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INTERPRETATION OF “WASTEFUL MANNER” WITHIN THE MARINE MAMMAL PROTECTION ACT AND ITS ROLE IN MANAGEMENT OF THE PACIFIC WALRUS

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Alaska Natives from coastal communities are exempt from the Marine Mammal Protection Act’s general moratorium on the take of marine mammals for non-depleted species such as walrus, and are allowed to harvest them for subsistence and handicrafts, provided it is not done in a wasteful manner. Native harvests of walrus are currently not restricted in number, since walrus are not classified as legally depleted, and thus the Native exemption for walrus harvest is largely managed through the requirement of preventing waste. However, waste is not clearly defined within the statute with respect to hunting practices, salvage, or utilization. Accordingly, interpretation has been ambiguous, and enforcement arbitrary, contributing to the disconnect between policy, management, and local conditions. We contend that a focus on the value-laden and largely intractable goal of defining “waste” as a management tool has done little to protect walrus, while eroding trust between hunters and managers. In addition, a focus on values and semantics overshadows other more substantive goals, such as: (1) the conservation of Pacific walrus, (2) the practical

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management of the walrus population, and (3) the support of Alaska Natives who rely on walrus for their cultural and economic livelihoods. We address alternative interpretations of "waste," addressing specifically contemporary conditions, the intent of the statute, and the long history of the waste issue that predates the MMPA. In the future, these issues are likely to become more profound if the walrus population is legally found to be depleted, if courts rule that current harvesting rules are statutorily invalid, or if the soon-to-be-reauthorized MMPA is amended, allowing pre-depletion regulation of the subsistence harvest.

I. INTRODUCTION

On October 21, 1972, when President Nixon signed the Marine Mammal Protection Act (MMPA, or the Act)¹ into law, its passage resulted in the transfer of management of marine mammal species from State to Federal government.² Although the MMPA was spurred into law by the tenuous circumstances of some of the world's marine mammal species, and by public outcry about both the high incidental take of dolphins in tuna fisheries and seal pup harvest in the North Atlantic, it also became an umbrella policy designed to provide both national and international protections to all marine mammals.³ Indeed, Congress specifically found that:

[m]arine mammals have proven themselves to be resources of great international significance, esthetic and recreational as well as economic, and it is the sense of the Congress that they should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem.⁴

Despite the clear intentions to protect marine mammals, persistent disagreements between many competing interests led to compromises

1. 16 U.S.C. §§1361-1421 (2000).

2. *Id.* § 1379(a) (allowing state authority over regulation only in the event that the Secretary has "transferred authority" to the state).

3. See Laura Lones, *The Marine Mammal Protection Act and International Protection of Cetaceans: A Unilateral Attempt to Effectuate Transnational Conservation*, 22 VAND. J. TRANSNAT'L L. 997 (1989).

4. 16 U.S.C. § 1361(6).

within the Act. Two of the competing interests were, on the one hand, a continued sustainable harvest of non-depleted marine mammal species, and on the other, complete protection from all harvest.⁵ The compromises within the MMPA are reflected in the vagueness of the statute’s language,⁶ which has made interpretation difficult, at best.⁷

Native Alaskans are permitted to “take”⁸ marine mammals for “subsistence” under the MMPA,⁹ provided it “is not accomplished in a wasteful manner.”¹⁰ However, there is no guidance in the statute as to what

5. Sanford E. Gaines & Dale R. Schmidt, *Wildlife Population Management Under the Marine Mammal Protection Act of 1972*, 6 ENVTL. L. REP. 50,096, 50,101 (1976) (dubbing the group supporting the former interest “managers,” and those advocating for the latter “protectionists”).

6. MICHAEL J. BEAN & MELANIE J. ROWLAND, *THE EVOLUTION OF NATIONAL WILDLIFE LAW* 110-111 (3d ed. 1997) (stating that because compromises were “necessary in order to pass any legislation at all, the Act articulated only broad, general policy goals and implemented them with specific directions that were neither purely protectionist nor purely exploitive but almost always complex.”).

7. N. Munro, *Marine Mammals in Alaska*, 3 ALASKA SEAS & COASTS 1 (1975). *See also* M. Baumgartner, *Marine Mammal Management*, 4 OCEANS 63, 64 (1984) (quoting John Burns, Wildlife Biologist for the State of Alaska, “this act was conceived in an atmosphere of emotional idealism and was written in abstract, often indefinable terms.”).

8. “Take” means to “harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” 16 U.S.C. § 1362(13).

9. For decades, the meaning of “subsistence” has been controversial in Alaska, based on alternate interpretations of cultural (traditional versus modern), racial (native versus non-native), and social (urban versus rural) components of subsistence, and whether specific societal segments should be given exclusive or priority access over the harvest and use of natural resources. *See generally* Jennifer L. Tomsen, “Traditional” Resource Uses and Activities: Articulating Values and Examining Conflicts in Alaska, 19 ALASKA L. REV. 167 (2002) (describing the different uses of the term “traditional”; for instance, its use with respect to the term “subsistence” under the MMPA); S. J. LANGDON, *CONTEMPORARY ALASKA NATIVE ECONOMIES* (1988); DAVID CASE & DAVID VOLUCK, *ALASKA NATIVES AND AMERICAN LAWS* 286 (U. of Alaska Press 2002). Section 109(f)(2) of the Marine Mammals Protection Act (MMPA) defines subsistence as:

the customary and traditional uses by rural Alaska residents of marine mammals for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of marine mammals taken for personal or family consumption; and for barter, or sharing for personal or family consumption.

16 U.S.C. 1379(f)(2).

50 C.F.R. § 18.3 defines subsistence as “the use by Alaskan Natives of marine mammals taken by Alaska Natives for food, clothing, shelter, heating, transportation, and other uses necessary to maintain the life of the taker or for those who depend on the taker to provide them with such subsistence.” 50 C.F.R. § 18.3.

10. 16 U.S.C. § 1371(b)(3).

a “wasteful” manner would be. Furthermore, the term “wasteful” only occurs at two other points in the MMPA: one reiterating the same requirements for Alaska Natives under a different management scenario, and the other unrelated.¹¹ Those usages do not provide additional context from which to infer a definition. In the case of Pacific walrus, this uncertainty, along with the implementation and enforcement of several aspects of the MMPA, actually create perverse situations that are not conducive to protecting walrus, or reducing waste.

In this article, we demonstrate that although the interpretation of “wasteful manner” is fundamental to current management of the Alaska Native walrus hunt, waste has consistently been inadequately addressed and poorly clarified. Therefore, we provide an analysis of how the term “wasteful” was likely intended by Congress, and how it is interpreted by the agencies in charge, by the courts, and by the representatives of Native walrus hunters. We demonstrate how these various interpretations affect the MMPA’s goal of protecting walrus. We then describe why the lack of resolution concerning wasting the walrus poses significant problems for both the Native community and the U.S. Fish and Wildlife Service (USFWS). Finally, we conclude by presenting alternative interpretations and strategies used or considered elsewhere that might clarify the intent, purpose, and definition of “wasteful manner,” while presenting some avenues of possible resolution.

II. THE MARINE MAMMAL PROTECTION ACT AND THE NATIVE EXEMPTION

The MMPA imposes a moratorium on the taking of marine mammals, including Pacific walrus, within U.S. waters.¹² However, Congress recognized and accommodated the long-standing cultural significance of marine mammals to Alaska Native coastal communities by invoking tradition¹³ or

11. *Id.* § 1379(f)(1)(A) (requiring that if management authority is returned to the State of Alaska “the State has adopted and will implement a statute and regulations that insure that the taking of the species for subsistence uses . . . is accomplished in a nonwasteful manner.”); *id.* § 1380 (c)(1)(D) (establishing as a goal of the regional workshop for the Gulf of Maine, which assesses factors affecting the ecosystem, the recommendation of a research program that “permits non-wasteful, environmentally sound development of renewable and nonrenewable resources.”).

12. 16 U.S.C. § 1372(a).

13. *See* Tomsen, *supra* note 9, at 175 (reviewing the interpretation of what is “traditional” in the context of the MMPA).

culture as a basis for special privilege.¹⁴ As such, there are numerous exceptions, including one that specifically applies to Alaska Natives.¹⁵ The MMPA’s prohibition on taking marine mammals does not apply with respect to the:

[T]aking of any marine mammal by any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean if such taking—

- (1) is for subsistence purposes; or
- (2) is done for purposes of creating and selling authentic native articles of handicrafts and clothing: *Provided*, that only authentic native articles of handicrafts and clothing may be sold in interstate commerce: *And provided further*, that any edible portion of marine mammals may be sold in native villages and towns in Alaska or for native consumption. For the purposes of this subsection, the term “authentic native articles of handicrafts and clothing” means items composed wholly or in some significant respect of natural materials, and which are produced, decorated, or fashioned in the exercise of traditional native handicrafts without the use of pantographs, multiple carvers, or other mass copying devices. Traditional native handicrafts include, but are not limited to weaving, carving, stitching, sewing, lacing, beading, drawing, and painting; and
- (3) in each case, is not accomplished in a wasteful manner.¹⁶

The Act further asserts that if a species or stock of marine mammal that is subject to taking by Alaska Natives is found to be “depleted”—that it falls below the Optimal Sustainable Population—then the Secretary of the appropriate agency¹⁷ may prescribe regulations “with reference to species

14. Courts have consistently recognized the federal responsibility toward Native communities, subsistence needs, and Native economies. *CASE & VOLUCK, supra* note 9, at 263, 282. In *People of Togiak v. United States*, the court interpreted ambiguous terms of the MMPA in support of the federal protection of Native subsistence including the need “to preserve such communities as distinct cultural entities.” 470 F. Supp. 423, 428 (D.D.C. 1979).

15. 16 U.S.C. § 1371(b) (2000).

16. *Id.*

17. Prior to 1970, the more pelagic (deep ocean) marine mammal species (except walrus) were put under the supervision of the United States Department of the Interior’s (US DOI’s) Bureau of Commercial Fisheries, while the other species (including walrus) were managed by DOI’s Bureau of Sport Fisheries and Wildlife. See *Gaines, supra* note 5, at 50,097. In 1970, legislation created the National Oceanic and Atmospheric Administration (NOAA)

or stocks, geographical description of the area included, the season for taking, or any other factors related to the reason for establishing such regulations and consistent with the purpose of this [Act].”¹⁸

Thus, under the exemption, Alaskan Natives may continue to hunt marine mammals, provided that (1) the species is not depleted, (2) takings are conducted only for subsistence purposes or for the purpose of creating and selling authentic Native articles of handicraft and clothing, (3) sale of raw marine mammal parts is only between Alaska Natives, and (4) harvest is accomplished in a non-wasteful manner.

