## EXHIBIT 2

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10	PETER HALMAY, HARRY LIQUORNIK,		
11	CALIFORNIA ABALONE ASSOCIATION, ANI SONOMA COUNTY ABALONE NETWORK	)	
12	UNITED STATE	UNITED STATES DISTRICT COURT	
13	NORTHERN DISTRICT OF CALIFORNIA		
14			
15	THE OTTER PROJECT; ENVIRONMENTAL	) Case No: 5:09-cv-04610-JW	
16	DEFENSE CENTER,	DECLARATION OF CALIFORNIA SEA	
17	Plaintiffs,	<ul> <li>URCHIN COMMISSION</li> <li>[Filed Concurrently With:</li> </ul>	
18	vs.	<ul> <li>1) Notice of Motion and Motion for Leave to</li> <li>Intervene Under FRCP 24;</li> </ul>	
19	KEN SALAZAR, et al.,	<ul> <li>2) Memorandum of Points and Authorities in Support Thereof;</li> </ul>	
20	Defendants.	<ul> <li>3) Declaration of Peter Halmay;</li> <li>4) Declaration of Harry Liquornik;</li> </ul>	
21		<ul> <li>b) Declaration of California Abalone</li> <li>Association;</li> </ul>	
22		<ul> <li>b) beclaration of Sonoma County Abalone</li> <li>b) Network;</li> </ul>	
23		<ul> <li>7) [Proposed] Order; and</li> <li>8) [Proposed] Answer in Intervention]</li> </ul>	
24		Hearing Date: March 8, 2010	
25		$\begin{array}{ccc}                                   $	
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28	162494_1.DOC	Case No: 5:09-cv-04610-JW	
	DECLARATION OF CALIFOR	RNIA SEA URCHIN COMMISSION	

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 I, Vern Goehring, am the Executive Director of the California Sea Urchin Commission ("CSUC" or "Commission") and I submit this declaration of behalf of, and with the approval by, CSUC.
 I have served as the Executive Director of CSUC for more than five years, since its creation in 2004.

2. CSUC is a public agency created under the laws of the State of California. It began operations on April 1, 2004, following a referendum vote of all licensed sea urchin divers and licensed sea urchin processors conducted by the California Department of Food and Agriculture. The Department of Food and Agriculture has general authority to oversee the operations of CSUC. The referendum to create CSUC passed overwhelmingly with more than 85% of voters (representing more than 98% of California sea urchin production) supporting its creation. All California sea urchin divers participate in the decision making processes of the CSUC to ensure the CSUC represents and considers the interests of all divers.

3. While sea urchin processors narrowly voted in 2009 to disengage as a formal party to CSUC, CSUC and processors maintain strong and close communications. Several processors voluntarily contribute financially to the work of CSUC, especially regarding legislative and regulatory matters to ensure their interests are represented by CSUC.

4. CSUC is governed by five elected diver commissioners and one voting public member.
Diver members are elected from five districts specified in statute: San Diego, San Pedro/Long Beach,
Ventura, Santa Barbara, and Fort Bragg. These districts coincide with the major ports in which sea
urchins are landed and sold to processors.

5. In addition to statutory provisions, CSUC is also guided by bylaws that took effect on July 1, 2004, and by numerous policies and procedures contained in a Policy and Procedure Manual.

6. The purpose of CSUC is to ensure a sustainable sea urchin resource in the ocean and a reliable supply of quality seafood product for domestic consumption and for export. CSUC seeks to

support strong local coastal communities, fair levels of income for the thousands of persons engaged in sea urchin commercial fishing enterprises, and historically significant cultural and community resources within California's coastal areas. Section 79000, CA Food and Agriculture Code.

7. California law declares that "[T]he production and marketing of seafood, including sea urchin, constitute an important industry of this state that provides substantial and necessary revenues for the state and employment for its citizens. The production of sea urchin for domestic consumption and export is one of the leading segments of the state's commercial fishing industry. To maintain this significant contribution to the state's economy and public well-being, there is a need to make regulators aware of unique economic factors affecting the sea urchin fishery and how these factors can be integrated with appropriate management measures to protect a sustainable sea urchin resource." Sections 79001, 79002, CA Food and Agriculture Code.

8. California law further declares: "In addition, there is a need to make consumers and the general public aware of the nutritional value of seafood, the high quality of sea urchin produced by the industry, and the opportunities available to balance sea urchin production and protection of the natural marine resources of California. The activities made possible by the establishment of a commission will meet this need and further the interests of the industry and the state." Section 79002, CA Food and Agriculture Code.

9. California law recognizes the value of sea urchin research supported by and undertaken in years prior to the creation of CSUC and declares: "The establishment of a commission will continue and enhance this research effort and the ability of the industry to promote responsible fishery management regulations, all of which will move the industry toward a sustainable position, resulting in increased consumer value and enhanced economic returns." Section 79004, CA Food and Agriculture Code.

10. California law recognizes that harvesting, processing, and marketing sea urchin (*i.e.*, the sea urchin fishery) is an activity in the public's interest. "The provisions of this chapter are enacted in the exercise of the police power of this state for the purposes of protecting the health, peace, safety, and general welfare of the people of this state.... [A] stable and reliable sea urchin fishery provides an important source of jobs for many people in this state and economic activity in many small coastal communities, and serves to ensure the preservation of historically and culturally significant coastal dependent industry." Sections 79005, 79008, CA Food and Agriculture Code.

