [1978] 9 Envrir. REP. (BNA) 1305.


209. The regulations state that "critical habitat" includes "any portion of the present habitat of a listed species and may include additional areas for reasonable population expansion." 43 Fed. Reg. 870, 875 (1978). A broad designation of critical habitat for the otter may therefore not only limit federally funded or authorized actions in the area now occupied by the animal but may also halt such projects in areas into which it is expanding. The state thus not only could lose its efforts to preserve such locations from the otter but also could face serious restraints on its own usage of them.
restrictively to prohibit taking, depending almost entirely on the
discretion of the FWS. The most important protections afforded
the California otter by the ESA, however, will most likely come
not in respect to direct taking but in the form of controls on all
federal actions that affect the animal or its habitat. Even though a
possibility of exemption from such controls now exists, they will
have far-reaching consequences for federally funded or approved
projects in areas now or in the foreseeable future inhabited by the
otter.

OTHER PROTECTIONS

International Law

The MMPA specifically states that its provisions are in addition
to, and not in contravention of, any international treaty, conven-
tion, or implementing statute thereof existing in 1972. The only
such treaty is the 1957 Interim Convention on Conservation of
North Pacific Fur Seals, which provides for management of seal
populations in the North Pacific Islands. Although the 1957 Con-
vention does not mention sea otters, its implementing legislation,
the Fur Seal Act of 1966 provides that otters may not be taken
on the high seas by persons subject to United States jurisdic-
tion. Because the MMPA specifically defers to both treaties and
implementing legislation, it would appear that any take of
sea otters beyond three miles is prohibited and cannot be author-
ized under the MMPA.

The effect of the Fur Seal Treaty and of its implementing legis-
lation on the California otter population is extremely limited. The
sea otter is strictly a nearshore dweller who lives in shallow water
seldom deeper than thirty fathoms. In Alaska, some otters in-
habit unique stretches of water six to eight miles from shore
where the water's depth is only thirty fathoms, and are occa-
sionally found on the high seas when migrating between is-
lands. Such animals, under the Fur Seal Act, cannot be taken
for any purpose. In California, however, the continental shelf
drops below thirty fathoms relatively close to shore, and it is ex-
tremely unlikely that any otters would be encountered beyond

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213. Id. § 1171. The jurisdiction of the MMPA extends to 200 miles offshore. Id.
§ 1362(15) (B).
214. K. Kenyon, supra note 1, at 57.
215. Id. at 172-73.
216. Id. at 199.
three miles. The impact of the treaty on the California otter, therefore, is virtually non-existent.

Another international law provision that protects the otter is the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora,217 which is implemented in the United States by the 1973 ESA. The Convention strictly forbids to signatories all trade in listed species, including the California otter.218

The National Environmental Policy Act

One of the most important pieces of environmental legislation enacted during the past decade, the National Environmental Policy Act of 1969 (NEPA),219 requires all federal agencies to give full consideration to the environmental effects of their programs and to prepare environmental impact statements on all major federal actions significantly affecting the environment.220 Statements must be sufficiently detailed and must discuss all predictable environmental consequences.221 Moreover, alternatives to the proposed action must be presented.222 In determining whether a major federal action significantly affecting the environment exists, agencies must look to a project’s long-range effects as well as to cumulative impacts with related activities.223 Statements have been required for such projects as an urban renewal center in downtown Washington, D.C.,224 the lease of parts of the California offshore seabed,225 and a program to issue grazing permits on federal lands.226


The FWS concluded that the return of management authority over the Alaskan walrus did not represent a major federal action, although the return of all nine marine mammal species requested by Alaska would. It is virtually certain, however, that any decision by the FWS to allow more than the current extremely limited take of California otters would qualify as a major federal action and thus would require an environmental impact statement. Such a conclusion rests on the otter's emerging status as a keystone species in the nearshore marine ecosystem, the potential impact on fisheries of its removal from the environment, the small and fragile size of the otter population, the controversial nature of any taking, and the recreational experiences the animal provides. Moreover, there is strong support for the proposition that any federal action that may significantly affect a population protected by the ESA should invariably trigger an impact statement. The FWS, therefore, should be required to prepare an adequate environmental impact statement and otherwise to comply with NEPA before any increased taking of California otters is allowed.

State Law

Under California law, the sea otter is a fully protected mammal and cannot be taken except in accordance with the MMPA. The California statute, however, is merely an acknowledgement of the MMPA's specific preemption of all state laws affecting marine


228. No impact statement was prepared in regard to the granted scientific research permit under the MMPA.

229. See notes 102-14 and accompanying text supra.

230. Id.

231. See notes 140-42 and accompanying text supra.


The implementing agencies have ruled that an environmental impact statement will not be required for each designation of critical habitat under § 7 of the ESA but instead will be determined on a case-by-case basis. 43 Fed. Reg. 870, 873 (1978).

234. CAL. FISH & GAME CODE §§ 4500, 4700 (West Supp. 1977). California law also provides for an Otter Game Refuge from the Carmel River south to Santa Rosa Creek. Id. § 10840.
mammals and, absent a return of management authority, has no substantive effect and cannot be enforced against violators. Unless management authority is returned, therefore, California law has virtually no importance to the take of sea otters.

CONCLUSION

The history of the California sea otter is one of confrontation with Man. Originally all but exterminated by a quest for its fur, the otter is now being challenged as it reclaims its former habitat. Today, however, the animal is heavily protected by federal law—most importantly by the Marine Mammal Protection Act of 1972 and by the Endangered Species Act of 1973. At present, it appears that any large-scale limitation of the otter's range would be difficult under either statute, although considerable discretion in such regard is vested in the federal Fish and Wildlife Service. Sea otters and a thriving shellfish industry may well prove incompatible, and to allow otter growth to continue indefinitely may be to ignore the realities of the modern demands on a geographical area that has changed dramatically since the animal's original population. Must the states, one may ask, allow the bison to re-capture its former domain in the American West at the expense of the agriculture and industry now located there? At the same time, however, it is possible that the otter may contribute to a more balanced ecosystem and enhance other industries affected by such a result. Also, the California otter's numbers are now so small that it is in danger of complete destruction by a single natural or artificial catastrophe.

The resolution of these conflicts will be extremely difficult, presenting decisions which, it seems, must be faced with growing frequency and the solutions of which will require the full extent of our lawmakers' wisdom, creativity, and foresight. Until Congress acts or the otter's population changes, however, any balance will remain clearly in favor of the preservation of the marine mammal.