III. CONGRESSIONAL INTENT WITH RESPECT TO NATIVE TAKE AND UTILIZATION OF MARINE MAMMALS

There is little testimony as to how Congress explicitly understood “wasteful manner.” However, the converse of waste is utilization. When the MMPA is viewed in its entirety, it shows that Congress primarily intended the Act to promote the policy of maintaining the largest populations of marine mammals consistent with the welfare of the species and other elements of the ecosystem.¹⁹ The specific exemption for Native Alaskans who hunt marine mammals for subsistence reflects the trust responsibility of the federal government toward Alaska Natives.²⁰ Such interpretation is consistent with the legislative history underlying enactment of the statute. The legislative precursor to the MMPA, the Walrus

within the Department of Commerce, which encompassed the Bureau of Commercial Fisheries under its new name, the National Marine Fisheries Service (NMFS). *Id.* The split in marine mammal management between Interior and Commerce departments was expected to be temporary until the formation of a Department of Natural Resources, “where administration of commercial fisheries and other fish and wildlife would be reunited.” *Id.* However, this was never accomplished and the division in management remains. *Id.*

18. 16 U.S.C. § 1371(b).

19. Gaines, *supra* note 5, at 50,105.

20. *See generally* United States v. Berrigan, 2 Alaska 442 (D. Alaska 1905) (establishing the trust protection between the federal government and Alaska Natives). *See also* CASE & VOLUCK, *supra* note 9, at 7 (“It is most significant that the United States brought this suit in the first place; it indicates an executive determination that the federal government had an obligation to protect Native aboriginal possession from non-Native encroachment.”); North Slope Borough v. Andrus, 642 F. Supp. 587, 612 (D.C. Cir. 1980) (“Every statute and treaty designed to protect animals or birds has a specific exemption for Native Alaskans who hunt species for subsistence purposes. These statutes have been construed as specifically imposing on the Federal government a trust responsibility to protect Alaskan Natives' rights of subsistence hunting.”).

Protection Act of 1941,²¹ protected walrus by ending all commercial harvests, but provided for Alaska Natives to continue hunting walrus for sustenance, clothing, materials, and crafts.²² Accordingly, an examination of the language of the MMPA demonstrates that Congress deliberately struck a balance between the competing considerations of protecting marine mammals (by limiting Native hunting to non-wasteful subsistence uses of non-depleted stocks) while protecting Native cultural and subsistence needs.²³ In *People of Togiak v. United States*, after the federal government returned Pacific walrus management to the State of Alaska, Native Alaskans contested Alaska’s authority to restrict Native taking of marine mammals beyond the language of the MMPA.²⁴ The court supported the Native perspective and reiterated the balance that Congress sought, indicating that the State’s management approach “would upset the balance carefully crafted by Congress, for that interpretation would give an absolute priority to the protection of marine mammals over the rights of Alaskan Natives who have depended from time immemorial upon the walrus as their source of fresh meat.”²⁵

However, the need of Native Alaskans with respect to harvest of marine mammals is broader than just for the sustenance provided by “fresh meat.” The original bill, which started in the House of Representatives, also did not recognize the broad suite of Alaska Native needs outside of nutritional sustenance. Therefore, Alaska Senator Ted Stevens introduced language into the Senate version that recognized the need for both sustenance by Alaska coastal Natives, and the need for a small cash economy.²⁶ Stevens stated: “Mr. President, if the Native people of my State are denied the right to carve, sew, and utilize fully the entire animal carcass, the result will be

21. Pub. L. No. 219, 55 Stat. 632 (1941) (repealed 1972).

22. *Id.*

23. *People of Togiak v. United States*, 470 F. Supp. 423, 426-427 (D.D.C. 1979). For a discussion of continued acknowledgement of Native needs in some cases after depletion, see Sara Edmonds, *A Whale’s Tale: Efforts to Save the Cook Inlet, Alaska Beluga Whale*, 7 OCEAN & COASTAL L.J. 131, 165 (2001). For example, during the late 1990s when Cook Inlet belugas in Alaska became depleted, the Courts required NMFS to recognize the need to “balance the survival of the beluga whale with the Alaska Native’s traditions of subsistence harvests.” *Id.* Indeed, “[t]he beluga whale contributes to the Alaska Natives just as it contributes to the rest of the ecosystem. That contribution must be acknowledged and balanced in the overall plan to recover the declining stocks.” *Id.*

24. *People of Togiak*, 470 F. Supp. at 427.

25. *Id.*

26. 118 CONG. REC. 25,259 (1972) (statement of Sen. Stevens).

truly disastrous.”²⁷ Furthermore, the issue is one of cultural continuity as expressed by Caleb Pungowiyi in a discussion of the MMPA’s reauthorization plans in 2000: “Fundamentally, the production of handicrafts is not a commercial activity, but a continuation and adaptation to a market economy of an ancient Native tradition of making and then bartering handicrafts and clothing for other needed items.”²⁸

Senator Stevens recognized that coastal Alaska Natives depend on marine mammals for their cultural existence, which includes their economic well-being. One commentator has argued that Senator Stevens failed to see “that infusing cash into the Native economy is a sure way to alter old habits and ‘traditional’ culture.”²⁹ However, we think the more accurate representation is that he recognized that Native culture was evolving and adapting, so as to prosper (not just survive) in contemporary conditions. Senator Stevens intended that Native communities be “permitted to make a living,”³⁰ recognizing the role that the sale of food and handicrafts could have in accomplishing full utilization of an animal carcass that would benefit Native

27. *Id.* at 25,259-60. See also L.F. LOWRY, ALASKA DEP’T OF FISH AND GAME, WILDLIFE INFORMATION LEAFLET NO. 4, STATUS OF THE PACIFIC WALRUS 4 (1978) (“The economic success of these communities is precariously dependent on the health and stability of the walrus population.”).

28. *Hearing on the Marine Mammal Protection Act (Sections 118 and 119): Oversight Hearing before the Subcomm. on Fisheries Cons. of the Comm. on Resources*, 106th Cong. 182-95 (2000) (statement of Caleb Pungowiyi, Chairman MMPA Reauthorization Comm., Indigenous Peoples Council for Marine Mammals, Kotzebue, Alaska) [hereinafter 106th Cong. Hearing on MMPA].

29. Jeremy David Sacks, *Culture, Cash or Calories: Interpreting Alaska Native Subsistence Rights*, 12 ALASKA L. REV. 247, 282 (1995) (conflating a “traditional way of life” with the need of food for survival, stating that “Stevens apparently never considered why the Natives would lose their traditional way of life. They would do so because they rely on these resources for practical reasons; in short, they need the available food.”). Stevens’ point of view, though, is supported by many. See, e.g., D.W. Veltre & M.J. Veltre, *The Northern Fur Seal: A Subsistence and Commercial Resource for Aleuts of the Aleutian and Pribilof Islands, Alaska* 11 ÉTUDES/INUIT/STUDIES 51, 69 (1987) (“Such lack of understanding concerning a cultural view of subsistence is embodied in various documents in which ‘subsistence’ is equated only with ‘meat,’ with no recognition of the social and ideological aspects of the Aleut subsistence economy.”). Veltre and Veltre conclude that subsistence communities deserve some of the concern that is shown to their subsistence resource. *Id.* at 69. Case and Voluck also conclude that it is “unrealistic to require cultural and social values to remain forever fixed, indeed change is common to all societies.” CASE & VOLUCK, *supra* note 9, at 259.

30. 118 CONG. REC. 8401 (1972) (statement of Sen. Stevens).

peoples.³¹ As Senator Stevens stated: “If Congress enacts provisions outlawing all but subsistence hunting [referring to physical sustenance alone] by Alaskan Natives, not only will this proud group of Americans have their economic livelihood stripped from them, but they will face the certain fate of cultural extinction.”³² Trade in its various forms (e.g., cash and barter) has been, continues to, and will be vital for these remote communities.³³

Senator Stevens’ original intent to encourage full utilization and thus minimize waste of a marine mammal carcass has been reiterated through time. In considering the return of marine mammal management to Alaska, the U.S. Department of the Interior’s (USDOI) original criteria also included the need for maximization of the utilization of the species,³⁴ a direct reference to the Act’s requirement that Alaska Native subsistence taking not be wasteful.³⁵ This was consistent with both federal efforts prior to Alaska statehood³⁶ and subsequent Alaskan efforts to minimize waste.³⁷ In the 2000 MMPA reauthorization discussions, Caleb Pungowiyi

31. *United States v. Clark*, 912 F.2d 1087, 1089 (9th Cir. 1990) (noting that Stevens focuses repeatedly on promoting full utilization of harvested animals, thus reducing waste, while seeking to benefit the economic opportunities provided by small cash economies in Alaska Native communities).

32. 118 CONG. REC., *supra* note 30, at 8400 (statement of Sen. Stevens).

33. Trade has existed between communities and continents for thousands of years. *See generally* W.W. FITZHUGH & A. CROWELL, *CROSSROADS OF CONTINENTS: CULTURES OF SIBERIA AND ALASKA* (1988); P. Schweitzer & E. Golovko, *Traveling Between Continents: The Social Organization of Interethnic Contacts Across Bering Strait*, 13 *ANTHROPOLOGY E. EUR. REV.* 50 (1995).

34. 50 C.F.R. § 403.04 (1976).

35. 16 U.S.C. § 1371(b)(3) (2000).

36. In 1957, Dr. Frances H. Fay stated that:

[R]ecent legislative action (U.S. Congress, 1956) permitting sport hunting and the sale and export of walrus hides from Alaska is the first step in the direction of better resource management. This regulation was designed to *help minimize waste* and encourage bull hunting, for trophies and hides are both exclusive products of the older males. It is expected that the particular group of Eskimos who practice ivory hunting will recognize the financial advantage thereby provided to them, for the income from guiding fees and sale of hides has a potential value greatly exceeding that of raw ivory.

Francis H. Fay, *History and Present Status of the Pacific Walrus Population*, in *TRANSACTIONS OF THE TWENTY-SECOND NORTH AMERICAN WILDLIFE CONFERENCE* 440-41 (1957) (emphasis added).