CSUC is authorized to undertake activities to ensure a sustainable sea urchin fishery in regards to natural resources and economics. California law defines the sea urchin fishery as "any activity, including economic activity, involved in the harvesting, receiving, processing, manufacturing, or distributing of sea urchin, parts of sea urchin, or products there from, for commercial purposes."
Section 79026, CA Food and Agriculture Code.

12. In 2008, CSUC presented to the California Fish and Game Commission, the state fishery regulatory entity, a change in sea urchin diving seasons so as to distribute the season more evenly throughout the year to help the industry meet a year around demand for sea urchin roe, instead of being hindered by an on-again, off-again market supply. The Fish and Game Commission recognized the value of such a change that had no negative resource impacts and adopted our recommendations.

CSUC has the power to initiate legal actions, including law suits. Section 79052, CA
 Food and Agriculture Code.

14. "The commission may present facts to, and negotiate with, state, federal, and foreign agencies on matters that affect the sea urchin commercial fishing industry." Section 79069, CA Food and Agriculture Code.

15. CSUC may carry out industry and public informational and educational programs; adopt quality standards, a fishery logo and other promotional tools; undertake scientific research data collection regarding the importance of and methods for maintaining a sustainable sea urchin fishery; and receive financial contributions from private or public sources to further its purposes. Sections 79070, 79071, 79073, CA Food and Agriculture Code.

16. CSUC operations are funded primarily by an assessment of sea urchin harvested and sold by licensed California sea urchin divers. CSUC annually sets the rate of assessment, the current assessment rate is \$.01 per pound of sea urchin and is paid entirely by sea urchin divers although it is collected and remitted to CSUC by the respective processors purchasing sea urchin from divers.

17. Sea urchins are small, globular, spiny shellfish that live in rocky reef habitats. They move slowly and feed mostly on kelp. They are harvested for food, and are valuable seafood for sushi and sashimi in Japan and the United States. Many other ethnic cuisines also use sea urchin, but to a lesser extent. The portion of the sea urchin that is used as food is called roe, the only edible part of the urchin. The Japanese call this product "uni."

18. The fishery began in the 1970's and is conducted from vessels that are specifically outfitted for sea urchin diving. The vessels carry compressed air systems that feed air through hoses to sea urchin divers working on the ocean bottom. An employee, called a "tender," remains aboard the vessel at all times to oversee the air system and otherwise maintain the vessel while divers are in the water.

19. A single boat usually carries from one to three divers. Sea urchins are harvested by hand using sea urchin pick tools from the sea bottom in rocky reef areas by divers wearing wet suits, dive masks, and air hoses. Harvested urchins are placed in large net bags and are then brought to the surface,

loaded whole onto the dive boat, transported to port, and unloaded at the dock. They are then taken to processing facilities.

20. Processing sea urchins involves cracking the shell, scooping out and cleaning the roe, dipping it in an alum preservative solution, and placing it on baskets to dry. The roe is generally packed in traditional Japanese wooden trays with specified product weights, and sent to wholesale and retail markets. This is a labor intensive procedure that requires separate processing and packing crews.

21. The number of processors in California has remained fairly stable for many years.
Currently there are eleven primary small business processors that handle more than ninety-five percent of the sea urchins harvested. These processors are located in San Diego (1), Los Angeles (5), Ventura (3), and Fort Bragg (2). All but two sea urchin processors in Southern California deal exclusively in sea urchin earning their entire gross income from buying and processing sea urchin from California sea urchin divers.

22. A sea urchin "boom" occurred in California in the late 1980s and early 1990s when demand in Japanese markets was at its peak. Dive boats and divers moved throughout California to take advantage of large sea urchin populations. The boom continued for several years, but the fishery declined by the mid-90s as the export market changed due to a declining Japanese economy.

23. Sea urchins are an important fishery in southern and northern California. In recent years (2005-2008) it has been consistently the third largest "at-the-dock" value shellfish fishery in the State, falling just slightly behind the second ranked fishery – lobster. "At the dock" value represents the amount paid to the fishermen for their catch.

24. In 2002, sea urchin had the second largest at-the-dock value of <u>all</u> fisheries in California.
25. In the past eight to ten year's sea urchin landings (the amount harvested) reliably totaled between 10-12 million pounds annually. As the market shifted increasingly to domestic consumers, the

value of the fishery also increased. From 2005 to 2008, the value at-the-dock averaged in excess of \$7.7 million annually, while the wholesale value is approximately \$14 million for domestic markets and \$5.7 million for exported sea urchin roe (\$19.7 million total).

26. From 2003-2008, 85% of statewide sea urchin landings have been in <u>southern California</u>, south of Point Conception and within the sea otter management zone. The management zone is that area in southern California, intended by the Sea Otter Translocation Program, to be maintained as an otter free zone to protect shellfish fisheries and maintain a separation between the mainland sea otter population and the experimental sea otter population.

27. An average of 80% of all Southern California sea urchin landed are harvested annually at the Channel Islands that are located entirely within the sea otter management zone. The Channel Islands are the heart of the sea urchin fishery in California, producing approximately 68% of <u>all California</u> harvested sea urchin. If the ability to harvest sea urchin at the islands is lost the industry will essentially collapse (become uneconomical and infeasible). The distance from the mainland just south-east of Pt. Conception to San Miguel Island, the northerly most of the Channel Islands, is just 28 miles, well within a one day swim for sea otters.

28. The sea urchin fishery is regulated according to regulations adopted by the CaliforniaFish and Game Commission and enforced by the California Department of Fish and Game.

29. Many new divers entered the fishery during the boom in the late 1980s, which led the industry to seek regulations limiting the number of sea urchin dive permits, legal size limits for urchin and other regulations intended to protect a sustainable fishery. Today, regulations limit the number of sea urchin permits to not more than 300 annually. Only 160-170 divers may actually dive for sea urchin in any year (the others choosing to hold permits so as to retain income options). Divers from the previous year have priority to renew their permit. After a set date each year, new permits are awarded to

new divers through a lottery of permit applicants to bring the number of total permits to 300. A sea urchin permit allows the permit holder to harvest sea urchin anywhere along the California coast and at the Channel Islands. Permits cannot be transferred or sold by divers who no longer wish to dive for sea urchin to others interested in becoming a sea urchin diver.

30. Sea urchin divers must purchase an annual sea urchin permit that cost \$415.25 in 2009. The diver must also annually purchase a general commercial fishing license, costing \$119.75, in 2009. If the diver owns his or her own dive boat they will also need a commercial fishing vessel registration that costs \$314.25. All of these license fees are adjusted annually according to a cost-of-living index. The total state license and permit costs for most sea urchin divers totaled \$849.25 in 2009. In addition, crewmembers must purchase crewmember permits; in 2009, 135 crewmembers purchased permits costing \$38 each.

31. Sea urchin harvesting is also controlled by the number of diving days in which harvesting is allowed. Starting in 2008, harvesting is allowed Monday through Thursday during the months from April to October and seven days weekly from November through March. As a practical matter, harvesting is often curtailed by both weather and market demand.

32. Sea urchin harvesting is also regulated by size limits for urchin that can be legally taken. In southern California no sea urchin with a shell diameter less than 3 ¼ inches may be harvested and in northern California the minimum shell diameter is 3 ½ inches. The purpose of these limits is to ensure adequate reproduction of the sea urchin population.

33. The three main elements of managing the sea urchin fishery (regulations pertaining to number of permits, season and size limits) are focused on ensuring protection of the natural resource but also ensuring a sustainable economic enterprise for divers and processors engaged in the fishery.
Profitability is supported by limiting the number of divers and allowing year around harvesting to

provide a reliable supply to the market. Year around harvesting affords the luxury of only harvesting high quality sea urchin and leaving a sizeable portion of the sea urchin population to grow in size, contribute to the recruitment of young sea urchins, and help ensure a strong sea urchin resource.

34. A 2009 study by researchers at California State University, Humboldt, found that on average sea urchin divers had annual business related costs of \$29,330 in 2006. These costs include: equipment storage, slip rental, food, transportation, fuel, taxes, insurance, and equipment repair services - all purchased in their local coastal communities. Hackett, Steve C., et al., "The Economic Structure of California's Commercial Fisheries," California State University, Humboldt, April 7, 2009.

35. This same study revealed that, in 2006, sea urchin divers paid a total of \$480,850 in federal income taxes; \$90,200 in state income taxes; and \$144,100 in permit fees and other taxes to the California Department of Fish and Game and other state agencies. (Hackett, et al., 2009) If plaintiffs prevail in their action and sea otters establish themselves at the Channel Islands at least 68% of the entire California sea urchin fishery would be lost and 68% of these revenues would be lost to the State and federal government (approximately \$486,300).

36. In 2006, sea urchin divers paid wages to tenders and others equal to \$657,662. (Hackett et al., 2009). Similar to the above comment, if sea otters become established at the Channel Islands at least 80% of this income going into coastal communities would be lost, as well as the accompanying jobs. The employment impact on tenders might be greater than expected because there is a good chance that, as individual divers face uncertainty in the fishery, some will be tempted to dive without a tender or assistant to conserve gross income but, thereby, increasing risk to their personal safety and well being

37. Most sea urchins harvested by divers in California are sold to buyer-processors by the whole weight at a set price per pound, which varies according to quality of the roe and the market place rules of supply and demand. Each diver can harvest approximately 1,000 to 1,500 pounds of sea urchins

each day that they are diving. Current prices average near \$.70/pound. Many divers make a good living exclusively engaged in the sea urchin fishery or combining sea urchin diving with income from another fishery. A 2007 survey of the fishery indicated that 30% of all divers make 100% of their household income from the sea urchin fishery and the average diver derives 63% of all household income from the fishery. Summary Report – 2006 California Sea Urchin Permit Holders Survey, by Doreen Hansen and Christopher Dewees, January 2007.

38. Increasingly, some sea urchin divers are working to develop local direct marketing sales opportunities to their fishery business so as to augment their income. Approximately 6% of divers reported participating is these market outlets in 2006 and such activity represented 20% or more of their sales. Hackett et al., 2009

39. If the sea urchin fishery was, for some reason, no longer available to the divers currently engaged in this enterprise there would be no other viable fishery (dive fishery or otherwise) available to them. Most fisheries in California are either closed or access is restricted. Even for those fisheries where sea urchin divers may try to obtain entry the cost of buying a transferable permit, retrofitting their vessel, or relocating within the state would make doing so prohibitive, in most cases. Many closed fishery permits that can be transferred or sold cost in excess of \$100,000.