37. JOHN J. BURNS, *THE WALRUS IN ALASKA: ITS ECOLOGY AND MANAGEMENT*, ALA. DEP’T OF FISH & GAME 37-40 (1965).

emphasized the need for a full utilization of the walrus, underscoring the Act's original purpose and intent.³⁸

Despite desires to fully utilize a harvested marine mammal, there is continuing tension between the economic and sustenance uses of marine mammals. These tensions are addressed in the scientific³⁹ and legal⁴⁰ literatures and are beyond the scope of this article. However, the court in *United States v. Clark* seems to resolve the issue, stating that "[a] close examination of the genesis of the bill demonstrates that the subsistence exemption is intended to clarify that the meat, blubber, and organs need not be used for subsistence, but may also be used as the basis of a cash economy."⁴¹ The court held that "[g]iven the legislative history and the statutory text . . . the exemption is properly viewed as protecting subsistence hunting and use of mammal parts for a limited cash economy, so long as neither use is wasteful."⁴²

The economic component of a mixed subsistence economy is a particularly challenging issue for walrus because national laws have replaced pre-existing laws, which regulated their harvest, resulting in de-facto open access conditions. The USFWS does not currently have a population estimate, so it arguably cannot ascertain whether the walrus has become depleted. Therefore, they have no authority to regulate walrus harvests.⁴³ In general, open access conditions such as this, particularly where economic incentives exist for individuals to harvest more, lead to

38. 106th Cong. Hearing on MMPA, *supra* note 28.

39. See generally Peter J. Stoett, *Of Whales and People: Normative Theory, Symbolism, and the IWC*, 8 J. INT'L WILDLIFE L. & POL'Y 151 (2005); Randall R. Reeves, *The Origins and Character of 'Aboriginal Subsistence' Whaling: A Global Review*, 31 MAMMAL REV. 71 (2002); Helene Marsh et al., *Strategies for Conserving Marine Mammals*, in MARINE MAMMALS: FISHERIES, TOURISM, AND MANAGEMENT ISSUES 1-30 (Nick Gales et al. eds., 2003); R.A. CAULFIELD, GREENLANDERS, WHALES, AND WHALING: SUSTAINABILITY AND SELF-DETERMINATION IN THE ARCTIC 112-21 (1997). See also J.B. Callicott, *Whither Conservation Ethics?*, 4 CONSERVATION BIOLOGY 15 (1990) (discussing a historical perspective on natural resource values).

40. See Debra Thatcher Gilcrest, *The High Price of Ivory: Seeking A Balance For Alaska Natives and Walrus*, 11 PUB. LAND L. REV. 135, 146-52 (1990); *United States v. Clark*, 912 F.2d 1087 (9th Cir. 1990) (examining whether MMPA is unconstitutionally vague or not); Gaines, *supra* note 5, at 50097-50108.

41. *Clark*, 912 F.2d at 1089 (stating that since Congress included the possibility for Native Alaskans to use marine mammals in a limited cash economy, the purpose must have been to encourage use of the entire animal).

42. *Id.*

43. 16 U.S.C. § 1371 (2000).

resource overexploitation.⁴⁴ It is unclear if Congress fully considered the implications of precluding harvest management for non-depleted walrus.⁴⁵ However, until they are legally found to be depleted, USFWS is limited to ensuring that the purpose of the walrus harvest is for (1) subsistence or (2) for creating and selling authentic articles of handicrafts and clothing, and (3) that it is not accomplished in a wasteful manner.⁴⁶ Assuming harvested walrus are used legally, regulation of the actual harvest can only be accomplished through ensuring that it is done in a non-wasteful manner.

IV. INTERPRETATIONS OF “WASTEFUL MANNER”

Wasteful walrus hunting by multiple parties has been a pervasive issue since the nineteenth century whaling days.⁴⁷ It has persisted through Alaska’s territorial days,⁴⁸ through the time of state management,⁴⁹ and into the current period of federal management under the MMPA.⁵⁰ However,

44. See T. DIETZ ET AL., *THE DRAMA OF THE COMMONS* 11 (2002); Elinor Ostrom & Christopher B. Field, *Revisiting the Commons: Local Lessons, Global Challenges*, 284 *SCIENCE* 278 (1999).

45. When Alaska sought the return of marine mammal management in the late 1970s, it argued that the inability to impose quotas on non-depleted species “leave these animals at the mercy of unrestricted native hunting.” *People of Togiak vs. U.S.*, 470 F. Supp. 423, 427 (D.D.C. 1979) (internal quotes omitted). However the court dismissed Alaska’s concerns and highlighted that Section 1371(b) of the MMPA “hardly grants to the Alaskan Natives an ‘unrestricted’ hunting license, for these Natives were restricted both as to amount (the takings must be non-wasteful and they may not affect a depleted species) and as to purpose (hunting is prohibited except for subsistence and for native handicrafts).” *Id.*

46. See 16 U.S.C. § 1371(b).

47. J. BOCKSTOCE, *WHALES, ICE AND MEN* 135-36 (1986). In considering the commercial harvest of walrus by whalers from the late 1850s, Bockstoce writes:

[A]s appalling as the size of this catch was [150,000 walrus of which 85% were killed between 1869 and 1878], the damage to the population was almost certainly greater.

The total kill was probably more than twice the size of the catch. . . . The native harvest must have increased, too, if only briefly, because of the market that the whalers and traders created by buying ivory from them.

Id.

48. See, e.g., J. F. Bernard, *Walrus Protection in Alaska*, 6 *JOURNAL OF MAMMALOGY* 100, 100 (1925) (Bernard notes that the focus on ivory leads to the “sacrifice of tons of good meat.”).

49. See, e.g., S. J. HARBO, *ALASKA DEPARTMENT OF FISH AND GAME, A STUDY OF THE WALRUS AND THE KING ISLAND ECONOMY* 32 (1959).

50. The issue was also considered in 1984 during attempts to return management of walrus to the State of Alaska. The MMPA required the State of Alaska to “insure that taking of the species for subsistence uses . . . is accomplished in a non-wasteful manner.” Memorandum from Norman C. Gorsuch, State of Alaska Attorney General, to the Honorable

despite the longevity of the waste issue, and the continued efforts to reduce wasting of the walrus, there are still only vague notions of what harvesting in a “wasteful manner” is, particularly within the meaning of the MMPA and its implementing regulations. Finding no guidance within the MMPA’s language, this article broadly considers the interpretation of “wasteful manner” by relevant entities including USFWS, the National Marine Fisheries Service (NMFS), the Eskimo Walrus Commission (EWC), the U.S. Department of Justice (USDOJ), and finally the judiciary.

A. The USFWS Interpretation of Waste Under the MMPA

Two months after the signing of the MMPA into law, USFWS promulgated regulations defining “wasteful manner” as:

Any taking or method of taking which is likely to result in the killing or injuring of marine mammals beyond those needed for subsistence purposes or for the making of authentic native articles of handicrafts and clothing or which results in the *waste of a substantial portion* of the marine mammal and includes without limitation the employment of a method of taking which is not likely to assure the capture or killing of a marine mammal, or which is not immediately followed by a reasonable effort to retrieve the marine mammal.⁵¹

Importantly, the initial focus is to assure retrieval of a “taken” marine mammal, and the second focus is on the retention and utilization of enough of the carcass so that no “substantial portion” is wasted. However, as discussed below, defining non-wasteful by requiring that no “substantial portion” be wasted does little to clarify what illegal wastage is, except to introduce another vague term, “substantial,” to the debate. These guidelines also do not explicitly address the safe transportation of products back to communities or the ability to store products until they can be fully utilized.⁵²

Bill Sheffield, Governor of Alaska (Jan. 12, 1984) (on file with author). The State proposed deleting reference to walrus in its existing big game wanton waste statute ALASKA STAT. § 16.30.010 (2002). Walrus would be included under new wasteful take provisions that would be developed with hunters. Application of the existing wanton waste statute to walrus was unclear because provisions such as salvage of front and hind quarters were difficult to interpret with respect to walrus. Memorandum from Norman C. Gorsuch, *supra*.

51. 50 C.F.R. § 18.3 (2006) (emphasis added).

52. Here we distinguish salvage from utilization. Salvage reflects the return of parts to a community, whereas utilization refers to actual use of those parts, per the intent of Congress.

Apart from walrus, which we consider in detail below, polar bear and sea otter are also under USFWS MMPA jurisdiction.⁵³ However, consideration of these species, particularly the sea otter,⁵⁴ does not provide much additional information or insight into what generally constitutes harvesting in a “wasteful manner.” Native harvest of polar bears prior to the MMPA did not require salvage of meat in accordance with Alaska game regulations for black and grizzly bears.⁵⁵ Currently, hides are still one of the most important polar bear products for handicrafts and clothing.⁵⁶ Although the meat is consumed by some people, USFWS indicates that some meat, such as from older males, may be unpalatable and thus used for dog food or left in the field to be scavenged by other wildlife.⁵⁷

B. The NMFS Interpretation of Waste under the MMPA

NMFS also promulgated its own similar regulations defining “wasteful manner” that included subtle differences in language, requiring methods that ensure the capture, killing, and a reasonable effort at retrieval. A “wasteful manner” for NMFS includes:

any taking or method of taking which is likely to result in the killing of marine mammals beyond those needed for subsistence, subsistence uses, or for the making of authentic native articles of handicrafts and clothing, or which results in the waste of a substantial portion of the marine mammal.⁵⁸

NMFS explicitly addressed “wasteful manner” with regard to harvest of fur seals on the Pribilof Islands in Alaska. Although fur seals are smaller than walrus, and their management reflects several other statutes not applicable to walrus, they make an appropriate comparison based on a long history of providing both economic revenue (for their fur) and sustenance

53. See U.S. FISH AND WILDLIFE SERVICE, MARINE MAMMALS MANAGEMENT, A CO-MANAGEMENT VISION FOR SUSTAINABLE USE OF SEA OTTER, POLAR BEAR, AND WALRUS IN ALASKA (1997) [hereinafter MARINE MAMMALS MANAGEMENT].

54. U.S. FISH AND WILDLIFE SERVICE, CONSERVATION PLAN FOR THE SEA OTTER IN ALASKA 18 (1994) (addressing management of sea otters, but not describing waste apart from the need to reduce the loss of mortally wounded or killed animals during the hunt and to promote “efficient and non-wasteful harvesting methods.”).

55. U.S. FISH AND WILDLIFE SERVICE, CONSERVATION PLAN FOR THE POLAR BEAR IN ALASKA 24 (1994) [hereinafter USFWS CONSERVATION PLAN].