40. The market demand for sea urchin roe has remained stable in recent years even as the portion exported to Japan has declined. Currently, more than fifty percent of sea urchin roe is sold domestically, as Japanese restaurants have become increasingly popular in the United States. California sea urchin roe is shipped nationwide, including destinations such as New York City, Washington D.C., Chicago, and Miami.

41. If the sea urchin fishery collapsed in Southern California due to the elimination of the management zone or for any other reason, the two sea urchin processors in northern California might

survive, but it is likely that only two of the nine southern California processors would survive and they would survive only because they deal in other seafood products as well as sea urchin. Even so, these two processors would experience a significant reduction in business.

42. Each sea urchin processor employs 30 to 60 workers, depending on the season, approximately 495 workers statewide year around. Overwhelmingly processor employees earn the legal minimum wage and would face difficulties if they needed to find alternative employment. The National Ocean Economics Program, tracking wages paid in ocean related industries, reports in 2004 the average sea food processing employee in California was paid \$33,853. (National Ocean Economics Program, <u>www.oceaneconomics.org</u>. CSUC's sample survey of sea urchin processors suggests a lower average wage is more appropriate, something in the range of \$22,000 annually. This would result in an estimated payroll for all California sea urchin processors at approximately \$10,890,000 annually – a sizable contribution to the State's coastal communities. If the southern portion of the sea urchin fishery collapsed due to plaintiffs prevailing and the management zone being repealed, the seven processors who deal in sea urchin exclusively could be forced to terminate nearly 315 employees. This could mean a loss of \$6,930,000 to local economies from lost wages alone.

43. Leaders in the sea urchin fishery participated in ocean resource management issues, including sea otter and sea urchin issues, long before CSUC was created in 2004. Many current leaders in the fishery participated in deliberations leading to the adoption by Congress of P.L. 99-625 and the adoption of the sea otter translocation plan by the U.S. Fish and Wildlife Service ("FWS") and the California Department of Fish and Game in 1987.

44. Two fishery non-profit organizations (Sea Urchin Harvester's Association of California ("SUHAC") and Sea Urchin Processors Association, California ("SUPAC")) were the predecessors to the CSUC and both have since ceased operations in favor of the CSUC.

45. SUHAC and SUPAC sent representatives to numerous meetings of the federal Marine Mammal Commission in the years preceding formation of CSUC when issues pertaining to sea otters and shellfish, including sea urchin, where considered.

46. SUHAC and SUPAC jointly submitted scoping comments to FWS prior to FWS undertaking its review of the Sea Otter Translocation Program in 2001. These comments, submitted in September, 2000, identified a long list of biological factors, including concerns regarding sea otter interactions with other protected species, warranting analysis prior to drawing conclusions regarding the future of the Translocation program.

47. SUHAC and SUPAC also jointly submitted to the Secretary of the Interior on April 17, 2002, a recommended alternative approach to managing sea otters, including a modified management zone and improvements to sea otter habitat, so as to recover sea otters while avoiding fishery conflicts likely from unlimited sea otter range expansion.

48. SUHAC and SUPAC were instrumental in initiating and facilitating Common Ground meetings with representatives of conservation groups and federal government officials. These meetings began prior to the formation of the CSUC and continued after the CSUC was created. CSUC representatives participated in two such meetings in November, 2004, and June, 2005. The purpose of the Common Ground meetings was to find solutions to the challenge of recovering sea otters without ending shellfish fisheries (including sea urchin) in California.

49. SUHAC and SUPAC proposed and were successful in convincing the California Fish and Game Commission to adopt, in 1999, a policy on Sea Otters and Shellfish Interactions that directed the Department of Fish and Game to work collaboratively with the FWS and with fishery and conservation groups to identify and implement management strategies that contributed to recovering sea otters while protecting sustainable fisheries.

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50. CSUC submitted detailed comments of the Draft Supplemental Environmental Impact Statement ("DSEIS") issued by FWS in August, 2005. The DSEIS examines various biological factors related to the Sea Otter Translocation Program ostensibly supporting a decision that the program has failed. The CSUC comments, however, point out numerous reasons why the DSEIS is flawed in the data used, its analysis of that data, and in its conclusion. Specifically, CSUC points out the failure of FWS to consider impacts of sea otter range expansion on protected abalone species, the economic viability of California's shellfish fisheries, and the significant growth rate of the experimental sea otter population at San Nicholas Island.

51. CSUC has engaged in deliberations regarding, and advocated provisions to be included in, proposed federal legislation to promote sea otter recovery. H.R. 2323 was introduced by Congressman Farr in 2005 to create the Southern Sea Otter Recovery and Research Act. This legislation was reintroduced in 2007 as H.R. 3639 and in 2009 as H.R. 556. In each instance, CSUC advocated for provisions to ensure real steps are taken to achieve recovery of sea otters and for consideration of the ways in which sea otter recovery or range expansion may impact other protected marine species and legal economic interests.

52. On April 24, 2008, CSUC provided testimony, in behalf of itself and a coalition of fishery groups, to the House Subcommittee on Fisheries, Wildlife and Oceans regarding H.R. 3639. That testimony raised two primary concerns with FWS sea otter recovery and management efforts, namely the failure to fully address the water quality impacts to sea otter populations and the failure to adequately address the likely interaction between sea otters and protected abalone species should sea otters be allowed to expand beyond their existing central coastal range.

53. On July 8, 2009, following the House Committee on Natural Resources markup of H.R.556, CSUC wrote to Congressman Rahall, the Chairman of the Committee, thanking him for provisions

added to the bill to strengthen its ecosystem focus with regard to recovering sea otters and requesting additional provisions regarding unintended interactions between other species protected by the Endangered Species Act ("ESA") and the need for FWS to seriously address the water quality threats to sea otter recovery.

54. In 2006, CSUC recruited other fishery organizations to form the Fisheries and Sea Otter Conservation Coalition ("FSOCC"). FSOCC's intent is to address the difficult conservation issues involving the protection of the sea otter, while simultaneously protecting the livelihoods of people in the fishing industry and the interests of recreational anglers. FSOCC members include the California Sea Urchin Commission, California Trap and Lobster Association, Ventura County Commercial Fishermen's Association, California Wetfish Producers Association, Southern California Trawlers Association, and the Recreational Fishing Alliance.

55. The FSOCC has sent delegations to meet with FWS officials, sent letters to elected officials, testified and submitted information to congressional officials, and sought to educate the fishing community and the general public to important issues regarding sea otter recovery, marine conservation, and local seafood supplies.

56. On December 13, 2006, the FSOCC submitted, over the signature of the CSUC Executive Director as its representative, lengthy comments to FWS regarding FWS' proposed white abalone recovery plan. The comments rejected the plan as flawed since it completely ignored the negative impacts likely from FWS other plan regarding sea otter management. The letter said: "Bearing in mind the important principles of ecosystem management, we are deeply distressed that the U.S. Fish and Wildlife Service ("FWS") has proposed a plan to allow unlimited range expansion of the threatened southern sea otter without ever considering the ecosystem impacts of that action, including the likely adverse effects of their plan on the recovery of the endangered white abalone."

57. Granting the plaintiff's motion will have negative consequences to the CSUC, sea urchin divers and processors, coastal communities and the general California public.

58. Abandoning the management zone and allowing sea otter range expansion into Southern California waters will have predictable negative impacts to a currently sustainable sea urchin fishery. Red sea urchins are a preferred prey species of the sea otter, a marine mammal that often consumes 20-30% of its weight daily in order to survive in cold Pacific waters. When otters enter an urchin-rich environment, research has shown that they will prey almost exclusively on sea urchins, until urchin size and densities are drastically diminished. Sea otters tend to first target the most abundant and easily retrievable prey. The sea urchin is normally the first invertebrate prey species to be depleted once sea otters enter an area where they exist in high densities, followed by abalone and large crabs, if available. Ostfeld, Richard S. (1982) Foraging Strategies and Prey Switching in the California Sea Otter; d Expanding Sea Otter Population; Journal of Mammalogy 87(4) 799-807.

59. A 20 year study of sea otter diets in a ten mile section of California coast just south of Morro Bay, near Point Buchon demonstrates the significant effect sea otters have on sea urchin. The study was initiated in 1973, shortly after sea otters initially migrated into the area. It documents during the five years, 1973-1977, sea urchin averaged 20% of sea otters diets, with a high of 36% in 1975. For the remainder of the study period to 1993, sea urchin represented just 1.4% of sea otter diets after the sea urchin population was exhausted. Observations of the Sea Otter Enhydra lutris Population Between Point Buchon and Rattlesnake Creek, San Luis Obispo, California, January through December, Suzanne V. Benech, Nov. 1994, 66pp. This same study examined the density of sea urchin populations finding that red sea urchin densities approximated 3 per square meter before sea otters began foraging. After only four years of sea otter foraging, the urchin densities had dropped below detection levels (less than one per 300 square meters).

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60. Currently, little research has been undertaken regarding the interaction of sea otters and a red sea urchin fishery, because sea urchin numbers decline and the fishery collapses when sea otters are present. When researchers attempt to mimic otter impacts on urchin populations they do so by completely and consistently removing urchins from the environment. Carter, *et al.*, "Testing the generality of the trophic cascade paradigm for sea otters," Hydrologia, 2007.

61. An average size sea otter weighing 50 pounds will consume 12.5 pounds of food daily (25% of its weight). The favored sea otter prey is sea urchin roe if sea urchin are available. Roe often makes up 7% of the sea urchins weight so this would equate to 178 pounds of whole sea urchin daily to provide 12.5 pounds of food for a single sea otter and up to 65,000 pounds of sea urchin annually. At this rate it would only take approximately 169 sea otters, feeding exclusively on sea urchin, to consume the entire annual sea urchin harvest by sea urchin divers. (169 x 65,000 = 11 million lbs).

62. While divers are limited by regulations to taking sea urchin of a limited size, sea otters are not and they typically eliminate any meaningful sea urchin resource within their feeding area. Once an area becomes part of the sea otter's established range, the commercial sea urchin fishery in that area will collapse (become infeasible) because of the increased predation from sea otters. Shellfish harvests with unlimited sea otter predation is not sustainable and in fact ceases within only a few years. Benech, Suzanne V. (1977), Preliminary Investigations of the Giant Red Sea Urchin Resource of San Luis Obispo Co. California *Strongylocentrotus franciscanus* (Agassiz) MS Thesis, California Polytechnic State University San Luis Obispo, 43pp.; Miller, D.J. (1974), The Sea Otter, *Enhydra lutris*, Its Life History, Taxonomic Status, and Some Ecological Relationships, Marine Research, Leaflet 7, California Dept. Fish and Game, Sacramento, 13pp; Johnson, Ancel M. (1982), Status of Alaska Sea Otter Populations and Developing Conflicts with Fisheries, North American Wildlife and Natural Resources Conference Transactions, 47, pp. 293-299.