56. See *infra* notes 167-70 and accompanying text.

57. USFWS CONSERVATION PLAN, *supra* note 55.

58. 50 C.F.R. § 216.3 (2005).

to the Aleuts residing on the Pribilof Islands. This harvest also provides the greatest opportunity for federal oversight because a NMFS observer is present for the controlled terrestrial harvest of the seals.⁵⁹ The observer is able to assess visually if the harvest is conducted humanely and without waste of the parts, required to be salvaged, which include flippers, shoulders, chests, livers, and hearts. Additional parts such as backbone and rib sections, are also taken from many seals.⁶⁰ In 1991, NMFS estimated that a maximum percent utilization of a fur seal carcass was around 53% with a minimum utilization of about 29%.⁶¹ Conversely, it appears that NMFS estimated that almost half the carcass of a fur seal had no use whatsoever. In the same year, NMFS was sued by the Humane Society of the United States, which argued that “adequate seals have been taken to satisfy subsistence needs and the seals taken to date have been taken in a wasteful manner.”⁶² At that time, NMFS had not enacted a figure for the “required” percent use of a fur seal, and without it, the court found that NMFS’ use of direct observation (i.e., the parts list) of the salvage of required parts, “was entirely appropriate” for making its assessment that the harvest was being conducted in a non-wasteful manner.⁶³

NMFS has also addressed aspects of what is a “wasteful manner,” while updating regulations pertaining to aboriginal subsistence whaling.⁶⁴ NMFS considered the term “wasteful manner” to include the use and waste of whale products after landing and butchering.⁶⁵ However, it expressed the need to maintain a wide scope to how parts are distributed within communities, including through barter, gifting, and trade, as a whaling crew would not be able to consume an entire whale on their own. In other words,

59. *The Humane Society of the United States v. Mosbacher*, No. 91-1915, 1991 U.S. Dist. LEXIS 11077, *4-5 (D.D.C. Aug. 5, 1991). Regulation of this harvest is particularly reflective of reducing utilization-related waste as opposed to loss during the hunt based on very controlled harvesting conditions where the possibility of escaped or wounded, but not killed animals is unlikely.

60. *Id.* at *5.

61. *Id.*

62. *Id.* at *3. It is also important to note NMFS’ requirement to consider an assessment of subsistence need in this harvest. *Id.* at *2.

63. *Id.* at *6.

64. Whaling Provisions; Consolidation and Revision of Regulations; Collection-of-Information Approval; Final Rule, 61 Fed. Reg. 29,627, 29,629 (June 11, 1996) (to be codified at 15 C.F.R. pt. 902 and 50 C.F.R. pt. 230).

65. Whales are usually towed whole back to a community or butchering site. In Alaska, adult walrus are generally butchered at the harvest site and the parts brought back to the community. Whaling Provisions; Consolidation and Revision of Regulations; Collection-of-Information Approval; Final Rule, 61 Fed. Reg. at 29,629.

NMFS expects parts to be utilized, not just salvaged, and those parts may be distributed widely because they exceed what is needed by a hunter or hunting crew.

C. *The Eskimo Walrus Commission’s Interpretation of Waste*

In 1978, the EWC was established as an Alaska Native Organization to represent the needs and interests of Alaska Native walrus hunting communities with both federal and state management agencies.⁶⁶ One of the three primary goals of the EWC at its inception was to address waste.⁶⁷ To accomplish this goal, the EWC described four potential responses to the “waste problem.” First, it proposed to eliminate the export of raw ivory out of Alaska to reduce the ability of hunters to make quick money; second, it focused on the need for freezer facilities to prevent loss of walrus meat after harvest; third, it passed a resolution expressing its concern that the so-called “waste” is not all waste (attributing some of the beach-found dead walrus to natural mortality rather than losses from Native take);⁶⁸ and fourth, it adopted the motion that all the *edible portions* of the walrus should be salvaged whenever possible.⁶⁹ The EWC’s focus on salvage mirrored Alaska’s requirements that “most of the edible meat” must be removed from animals taken for subsistence purposes.⁷⁰ The EWC also emphasized that it would be impossible for the organization to generically identify the

66. See Steve J. Langdon, *Prospects for Co-management of Marine Animals in Alaska*, in COOPERATIVE MANAGEMENT OF LOCAL FISHERIES 154-69 (Evelyn Pinkerton ed., 1989); Joseph J. Chambers, *Co-management of Walrus in Alaska: The Eskimo Walrus Commission and the U.S. Fish and Wildlife Service* (1999) (unpublished thesis, University of Alaska, Fairbanks).

67. Eskimo Walrus Commission Meeting Notes (April 24-25, 1979) (emphasis added) (on file with author) [hereinafter EWC Meeting Notes].

68. This was later confirmed by Espinoza, who characterized five types of beach-cast walrus carcasses: (1) carcasses harvested in a subsistence hunt and butchered on ice; (2) those that died of natural or anthropogenic causes and not butchered; (3) those lost during harvest and washed up or killed *in situ*; (4) those that died of natural causes or were struck and lost; and (5) those too decomposed to infer causality. E.O. Espinoza et al., *Taphonic Indicators Used to Infer Wasteful Subsistence Hunting in Northwest Alaska*, 25-26 ANTHROPOZOLOGICA 103 (1997). Category 1 is illegal if no meat has been removed from the carcass. For 1991, 1992, and 1993, an average 54% of beach-cast walrus were deemed illegally taken (i.e., just for ivory). *Id.* Of the remainder, 11% were too decomposed for inference, leaving 35% of beach-cast carcasses unrelated to illegal headhunting activities. *Id.*

69. EWC Meeting Notes, *supra* note 67.

70. See ALASKA ADMIN. CODE tit. 5, § 92.220 (2007).

preferred edible portions, or other usable parts of the walrus, as these traditionally vary from village to village. Nevertheless, the EWC provides a list of parts most often used: “heart, liver, stomach and intestines (for sale to ADF&G, for making drums, and to eat), kidneys, ribs, rear flippers, skin of chest, and female skins (in the villages of Wales, Diomede, Gambell and Savoonga for skin boats).”⁷¹

Shortly after its formation, the EWC adopted by-laws that included recognizing the need to find alternative uses for walrus parts that might be discarded, and thereby improve utilization,⁷² which was the original focus of the U.S. Congress, rather than salvage. Also, the EWC began an educational program, which followed highly publicized media reports, about the repercussions of wastefully taken animals, which could be detrimental to the future of walrus hunting because of the negative public perceptions.⁷³

In 1990, EWC endorsed the USFWS Office of Law Enforcement Plan (Plan) for the 1990 season, which envisioned no major changes in enforcement activity based on “voluntary compliance and an existing spirit of mutual cooperation”⁷⁴ The Plan also stated that the USFWS would “prosecute those persons who take only the ivory, and thereby protect the majority of the hunters who obey the law.”⁷⁵ The Plan formalizes the prior unwritten agreements between hunters and the USFWS agents⁷⁶ that were originally made in the 1970s to clarify what the agency meant by harvesting in a non-wasteful manner.⁷⁷ The Plan thus presents a “Wasteful Take Policy” that formally clarifies for the first time a mutually agreed upon

71. *Id.*

72. Eskimo Walrus Commission, Restated Bylaws of the Eskimo Walrus Commission, art. 1, pt. c (1998) (“to assure utilization of walrus, including marketing of ivory and other by-products, consideration of storage alternatives and possible increased utilization of walrus meat . . . to encourage and promote the use of walrus through seeking better food preservation methods, and economic uses of parts which may otherwise be discarded.”) (emphasis added).

73. See Chambers, *supra* note 66, at 43-48.

74. Press Release, U.S. Fish and Wildlife Service, Law Enforcement Plan for 1990 Walrus Season (Mar. 27, 1990) (on file with author) [hereinafter Press Release for Walrus Season Enforcement Plan].

75. *Id.*

76. Dan Mayer, a federal Law Enforcement Officer based in Nome during the 1970s and 1980s, provided the initial list of what were commonly used parts of the walrus at that time. Interview with Kim Speckman, USFWS Office of Law Enforcement, Resident Agent in Charge (February 16, 2007).

77. Press Release for Walrus Season Enforcement Plan, *supra* note 74.

requirement for hunters to return with at least “the heart, liver, flippers, coak,⁷⁸ and some red meat of each walrus killed.”⁷⁹

The Plan provides a caveat for individual hunter needs, allowing “substitution of some parts of meat for others,” while emphasizing that “as much of the edible portions of each walrus as possible should be brought back.”⁸⁰ By emphasizing that not all edible meat or usable by-products need to be salvaged, the clause provides some discretion to boat captains to focus on returning what is useful. We interpret the clause to imply that inedible or unusable products (e.g., diseased meat) would not need to be returned to shore. Similar guidelines issued earlier in 1988 also required the hunters to bring back all ivory from each walrus killed.⁸¹

The EWC continued to work with the Office of Law Enforcement toward encouraging a non-wasteful walrus harvest, including a 1992 resolution stating that the EWC:

[U]rges all hunters to take only what is needed for food and secondary use of the by-products for creation of handicrafts . . . [and] reaffirm[s] and urge[s] all village residents to comply with all provisions of the Marine Mammal Protection Act and report individuals . . . wasting walrus to the U.S. Fish and Wildlife Service enforcement agents and the Eskimo Walrus Commission.⁸²

The history of the EWC demonstrates its position as an advocate for Native hunters, as well as a long standing desire to substantively reduce waste. EWC has done this with State and Federal partners through many avenues prior to formal cooperation under the MMPA in the 1990s.

D. A Cooperative Management Interpretation of Waste of Walrus by the USFWS and EWC

The EWC’s role in walrus management developed into a formal Memorandum of Agreement with the USFWS and Alaska Department of Fish and Game in 1987.⁸³ In 1994, the MMPA was reauthorized with the

78. Coak is the blubber from the chest of a walrus.

79. Press Release for Walrus Season Enforcement Plan, *supra* note 74.

80. *Id.*

81. U.S. FISH AND WILDLIFE SERVICE DIVISION OF LAW ENFORCEMENT, NOTICE TO ALL WALRUS HUNTERS: WALRUS HARVEST REQUIREMENTS (1998) (on file with author).