63. During the winter of 1997/98, approximately 100 sea otters migrated south-east of Point Conception, the southern border of the management zone and just north of Santa Barbara. Within one year predation on sea urchins was so severe that sea urchin harvesting was no longer viable, at which time the sea otters returned to the northern, familiar portion of their range. The following winter, 1998/99, another raft (or group) of sea otters returned to an area south-east of Point Conception, slightly further than the previous winter. Again, predation was so severe that sea urchin harvesting in this area is no longer possible. According to records of the California Department of Fish and Game, this area just south-east of Point Conception produced nearly one million pounds of sea urchin annually prior to 1997, representing a loss of nearly \$700,000 in at-the-dock value to sea urchin divers in the area.

64. The extent of sea otter range expansion is not consistent year to year nor do sea otters always remain once they have moved into a new area. Instead, rafts of sea otters essentially explore new foraging areas and intermittently return to familiar territory. Since 1998/99, sea otters have regularly moved into and out of the area south of Point Conception, such that the latest report from the US Geological Survey indicates the three year average of sea otters residing south-east of Point Conception (62 miles to Coal Oil Point) is sixty nine (69). This report also documents the three year average of sea otters residing within the seventy miles just north of the southern border of the management zone at Point Conception, at 128 sea otters. As these additional sea otters move south into the management zone (bring the total to nearly 200 sea otters) they will heighten the need for further expansion along the mainland coast and possibly to the Channel Islands. Hatfield, Brian and Tim Tinker (2009), USGS – Western Ecological Research Center, Santa Cruz Field Station, Spring 2009 Mainland California Sea Otter Survey Results.

65. Sea otters form groups/rafts, "migrant fronts," at the range peripheries in California. These groups are composed of both sub-adult and adult males (Jameson, 1989). Single raft sizes can be quite large, ranging from 50 to over 160 animals. Benech, Suzanne V. (1978), Observations of the Sea Otter Enhydra lutris Population between Coon and Rattlesnake Creeks January – December, 1978; Unpublished Report, Ecomar Inc. #VII-3-78 for Pacific Gas & Electric Company. As the population increases and/or depletes its food sources within an area, these "migrant fronts" move into new areas. An extension at either end of the current range varies in speed based on suitable habitat. From 1938 to 1977 the average range extension was 2.5 miles a year. However when otters encounter less than optimal habitat such as sandy beach areas, coastal migrations of 18 miles per year have been observed. Woodhouse, Charles D., *et al.* (1977), A Summary of Knowledge of the Sea Otter Enhydra lutris, in California and an Appraisal of the Completeness of Biological Understanding of the Species, Santa Barbara Museum of Natural History, Santa Barbara, California, US Dept. of Commerce National Technical Information Service, PB-270 374.

66. California's coastal zone has a wide spectrum of subtidal habitats ranging from sandy beach to hard high relief rock. Optimal habitat for diversity and abundance of sea otter prey species is hard rocky areas with lots of deep crevices. Woodhouse, 1977. Low relief siltstone areas do not provide as much area for prey species recruitment and protection. Sandy bottom communities provide the least protection from otter predation and therefore the least likely to support sea otters. Coastal community structure south of Point Conception is frequented by sand and low relief communities. It is very likely that sea otter range expansion will move more rapidly through these coastal areas within the management zone.

67. Sea otters have continuously and progressively expanded their range and increased their numbers along the California coast since a small remnant population was "rediscovered" south of Monterey Bay in the 1930s. Woodhouse, 1977. Continued sea otter range expansion into existing sea urchin fishery areas in southern California is inevitable absent direct management to restrain such

expansion. Researchers conducting containment management feasibility stated "We believe that, if left unchecked, sea otter range expansion will result in the loss of most recreational and commercial shellfish fisheries along the north Pacific rim." Wendell, Fred, Christine Pattison and Michael Harris (1996), Sea Otter, Enhydra lutris, Containment Management: Field Studies and Feasibility Assessment, CDF&G Marine Resources Division Administrative Report 96-5.

68. Sea otters can swim at speeds of up to 5 knots (approximately 5.5 mph) (Miller 1974) and trips along the mainland of as much as 30 miles in less than a day have been documented. Ribic, Christine A. (1982), Autumn Movement and Home Range of Sea Otters in California, Journal of Wildlife Management 46(3) 795-801. Nearly one-half of the entire statewide sea urchin harvest typically is taken at San Miguel and Santa Rosa Islands, the two most northern of the Channel Islands, both of which are in the sea otter management zone. These islands are located less than 30 miles from the mainland and can easily be reached by sea otters presently living near Point Conception. The sixty nine sea otters that have apparently taken up residence within the management zone south east of Point Conception could easily transit to San Miguel or Santa Rosa islands, less than thirty miles from the mainland.

69. It is inevitable that sea otters will eventually find their way into sea urchin harvesting areas, including the Channel Islands. This is supported by numerous sightings of sea otter along the mainland and at the Islands both prior to and following initiation of the sea otter translocation plan which relocated sea otters to San Nicolas Island. Leatherwood, Stephen, Linda J. Harrington-coulombe, and Carl L. Hubbs (1978), Relict Survival of the Sea Otter in Central California and Evidence of Its Recent Redispersal South of Point Conception, Bull, Southern California Academy of Sciences 77(3) 109-115; Gallo J.P. and G.B. Rathbun (1997), Status of Sea Otters (Enhdra lutris) in Mexico, Marine Mammal Science, 13(2) at 332-340; Wendell, Fred, Christine Pattison and Michael Harris (1996), Sea

Otter, Enhydra lutris, Containment Management: Field Studies and Feasibility Assessment, CDF&G Marine Resources Division Administrative Report 96-5.

70. Tagged adult males, located near the center of the present range have been documented to have an annual average range of fifty-five miles and one tagged individual moved as far as 90 miles. Jameson 1989, Movements, Home Range and Territories of Male Sea Otters Off Central California, Marine Mammal Science, 5(2): 159-172.

71. Tagged sea otters, captured and released at San Nicolas Island as part of the translocation plan, have demonstrated their ability to transit large expanses of ocean over deep water. At least 36 sea otters were documented to have returned hundreds of miles to their home range north of Point
Conception from San Nicolas Island, US Fish & Wildlife Service (2004) Draft Evaluation of the
Southern Sea Otter Translocation Program 1987-2004.

72. Once sea otters establish themselves in an area with an abundance of sea urchin capable of supporting a commercial fishery they are likely to specifically target red sea urchin (Strongylocentrotus franciscanus) as their primary prey since it is easy to catch and has a high nutrient value relative to the energy cost to capture and relative to alternatives. Ostfeld, Richard 1982 Foraging Strategies and Prey Switching in the California Sea Otter, Oecologia 53: 170-178Breen, Paul A., Trudy A. Carson, J. Bristil Foster and E. Anne Stewart (1982), Changes in Subtidal Community Structure Associated with British Columbia Sea Otter Transplants, Marine Ecology – Progress Series 7 13-20; Laidre, Kristin & Ron Jameson 2006 Foraging Patterns and Prey Selection in an Increasing and Expanding Sea Otter Population, J. of Mammalogy 87(4) 799-807], Miller, D.J. (1974), The Sea Otter, *Enhydra lutris*, Its Life History, Taxonomic Status, and Some Ecological Relationships, Marine Research Leaflet 7, California Dep. Fish and Game, Sacramento.

73. Sea otters will target the same age and size class of sea urchin and at the same depths (Bodkin et al 2004) as a commercial sea urchin fishery targets resulting in the collapse or loss of a viable fishery (Benech 1977, Johnson 1982). However, sea urchin are not constrained by size limits and will consume any sea urchin and other prey they are able to get to, eventually reducing the prey population to a level where any human use is not feasible for either recreational or commercial purposes.

74. On January 3, 2006, the Marine Mammal Commission ("MMC") submitted comments to the FWS regarding the draft Supplemental Environmental Impact Statement on the Translocation of Southern Sea Otters. The MMC stated "[i]t is likely that the southward movement of sea otters will seriously affect all shellfish fisheries in California. Currently the sea urchin, sea cucumber, and lobster fisheries are sustainable and represent important economic assets." The MMC continued stating, "Thus, the abandonment of the sea otter range management could, over the long term, lead to the elimination of virtually all of the shellfish fisheries along the West Coast; these fisheries have long been major economic and cultural assets over the entire region." Letter to Ms Diana K. Noda, Field Supervisor, USFWS, Ventura, from Marine Mammal Commission, David Cottingham, Executive Director, January 3, 2006.

75. The California Sea Urchin Commission recognizes the importance of a recovered, vibrant population of sea otters within its existing range Habitat conditions within the central coast, especially in regards to water quality, continue to impede otter recovery to a large degree, and this pressure may create an added incentive for otters to leave the habitat.

76. Water quality along the central coast from freshwater runoff is the single largest cause of otter mortality, resulting in exposure to pathogens, chemicals, plastics and other pollutants. In particular, two pathogens, Toxoplasma gondii and Sarcosytis neurona, account directly for at least 17% of otters found dead, and probably induce high-risk behaviors, from sickness, leading to additional

21 DECLARATION OF CALIFORNIA SEA URCHIN COMMISSION mortality, M.A. Miller, I.A. Gardner, et al. Coastal Freshwater Runoff is a Factor for Toxoplasma gondii Infection of Southern Sea Otters (Enhydra lutris nereis), International Journal of Parasitology 2002 Jul:32(8):997-1006 as reported in Report on Toxoplasma Gondii: Its Sources and Impacts on Sea Otters and What Municipalities Can Do to Help Reduce or Eliminate These Impacts, MRSWMP Final Annual Report, Appendix M, 09-26-2007.

77. Researchers have found that these pathogens exist in high concentrations in certain geographic locations. In the case of *T. gondii*, the second most dangerous location for otters occurs at the mouth of Elkhorn Slough and Moss Landing, near Monterey, both listed as "impaired" waters due to a number of chemical pollutants, sedimentation, and pathogens. Yet, the deadline for completion of a Total Maximum Daily Load ("TMDL") at Elkhorn Slough for pathogens is 2015, and for Moss Landing the proposed completion of TMDL's for pathogens is not until 2019. 2006 CWA Section 303(d) List of Water Quality Limited Segments Requiring TMDL's.