82. Chambers, *supra* note 66, at 72.

83. Memorandum of Agreement between USFWS, Alaska Department of Fish and Game, and Eskimo Walrus Commission (May 21, 1987) (on file with author) [hereinafter USFWS & EWC MOA].

new Section 119, encouraging cooperative agreements between U.S. government agencies and Alaska Native organizations to conserve marine mammals and cooperatively manage subsistence use by Alaska Natives.⁸⁴ Consequently, for the first time, the USFWS was encouraged to consult with Alaska Native organizations on walrus management, including the EWC. The House Committee on Merchant Marine Fisheries explains its idea for these agreements:

It is the intent of this section that the Secretary of Commerce and the Secretary of the Interior extend full cooperation as partners to Alaska Native organizations in the development and implementation of marine mammal management plans. . . . Alaska Natives have a long history of self-regulation, based on their need to ensure a sustainable take of marine mammals for food and handicrafts. The committee believes that the best way to conserve marine mammal populations in Alaska is to allow full and equal participation by Alaska Natives in decisions affecting the management of marine mammals taken for subsistence.⁸⁵

In 1997, the first cooperative agreement for walrus management was signed between the USFWS and EWC, potentially setting the scene for a mutually agreed upon interpretation of the MMPA's language.⁸⁶ In conjunction with this new relationship, the co-management vision workshop for 1997-2000 elicited desires to develop non-wasteful take policies.⁸⁷ The sentiments of the House of Representatives to "allow full and equal participation by Alaska Natives in decisions affecting the management of marine mammals taken for subsistence,"⁸⁸ in conjunction with the mutually agreed upon co-management needs to conserve Pacific walrus and co-manage subsistence, lend credence to considering an interpretation of the statute's language based on mutual consent. This consideration includes interpretation of "wasteful manner."⁸⁹

84. 16 U.S.C. § 1388 (2000).

85. H.R. REP. NO. 103-439, at 39 (1994).

86. See MARINE MAMMALS MANAGEMENT, *supra* note 53.

87. See *id.* This workshop was organized just prior to the signing of cooperative Section 119 agreements to develop a shared vision of co-management by the Alaska Sea Otter Commission, Alaska Nanuuq Commission, Eskimo Walrus Commission, the Indigenous Peoples Council for Marine Mammals, and the USFWS. *Id.*

88. H.R. REP. NO. 103-439, at 39.

89. See generally S.E. Aufrecht, *Missing: Native American Governance in American Public Administration Literature*, 29 AM. REV. OF PUB. ADMIN. 370, 383-85 (1999) (describing co-management as a good example of government agencies "recognizing Native

To provide guidance to walrus hunters, the USFWS and the EWC cooperatively developed guidelines concerning walrus hunting practices in order to address waste.⁹⁰ The current co-management guidelines, referred to as Harvest Guidelines (as opposed to the prior “wasteful take policy”), include language reminding hunters to use methods that are likely to ensure killing and capture (rather than wounding and loss), and to make reasonable and immediate efforts to retrieve harvested walrus (to prevent total waste).⁹¹ Recognizing the difficulties in determining precisely what a substantial portion of a walrus is, the Harvest Guidelines continue to provide the basic list of parts that should be salvaged by hunters.⁹² The Guidelines therefore do not directly address the statutory prohibition against leaving behind any substantial portion of a walrus, instead focusing on collecting a substantial portion:

At a minimum, the heart, liver, flippers, chest skin with attached blubber (coak), some red meat, and the ivory must be brought back from each walrus that is harvested. Substitution of these parts for others not listed is acceptable, provided the hunters return with a *substantial portion* of each walrus harvested. An example of acceptable substitution is bringing back an entire walrus skin instead of heart, liver, flippers, coak, and *some red meat* of that walrus.⁹³

The guidance is similar to the original EWC guidelines from 1979, except that it does not explicitly mention intestines and kidneys (although these could be used for substitution). The Harvest Guidelines limit the number of walrus that can be taken to those from which a substantial portion of parts can be returned to shore. The EWC guidelines also reflect a mutual agreement as to what constitutes an illegal take with respect to wasteful harvesting of walrus. Additionally, the Harvest Guidelines provide new discretion to boat captains where “extreme weather and ice conditions may arise that make it necessary to minimize salvage in order to allow the

American expertise” and exploring the need to find a mutually agreed upon interpretation of language between Alaska Natives and Administrators).

90. ESKIMO WALRUS COMMISSION & USFWS, WALRUS HARVEST GUIDELINES (2004) (signed by Charlie Brower, Chair of the EWC; Stan Pruszenski, Special Agent in Charge, USFWS; and distributed to the EWC’s commissioners and hunters) (on file with author) [hereinafter WALRUS HARVEST GUIDELINES].

91. *Id.*

92. *Id.*

93. *Id.* (emphasis added).

boat crew to return home safely.”⁹⁴ Therefore, while the Harvest Guidelines emphasize the right to take only as many walrus as can be carried by the boat, captains have the authority to reduce that amount if safety demands.

Boat safety is a balance between the capacity of a boat, weather and sea conditions, and the load (comprising engine, fuel, equipment, hunters, and harvested walrus parts). The walrus-part carrying capacity of boats restricts the number of walrus that can be harvested in a single foray if the statutory list of parts is to be returned to a village. This capacity restriction therefore provides potential conservation benefits by limiting the extent of a specific hunt. However, even the Harvest Guidelines, which are meant to clarify “wasteful manner,” are rife with vague language, further contributing to the confusion over what waste is. For example, how much is “some red meat” from an 800 kg female or 1200 kg male walrus?⁹⁵ Notably, this definition perpetuates the vagueness of the “substantial portion” language of the original USFWS interpretation of the statute. However, the phrase is employed in a subtly different manner from the original USFWS interpretation, and there have been no new efforts to revise it. As such, it does not clarify “wasteful manner” anymore than the original statute.

Some persistent concerns are still expressed at EWC meetings with respect to the interpretation of waste by the USFWS. Charles Brower, the EWC chairman in 2006, stated that USFWS Law Enforcement should not question what is brought back from a hunt because captains of hunting crews should have the discretion to decide how much of a particular walrus can be utilized.⁹⁶ At issue is what happens if a hunter harvests a walrus that subsequently, during butchering, appears sickly or unsuitable for consumption. Still, USFWS Law Enforcement has indicated that it expects the Harvest Guidelines to be the standard for salvage requirements.⁹⁷ Thus, discretion is not afforded to the hunter who is required to return parts in accordance with the Harvest Guidelines, despite concerns that unhealthy parts may contaminate parts from other walrus in the boat, or may displace healthy and usable walrus parts that may otherwise have been salvaged.

Although the Harvest Guidelines Parts List is regarded as a cooperative success by the USFWS and the EWC, the Native harvest objectives and

94. *Id.*

95. Francis H. Fay, *Ecology and Biology of the Pacific Walrus*, *Odobenus Rosmarus Divergens Illiger*, 74 N. AM. FAUNA 34 (1982) (stating that the mean size of an adult male is 1210 kg, and a female is 832 kg).

96. Eskimo Walrus Commission, Annual Meeting Minutes (Dec. 2006) (statement of Charles Brower, Chair of Eskimo Walrus Commission) (on file with author).

97. *Id.* (statement of Steve Oberholtzer, USFWS Division of Law Enforcement).

Alaska Native needs of the 1960-1970s (on which the list of parts was based)⁹⁸ may differ from their objectives and needs today. Nevertheless, co-management provides the opportunity for communities to cooperate with federal agencies in an effort to determine the conditions of the regulations to which they must abide. This working relationship is also manifested when the EWC and USFWS Law Enforcement cooperate in prosecuting hunters who behave wastefully.⁹⁹

Since 1997, comprehensive education programs and publicity of the Harvest Guidelines have been accomplished through letters to hunters and local media in multiple languages (including English, Central Yup’ik, St. Lawrence Island Yupik, and Iñupiaq dialects). As a result, communities are now strongly aware of the parameters of the Harvest Guidelines.

*E. USFWS Office of Law Enforcement’s Implementation of the
“Wasteful Manner” Provision*

USFWS Office of Law Enforcement states that its role in the “wasteful manner” issue is to uphold the MMPA’s language, as written, by following the USFWS interpretation of that language as stated in 50 C.F.R. § 18.3. Nevertheless, they recognize the challenges faced by communities. For example, Al Crane, formerly of USFWS Office of Law Enforcement, suggests that the MMPA “makes arbitrary prohibitions against people who are trying to maintain a self-sufficient lifestyle, but this is impossible if they abide by the law.”¹⁰⁰ Nevertheless, in a 1997 journal article, which was a collaborative effort between USFWS Law Enforcement and the National Fish and Wildlife Forensic Laboratory, the authors cite the case of *United States v. Clark*¹⁰¹ as a benchmark in their interpretation of waste. As stated by the authors, this case provided that “full ‘traditional use’ of a hunted walrus includes recovery of the hide, flippers, liver, heart, blubber, and ivory.”¹⁰²

In addition to requiring the retention of a substantial portion of walrus parts that can be assessed when boats return to communities, the Harvest Guidelines provide three additional basic requirements to reduce the chance of wasteful take of walrus which are amenable to enforcement: (1) harvesting only for subsistence purposes or making authentic Native

98. Interview with Kim Speckman, *supra* note 76.

99. 106th Cong. Hearing on MMPA, *supra* note 28, at 5.

100. Chambers, *supra* note 66, at n.120.

101. 912 F.2d 1087 (9th Cir. 1990).

102. Espinoza et al., *supra* note 68, at 104.

handicrafts; (2) using hunting methods that are likely to assure the capture or killing of the walrus; and (3) making a reasonable and immediate effort to retrieve the harvested walrus.¹⁰³

The first requirement can be enforced by routine monitoring of illegal traffic in walrus parts. However, requirements two and three only favor enforcement in the most egregious cases, with verification through local witnesses or observation of a kill site.¹⁰⁴ Enforcement is limited because of the fact that special agents generally only conduct community visits in response to specific complaints. In remote communities, including all the primary walrus hunting communities in Alaska, access is frequently limited to air traffic, which further limits effectiveness of law enforcement, due to the nature of their high-profile arrival. This is in contrast to patrol officers in places such as the National Wildlife Refuge System who remain closely associated with their particular area of interest.¹⁰⁵ However, the overall lack of explicit guidelines as to what constitutes “wasteful take” requires that each report be investigated on a case by case basis.¹⁰⁶ Different harvesting practices, patterns of utilization, and prior histories of specific hunters in different communities all compound the difficulty of applying absolute legal criteria to “wasteful take.”¹⁰⁷ Consequently, a returning hunter is presented with few occasions where he fears prosecution or repercussions,¹⁰⁸ provided he does not egregiously flaunt the Harvest Guidelines with a special agent or USFWS harvest monitor present.

103. WALRUS HARVEST GUIDELINES, *supra* note 90.

104. *Id.*

105. Patrol officers are better able to observe harvest practices as they happen and make citations as appropriate. Special agents are particularly reliant on informants who report cases of wanton waste by hunters.

106. See NORTH ATLANTIC MARINE MAMMAL COMMISSION, REPORT OF THE NAMMCO WORKSHOP ON HUNTING METHODS FOR SEALS AND WALRUS 19-21 (2004), available at <http://www.nammco.no/webcronize/images/Nammco/735.pdf> [hereinafter NAMMCO].

107. See, e.g., S.L. Eliason, *Throwing the Book Versus Cutting Some Slack: Factors Influencing the use of Discretion by Game Wardens in Kentucky*, 24 DEVIANT BEHAVIOR 129 (2003) (demonstrating that discretionary interpretation of harvest laws are not limited to enforcement of legal walrus hunts, but show up in other game harvest arenas as well).

108. The penalty for Alaska Native hunters found violating the MMPA by wasting walrus is a class A misdemeanor, usually punished with a citation and fine. However, if coincident with other violations (e.g., the Lacey Act, 16 U.S.C. §§ 3371-78 (2000), regulating traffic and commerce of walrus parts), penalties may include felony convictions. Felony convictions usually accompany the higher profile wasteful take cases and result in a loss of the right to bear arms, thereby precluding legal subsistence hunting for life. 18 U.S.C. § 922(g)(1) (2000).

Whereas the existence of some waste is ubiquitous and generally acknowledged, its precise prevalence or volume is equivocal. Over the past twenty years (1985-2006), there have been thirty-four complaints, twenty-one citations, and twenty-four convictions of wasteful take of walrus.¹⁰⁹ Of the convictions, three years (1991, 1997, and 2003 with seven, five, and seven convictions, respectively) accounted for nearly 80% of all cases. Elsewhere, a study of beach-cast walrus carcasses suggested a decline in headhunting in the early 1990s,¹¹⁰ but the methodology they developed to distinguish wasteful hunting practices was not repeated. Nevertheless, wasteful take of walrus continues to be a prominent issue for USFWS Law Enforcement, though conviction, and possibly the incidence of hunters who most egregiously waste walrus are clearly restricted to a few isolated cases.¹¹¹ Chronic waste, however, remains largely unaddressed, even though it is regarded as an important issue by law enforcement and local community hunters.¹¹²

While the Harvest Guidelines represent a significant example of cooperation, Native trust of Law Enforcement remains tenuous due to several incidents that have occurred over the past decades. Most notably, under Operation Whiteout in the early 1990s, law enforcement used undercover agents and Alaska Natives to identify and prosecute non-Native buyers of raw ivory that were linked to drug trafficking.¹¹³ The operation

109. Letter from Benito Perez, Chief, Office of Law Enforcement, USFWS, to author (Apr. 9, 2007) (on file with author).

110. Espinoza et al., *supra* note 68, at 111 (reporting that illegal harvests were attributed to 85%, 53%, and 23% of beach-cast walrus in 1991, 1992, and 1993, respectively).

111. Media coverage of walrus hunting has tended to focus on the few hunters who egregiously waste walrus. Responding to a 1989 article in *Newsweek*, Walter Stieglitz, Regional Director of the USFWS, comments that media portrayal of headhunting of walrus focuses on events that are “the exception and not the rule” and “inflicts an injustice upon those Native Alaskans exercising their right to legitimately take walrus as provided for by the Marine Mammal Protection Act.” Henry Huntington, *Management and Regulation of Local Subsistence Hunting in North Alaska* (1991) (unpublished Ph.D. dissertation, University of Cambridge) (on file with author).

112. Although the guidelines have been a significant success in reaching a mutually agreeable understanding of waste, there is clearly dissatisfaction from the federal to local level. For example, as stated in an anonymous interview of a subsistence hunter, the “head, the flippers, some of the coak, liver, heart and stuff. That is legal . . . I think that is a bad attitude. I think that is the wrong kind of rule.” EWC, *PACIFIC WALRUS: CONSERVING OUR CULTURE THROUGH TRADITIONAL MANAGEMENT* 98 (2003) (on file with author) [hereinafter *EWC REP. ON CULTURE AND MANAGEMENT*].

113. See Chambers, *supra* note 66, at 74-75, for general background on this operation.

was seen as a success by some,¹¹⁴ but informants, Mr. Pungowiyi, and Alaska Native Organizations emphasized that the media pertaining to operations like this build on negative perceptions of hunters, many of whom are clearly responsible in their harvests.¹¹⁵ Now hostility and mutual lack of trust in some communities have even resulted in law enforcement officers periodically conducting the routine biological sampling and harvest monitoring.¹¹⁶

Increasingly, discrepancies between known harvests (monitored through the USFWS walrus harvest monitoring program or local subsistence surveys) and the statutorily required Marking, Tagging, and Reporting Program (MTRP)¹¹⁷ indicate that a significant proportion (up to 36 % in 1994/1995) of the documented harvest's ivory is unaccounted for, emphasizing the low level of compliance that USFWS is able to procure in communities.¹¹⁸ This issue is important because trust and close-working relationships between the Native community and USFWS are critical for successful walrus management. Ironically, in recent years, USFWS has progressively reduced its presence in villages. So while community trust in USFWS is interfering with the ability to cooperatively work with that agency, USFWS monitoring is decreasing as well.¹¹⁹

114. See, e.g., Press Release, USDOJ, Five Defendants Sentenced in Alaska Ivory Poaching Case (Oct. 30, 1992), available at <http://nativenet.uthscsa.edu/archive/nl/9210/0196.html> (describing success of Operation Whiteout).

115. EWC Res. 92-10-13-02 (Oct. 13, 1992) (on file with author); and Support for the Prosecution of Illegal Taking of Marine Mammals in Exchange for Money or Illegal Substances and the Accompanying Wanton Waste of the Subsistence Foods and Handicraft Materials that Marine Mammals Provide the Native Peoples, Bristol Bay Native Association Res. 92-41 (Apr. 14, 1994) (on file with author). See also 106th Cong. Hearing on MMPA, *supra* note 28.

116. Tim Santel, *Remarks from the President*, 13 FED. WILDLIFE OFFICER (2000), available at <http://www.fwoa.org/news/fwoanws22a.html>.

117. 16 U.S.C. § 1379(i) (2000) (stating that “the Secretary . . . may prescribe regulations requiring the marking, tagging, and reporting of animals taken pursuant to section 1371(b) of this title.”). In 1988, USFWS promulgated regulations and instituted a marking, tagging, and reporting program (MTRP) for polar bears, walrus, and sea otters. 50 C.F.R. § 18.23(f) (2006).

118. D. M. Burn, *Estimation of Hunter Compliance with the Marine Mammal Marking, Tagging, and Reporting Program for Walrus*, 26 WILDLIFE SOC'Y BULL. 68 (1998).

119. See U.S. FISH & WILDLIFE SERVICE, STOCK ASSESSMENT: PACIFIC WALRUS 4 (2002). Due to cuts in funding for walrus co-management in 2007, and little funding for bilateral collaborations, USFWS has reduced their efforts on three of four requirements conducive to assessing the sustainable use of walrus. These factors are described in *id.* at 4 (“Achieving this management goal will require continued investments in population

*F. The Department of Justice’s Interpretation of
“Wasteful Manner” under the MMPA*

The USDOJ has primary authority to appear in court on behalf of the USFWS. The USDOJ has expressed concern about the discrepancy between the local USFWS interpretation of waste (in the Harvest Guidelines) and the federal regulations embodied in 50 C.F.R. § 18.3. In particular, the USDOJ in *U.S. v. Apassingok* asserts that: (1) the MMPA’s exemption for Natives to convert ivory into handicrafts for sale to the public is an incentive and motive to hunt walrus for the ivory alone;¹²⁰ and (2) the development of the Harvest Guidelines has resulted in “wasteful taking associated with ivory hunting [having] become institutionalized in some coastal communities over several years, partly by being condoned and facilitated by the written policies of USFWS.”¹²¹

The USDOJ emphasizes that salvage is only one component of not harvesting walrus in a wasteful manner. Harvesting in a wasteful manner includes failure to salvage walrus parts at all, as well as “any taking or method of taking which is likely to result in the killing or injuring of marine mammals beyond those needed for subsistence purposes . . . [including] a method of taking which is not likely to assure the capture or killing of a marine mammal.”¹²²

Despite their concerns, the USDOJ acknowledged that with the 1990 Wasteful Take Policy, USFWS had tried to deal with the ivory-hunting incentive that the MMPA may have created,¹²³ but commented that this was only the “first stage in securing eventual compliance with the laws against wasteful taking.”¹²⁴ USDOJ then asserts that the subsequent 2004 Harvest Guidelines “perpetuated the earlier standard and added a misstatement of

research, harvest monitoring programs, international coordination and co-management relationships.”)

120. *United States v. Apassingok*, No. F04-008 CR(RRB), at 5 (D. Alaska 2005); Kay Lourie, *THE ESKIMO WALRUS COMMISSION 1981-82 WALRUS DATA COLLECTION PROGRAM 214* (1982) (commenting that MMPA’s preclusion of economic opportunities from other products of walrus (such as meat), while integration into a cash economy was increasing, naturally focused attention on ivory).

121. *Apassingok*, No. F04-008 CR(RRB), at 8.

122. *Id.* at 3.

123. *See id.* at 4-5. The USDOJ contends that the MMPA’s moratorium “effectively eliminated the availability of ivory to the general public, except for what might be obtained from Natives who were required to convert it into handicrafts before sale to the public. This tends to increase the demand for ivory products from native sources.” *Id.*

124. *Id.* at 7.

law [50 C.F.R. § 18.3], that required the hunter to ‘retain’ *only* ‘a substantial portion’ of the harvested walrus.”¹²⁵ We argue that the Harvest Guidelines, as written, set a benchmark that define, albeit vaguely, what is an egregious and illegal waste of walrus. What the 2004 Harvest Guidelines do not do is clarify how to reduce chronic waste of walrus parts such that no substantial part of a walrus is unsalvaged or unused, in other words, to exceed the minimum standard.