78. The highest concentrations of *S. neurona* are found at Monterey Harbor, and research has shown that otters whose home range lies within this region are 41 times more likely to contract the pathogen than otters whose home range is outside this region.

79. Recent research has shown that not only are these pathogens geographically distinctive, but otters' prey choices are also a factor determining exposure. Specifically, otters whose diets are comprised of more than 10% abalone have significantly lower rates of *T. gondii* infection. Further, no otter with a diet of more than 10% abalone was found with *S. neurona* (Johnson, et. al., "Prey Choice and Habitat Use Drive Sea Otter Pathogen Exposure in a Resource-limited Coastal System", 2008).

80. The nature of sea otters' exposure to these pathogens provides FWS with the capability to conduct monitoring and research in the no-otter zone, prior to allowing otters to enter. Currently, freshwater runoff into the no-otter zone is fed by dozens of waterways declared impaired and requiring

clean-up, many due to pathogens. Without first understanding the location of potential high-risk zones for sea otters, the FWS may put sea otters at high risk of contracting deadly diseases, while magnifying the impacts of otter predation on federally listed abalone species.

81. If Plaintiffs prevail and the no otter zone is deleted, sea otters will gradually but predictably migrate southward into prime sea urchin harvesting areas along the mainland coast and at the Channel Islands. Under this scenario, the current protection extended to commercial fishing, including sea urchin harvesting, from prohibitions in the Endangered Species Act for take of protected species would be lost. Complaints could charge that sea urchin harvesting is "taking" sea otters by changing sea otters habitat and food supplies. Seeking new federal permits or regulations to allow sea urchin harvesting to continue, until sea otter depredation makes harvesting infeasible, would create a serious hardship to the CSUC and all divers and processors.

82. Removing the otter free "management" zone will preclude the ability of the area to possibly serve as a source of larva for sea urchin and other shellfish to boost dispersal, settlement, and recruitment of young to protect shellfish, including protected shellfish, and restore food for sea otters.
Larger fish and shellfish produce larva and young more abundantly than small members of the species.
Allowing sea urchin to grow to the legal size for harvesting – a size a great deal larger than could exist amidst unlimited sea otter predation – will help protect shellfish.

83. If the sea otter management zone was removed and sea otters expanded their range so as to significantly shrink the size of the fishery, the purpose and objective of the CSUC would be frustrated. The CSUC would be unable to ensure a long term sustainable sea urchin fishery for the welfare of industry participants or the public.

84. Since the CSUC budget is funded by an assessment on landings, as landings decreased due to sea otter expansion the resources available to carry out programs authorized by California law

would be limited. The CSUC would lose the ability to work in behalf of the industry and the public in carrying out research, implementing public education, advocating for sea urchin conservation or developing new and creative fishery management strategies.

85. As the sea urchin fishery shrinks in size and volume, the public's interest in local reliable seafood would be thwarted leading to more seafood being imported and raising public policy questions of food security and energy consumption. Increasingly, people in the United States are interested in local sustainable food sources that, in this case, can only be provided if sea otters are managed in a way that protects a sustainable sea urchin fishery.

86. If sea otters are allowed to freely expand their range, the 85% of the sea urchin fishery originating in Southern California would be at risk of collapsing, beginning with the nearly 70% harvested at the Channel Islands – the most likely and most productive area within the management zone. An estimated 100 of the most active sea urchin divers' dive at the Channel Islands. Losing the ability to harvest at the Islands means these divers either lose the ability of making a living diving for sea urchin or they must relocate to another area in the State, thereby causing compaction within fishing grounds and conflicts with other divers. Most would likely need to seek other employment and as sea otters continued to expand their range the number of divers affected would increase, such that it is likely there would be no sea urchin diving in the current no sea otter management zone.

87. Compaction of divers in remaining sea urchin harvesting areas could lead to over fishing and excessive pressure on the sea urchin resource, leading the California Department of Fish & Game to reduce the number of sea urchin permits issued. Many divers would lose the ability to earn even a minimum income from sea urchin harvesting.

88. If plaintiffs prevail and the sea otter management zone is removed and sea otters expand throughout Southern California, all of the southern sea urchin fishery and its value to California would

eventually be lost: \$6.5 million in "on-the-dock' income to divers; \$16.75 million in retail seafood sales; millions of dollars in business related expenses paid into their local economies; nearly 100 tender jobs and the \$658,000 in wages paid to them; potentially 315 seafood processor jobs and the millions in wages and taxes paid on these jobs; and nearly \$570,000 in fishery permit fees and taxes to State and federal agencies.

89. In addition to the economic loss experienced by sea urchin divers, tenders, processors and their employees there could be widespread social costs, including, but not limited to, uprooting families to go searching new employment, inability of children to seek higher education, and the general stress of unemployment.

I hereby declare and certify, under penalty of perjury under the laws of the United States of America, that the foregoing is true and correct. It is based on my personal knowledge and, if I were called to testify in this court proceeding, my testimony would be the same as that contained in this Affidavit.

Dated: December 15, 2009

## CALIFORNIA SEA URCHIN COMMISSION

By: Vern Goehring, Executive Director

## DECLARATION OF CALIFORNIA SEA URCHIN COMMISSION