USDOJ also contests the allowance of substitution within the 1990 Wasteful Take Policy, which permits salvage of hide and ivory alone with no salvage of any other walrus parts. The added contingency of reducing salvage in poor weather and ice conditions that threaten safety in the 2004 Guidelines leads the USDOJ to conclude that the Guidelines “may justify minimizing even the limited salvage it requires.”¹²⁶ Consequently, USDOJ suggests that USFWS contributes to the waste of walrus, because the agency produced a policy that “purports to allow massive waste of walruses in the process of harvesting the ivory by only encouraging a ‘token effort’ to salvage more than just the ivory.”¹²⁷

At issue in these discussions is the discrepancy between interpretations that rely on what is a substantial portion of the *usable parts* (as in the 2004 Harvest Guidelines) and those reliant on a substantial portion of an *entire walrus*, irrespective of utility of specific parts. In other words, according to USDOJ, “salvage must be so complete that no substantial portion is left unsalvaged,”¹²⁸ regardless of its utility to the hunter. On the other hand, the Harvest Guidelines seem to require that a substantial portion of the usable parts be salvaged. USDOJ has stated that the “minimal salvage standard” of the Harvest Guidelines violates the statutory and regulatory prohibition of wasteful taking, concluding that the USFWS-endorsed Harvest Guidelines allowed for the “waste of nearly the entire carcass of a walrus,” and were “exposed . . . as unlawful and . . . no longer operative” as of January 7, 2005.¹²⁹

USDOJ presents a strong argument for a specific interpretation of the MMPA and 50 C.F.R. § 18.3, including that “hunters should salvage all

125. *Id.* at 8 (emphasis added).

126. *Id.*

127. *Id.*

128. Objections to Draft Pre-sentence Reports of All Defendants at 2, United States v. Apassingok, No. F04-008 CR(RRB) (D. Alaska Dec. 15, 2004).

129. *Apassingok*, No. F04-008 CR(RRB), at 6.

edible meat from any walrus taken.”¹³⁰ While USDOJ has opined that the current Harvest Guidelines are a misuse of the USFWS discretion, no court has directly found the USFWS interpretation to be improper. The most recent case where USDOJ indicated that the Harvest Guidelines were an illegal interpretation of law resulted in a plea agreement, and there has been no case which challenges the agency’s interpretation directly.

G. Interpretation of the “Wasteful Manner” Clause by Federal Courts

Only three court cases provide clarification directly pertaining to harvesting walrus in a “wasteful manner”: (1) *United States v. Clark*;¹³¹ (2) *United States v. Omiak*;¹³² and (3) *United States v. Apassingok*.¹³³

In *United States v. Clark*, the constitutional validity of 50 C.F.R. § 18.3¹³⁴ was upheld.¹³⁵ The court clarified that killing walrus and taking *only* the head, oosik, and flippers is a violation of the “wasteful manner” provision of the MMPA and could not be construed as a vague requirement.¹³⁶ This provides a boundary for one end of the spectrum of what “wasteful manner” might mean. At the other extreme is the obviously non-wasteful salvage *and* utilization of an entire carcass where the only unutilized material is that which is lost in the butchering process. It is the point between these extremes at which there is legally committed waste that remains unclear.

In *United States v. Clark*, the court also affirmed Senator Stevens’ intent that Native Alaskans use all of a walrus carcass, not just part of it.¹³⁷ Given the legislative history, the court interpreted the Native exemption as an attempt to protect subsistence hunting and use of marine mammal parts

130. Amended Judgment of *United States v. Apassingok*, No. F04-008-04 CR(RRB), at 3 (D. Alaska Feb. 18, 2005). Part of the probation for four of the five defendants as recommended by USDOJ included the requirement that “the defendant must salvage all edible meat of any wildlife taken.” *Id.*

131. 912 F.2d 1087 (9th Cir. 1990).

132. Nos. 93-30337, 93-30339, 1994 U.S. App. LEXIS 17212 (9th Cir. 1994).

133. No. F04-008 CR(RRB) (D. Alaska Feb. 18, 2005).

134. This provision declares that any harvest “which results in the waste of a substantial portion of the marine mammal” is wasteful. 50 C.F.R. § 18.3.

135. *Clark*, 912 F.2d at 1090. *Clark* challenges the regulation for being unconstitutionally vague as applied, but the court finds “substantial portion” is a phrase “of sufficient clarity and common usage to apply to *Clark*: he took only a small portion of the walrus carcasses and left the majority to rot.” *Id.*

136. *Id.*

137. *Id.* at 1089.

for a limited cash economy, “so long as neither use is wasteful.”¹³⁸ This position restates the delicate balance that Congress sought between sustenance and the cash economy; however, it does not provide guidance as to how these two should be balanced. For example, what is the balance if less sustenance is needed from a walrus, but economic needs increase?¹³⁹ Nevertheless, the court disagreed with Clark’s position that because customs had changed and fewer parts are now used, that less salvage should be required.¹⁴⁰

Management of walrus harvests (and fur seals by NMFS) requires salvage of a required set of parts as described in the Harvest Guidelines to prevent waste. USDOJ’s argument centers on a disparity between the percent utilization inherent in the Harvest Guidelines, and what would be deemed full utilization of a carcass (irrespective of need). In the past, the courts upheld the NMFS use of guideline parts in relation to fur seals.¹⁴¹ Nevertheless, in sentencing in *Apassingok*, the court required “salvage of all of the edible meat of any wildlife taken”¹⁴² during probation. Reflecting USDOJ’s assessment that the Harvest Guidelines are illegal, this salvage requirement demonstrates the court’s desire for return of all meat, not just the Harvest Guidelines parts list of “some red meat.”

The courts have also responded to EWC concerns about a hunter’s discretion to ascertain what is edible or usable or not from a harvested, but unhealthy walrus. In *United States v. Omiak*,¹⁴³ the defendants contested the idea that walrus meat perceived as contaminated and thus inedible still needed to be brought to the beach in order to avoid wasteful take violations. The court indicated that the burden of proof should lie with the government to prove that the meat was usable.¹⁴⁴ The court, in defining “wasteful manner,” for jury instructions provided a verbatim version of the USFWS regulation at 50 C.F.R. § 18.3 (2006), with one additional sentence:

138. *Id.*

139. Munro, *supra* note 7, at 2; *See also* Gilcrest, *supra* note 40, at 151 (suggesting that the MMPA “should at least be amended so that Alaska Natives can make better use of all of the products available from walrus hunting.”).

140. *Clark*, 912 F.2d at 1089.

141. *U.S. v. Mosbacher*, No. 91-1915, 1991 U.S. Dist. LEXIS 11077, at *2, *3 (D. D.C. Aug. 5, 1991) (assessing whether fur seals were being taken wastefully by Natives in the Pribilof Islands of Alaska).

142. *See, e.g.*, Amended Judgment of *Apassingok*, No. F04-008 CR(RRB) at 3.

143. Nos. 93-30337, 93-30339, 1994 U.S. App. LEXIS 17212 (9th Cir. June 24, 1994) (unpublished table decision).

144. *Id.* at *6.

“[d]iscard of the unusable portion of a marine mammal is not wasteful.”¹⁴⁵ The court thus supported an interpretation that would leave it to a hunter’s discretion to collect only edible or usable parts of a walrus carcass. The burden of proof in proving that a hunter had left either edible or usable parts would be on the USFWS.¹⁴⁶

A subsequent case that considers harvest of walrus in a “wasteful manner” will inevitably have to contend with competing definitions from the USDOJ and USFWS of what constitutes waste. Given the disagreement between USDOJ and USFWS, and USDOJ’s pronouncement that the USFWS-endorsed and employed Harvest Guidelines are no longer operative, a future hunter could reasonably challenge enforcement of the MMPA’s “wasteful manner” clause as “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”¹⁴⁷

1. A Parts List versus Percent Utilization Assessment of Waste

The major problem with the 2004 co-management Harvest Guidelines cited by the USDOJ, with which the court sympathized, is that the current Guidelines conflict with the statute, the regulation, and the case law prohibiting waste of any substantial portion of a marine mammal. Here we explore the scope of what this “substantial portion” may represent.

According to the late Dr. Francis Fay,¹⁴⁸ a leading scientific authority on Pacific walrus, an average bull walrus weighs approximately 1200 kg, whereas an adult female is approximately 830 kg.¹⁴⁹ In an absolute sense, full utilization would equal this total. However, at least some of the animal is unusable. To deal with that inevitability, Fay calculated a “usable weight” based on requirements akin to terrestrial salvage requirements where blood and viscera are left in the field (although several items of walrus viscera are sometimes returned and utilized).¹⁵⁰ He estimated that 67% of an adult walrus’ live weight is usable.¹⁵¹ This represents 804 kg and

145. *Id.* at *11.

146. *Id.* at *5.

147. 5 U.S.C. § 706(2)(a) (2000).

148. The late Dr. Fay was the leading scientific authority on the Pacific walrus between 1952 and his death in 1994.

149. Fay, *supra* note 95, at 34.

150. FRANCIS H. FAY, PACIFIC WALRUS INVESTIGATIONS ON ST. LAWRENCE ISLAND, ALASKA 19-20 (1958).

151. *Id.* at 22. Usable weight = live weight, less blood, 5/6 lungs, 3/4 liver and kidneys, 1/2 vertebrae, intestines, stomach, spleen, and pancreas. *Id.* Based on Fay’s calculations for percent of live weight (8.4%, 1.2%, 3.1%, 5%, 2.8%, 0.7%, 0.2%, and 0.3%, for these parts,

536 kg of parts of an average-size adult male and female walrus, respectively.¹⁵²

Unfortunately, "usable weight" does not represent the weight of parts that are useful to a specific hunter, in a specific region, at a specific time. In 1982, Kae Lourie emphasized the challenge in employing percent utilization of an entire animal, even when it is adjusted to usable weight.¹⁵³ The method does not accommodate preferences for specific parts by gender or age. For example, female hides are used for skin boats on St. Lawrence Island by a few (and decreasing number of) captains, whereas those of older males are not; flank meat is best from females or young males; liver is preferred from old bulls.¹⁵⁴ Consequently, actual utilization of adults and juveniles in Fay's study amounted to 56% of usable weight.¹⁵⁵ Elsewhere, estimates for subsistence utilization of walrus in relation to "usable weight" varied from single digits to 100%¹⁵⁶ depending on a wide array of factors which we discuss later. In contrast to adults, calves that are purposefully killed are usually fully utilized, except for viscera.¹⁵⁷ It was with recognition of these difficulties in assessing an appropriate level of utilization that a parts list was developed, allowing substitutions to accommodate different needs in different areas or at different times.

Based on proportional (%) weights of parts of an entire Pacific walrus, the Harvest Guideline's requirement of the heart (0.6), liver (3.5), fore (10.1) and rear flippers (7.0), chest skin with blubber attached (here assumed to be one-quarter of the entire skin and blubber; i.e., half of one side; 9.7), and some red meat (which can be interpreted as any amount greater than zero to 22.8)¹⁵⁸ constitute from 31 to 53% of the walrus

respectively), 32.5% of the walrus is unusable. *Id.* at App. B. Therefore, 67.5% of live weight equates to full utilization.

152. The 67% reported by Fay is likely a reasonable estimate; the value falls close to the 72% mean estimate (range 67 to 81%) for meat and edible viscera of Atlantic walrus as assessed between 1959 and 1993. An additional two female Atlantic walrus were also weighed before butchering and after salvage in 1992 and yielded 64% and 75% of total carcass weight. L. E. ANDERSON & J. GARLICH-MILLER, CANADIAN TECHNICAL REPORT OF FISHERIES AND AQUATIC SCIENCES 2011, ECONOMIC ANALYSIS OF THE 1992 AND 1993 SUMMER WALRUS HUNTS IN NORTHERN FOXE BASIN, NORTHWEST TERRITORIES (1994).

153. Lourie, *supra* note 120, at 214.

154. *See generally id.*

155. FAY, *supra* note 150, at 22. This figure was in contrast to the full utilization estimate of 67%. *Id.*

156. *See id.*; Lourie, *supra* note 120; and BURNS *supra* note 37.

157. FAY, *supra* note 150, at 20.

158. *Id.* at 21. Much of the chest skin and meat are returned together as what is known as coak or mungona. *Id.*

carcass, dependent on the amount of red meat salvaged.¹⁵⁹ This is remarkably consistent with the 29 to 53% utilization cited by NMFS for fur seals.¹⁶⁰ These parts of an average adult walrus range from 372 to 648 kg for males, and 248 to 432 kg for females. Our figures are also consistent with the 350 kg of edible meat, organs, blubber, and skin that were generally returned in another northwest Alaska study, which did not specify age or gender.¹⁶¹

The requirement to bring back all that is edible, rather than an entire walrus carcass is consistent with regulations pertaining to walrus in both Chukotka (the Russian mainland on the west side of the Bering Strait),¹⁶² and in Canada where “[n]o person who kills a cetacean or walrus shall waste any edible part of it.”¹⁶³ The harvest of all edible parts is also consistent with Alaska state terrestrial regulations: it is a “class A misdemeanor for a person who kills a big game animal or a species of wild fowl to fail intentionally, knowingly, recklessly, or with criminal negligence to salvage for human consumption the edible meat of the animal or fowl.”¹⁶⁴

In summary, the USDOJ interpretation seems to require 67% of a walrus, encompassing all of the usable parts, to be returned. This view appears to be accepted by the court in *United States v. Apassingok*.¹⁶⁵ In contrast, the USFWS/EWC Harvest Guidelines seem to suggest that as little as 31% or as much as 53% of a walrus is sufficient. USDOJ suggests that the Guidelines permit a “massive waste” of walrus in the amount of up to a third of a carcass. Regardless of the preferred interpretation, the calculation of waste stops at the beach where the parts of a walrus are landed or butchered, despite historical recognition that efforts are needed to ensure a more full utilization (beyond original salvage) of a walrus carcass that benefits Native communities and walrus conservation. However, focusing

159. See FAY, *supra* note 150, at App. B. We make these assumptions in order to present context for our discussion, not as an absolute interpretation of the guidelines.

160. *Humane Society of the United States v. Mosbacher*, 1991 U.S. Dist. LEXIS 11077, at *5 (D.D.C. Aug. 5, 1991).

161. See ANNIE OLANNA CONGER & JAMES MAGDANZ, ALASKA DEPARTMENT OF FISH AND GAME, THE HARVEST OF FISH AND WILDLIFE IN THREE ALASKA COMMUNITIES: BREVIG MISSION, GOLOVIN, AND SHISHMAREF (1990).

162. Evgeny Shevchenko, *Overview of Marine Mammal Laws and Organizations in Russia*, in PROCEEDINGS OF A WORKSHOP CONCERNING WALRUS HARVEST MONITORING IN ALASKA AND CHUKOTKA 28, 29 (Joel Garlich-Miller & Caleb Pungowiyi eds., 1998).

163. Marine Mammal Regulations, 137 C. Gaz. SOR/2003-103, s. 3. (2003).

164. ALASKA STAT. § 16.30.010 (1982).

165. *United States v. Apassingok*, No. F04-008-04CR, at 3 (D. Alaska 2005).

on utilization, rather than just salvage may require significant changes to current management.¹⁶⁶

H. Summary of Interpretation

Currently, walrus are not legally “depleted,” which has resulted in a management vacuum—neither USFWS nor the Native communities are able to fully manage the resource under the MMPA. As we have shown, the requirement to harvest walrus in a non-wasteful manner is the primary tool used in federal management of the subsistence harvest. However, the term is not precisely defined, leading to various and often vague interpretations across species and jurisdictions, some of which are contradictory. Congress intended the MMPA and Native exemption to protect and encourage the health of walrus populations, and at the same time, it provided Native communities with the opportunity to continue their cultural relationship with marine mammals in a manner that provides necessary sustenance and opportunity for small cash economies. Because current management heavily relies on the vague “wasteful manner” clause, it largely fails to encourage either of these goals.

To reduce waste, Native hunters are expected to minimize losses during the hunt (wounded and lost animals) and to utilize the carcass to the maximum extent possible. The Harvest Guidelines are a successful attempt at co-management that provide an agreed upon and enforceable definition of harvesting in an egregiously “wasteful manner.” However, USDOJ regards the Harvest Guidelines as an inappropriate and illegal interpretation of the statutory language because they do not demand complete utilization of the walrus deemed appropriate by the USDOJ. Additionally, no one has provided a coherent practical solution for how to utilize the parts of a

166. Utilization after salvage of parts is explicitly addressed in the United States Department of Agriculture and USDOJ definitions for salvage for terrestrial mammals, which indicate the need “to transport the edible meat, skull, or hide, as required by regulation, of a regulated fish, wildlife, or shellfish to the location where the edible meat will be consumed by humans or processed for human consumption in a manner which saves or prevents the edible meat from waste, and preserves the skull or hide for human use.” Subsistence Taking of Fish, Wildlife, and Shellfish: General Regulations, 36 C.F.R. § 242.25 (2007). NOAA also interprets wastage to include utilization after landing a whale, and that their interpretation falls within the same meaning of “wasteful manner” as provided in Regulations Governing the Taking and Importing of Marine Mammals: Native Exceptions, 50 C.F.R § 216.23(a)(3) (2007). Both of these examples require return of all edible meat, and maintain that there is a responsibility for not wasting that meat after it has been returned.

walrus that a community deems unusable. Nevertheless, because the USDOJ held that the Harvest Guidelines are illegal, future court cases concerning “waste” will likely be prosecuted accordingly; although, the courts have not yet endorsed a coherent interpretation of waste that would allow either USFWS or a Native hunter to draw a line and say this is where waste occurs and this is where it does not.

As we have demonstrated, one’s understanding of waste depends largely on the values one is most interested in advancing. The various parties have become lost in a sea of linguistics and competing values, and have lost sight of the larger intent of the statute—to protect walrus populations. In itself, retaining either 70% or 30% of a harvested walrus does not accomplish this goal. We recommend taking a step back and tackling the issue of waste while keeping a closer eye on the statute’s broader mission. We expect that moving toward a more effective resolution in walrus management will require recognition of contemporary conditions, as well as conditions that may change over time. Even the courts recognize that if the context in which walrus subsistence takes place has changed from those present historically, then Congress may need to revisit the MMPA.¹⁶⁷

V. THE DYNAMIC CONTEXT OF THE HUMAN-WALRUS RELATIONSHIP

The context of walrus subsistence has changed since the MMPA’s inception in 1972, and is expected to continue to do so in the future. Here we focus on changes in social conditions, the ecological and biological impacts of a changing climate, and the political changes associated with the expected reauthorization amendments to the MMPA.¹⁶⁸ As we show, these individually and collectively affect the current concerns about wasting walrus.

A. *Dynamic Social Conditions*

Congress sought to find a balance between Native needs and rational resource protection. However, justifying the Native exemption using a model of fixed cultural traditions is not an approach that is compatible with either. “At one extreme, such laws may allow Native subsistence rights to

167. *United States v. Clark*, 912 F.2d 1087, 1089 (9th Cir. 1990).

168. We do not intend to provide a comprehensive review of all changes in the biological/ecological, social, and political context of the region. Rather, we focus on a suite of profound changes that are well documented and have a strong bearing on the waste or utilization of walrus parts.

thwart sensible resource management, while at the other they may artificially arrest Native culture in a mythical past.”¹⁶⁹ Consequently, delineating between non-wasteful and wasteful take by trying to quantify what is a customary and traditional harvest practice is unlikely to provide a solution that is representative of current conditions in coastal Alaska Native communities, or that takes ideas of modern conservation into account. For example, most Native village economies are now a mix of subsistence and cash, and handicrafts are representative of old and new ideas. Emilio Moran states:

Human adaptation and social differentiation do not occur in a vacuum. This process of reproduction reflects the adaptation of the population to local habitat, to the economic and structural relations within nation-states, and to the ability to function within the social field provided by an incipient socio-economic setting.¹⁷⁰

The importance of trade in marine mammal parts with outside communities and cultures is a long-standing tradition, both during early contacts with Europeans and Americans, as well as historically with Asian groups and other Native Americans.¹⁷¹ Consequently, values attributed to marine mammal products for sustenance, tools, crafts, barter, or cash generation have varied through time, and are dependent on cultural, technological, market, and regulatory factors.¹⁷² This is true in Alaska Native communities, and for society as a whole.¹⁷³ Furthermore, from a policy perspective, it is important to consider how values “portray, or, more subtly,

169. Sacks, *supra* note 29, at 252. Sacks describes the conflict that originates from a culturally-based subsistence law building on Case and Voluck’s argument that “it is unrealistic to require cultural or social values to remain forever fixed; indeed change is common to all societies.” CASE & VOLUCK, *supra* note 9, at 276.

170. Emilio F. Moran, *Levels of Analysis and Analytical Level Shifting: Examples from Amazonian Ecosystem Research*, in THE ECOSYSTEM APPROACH IN ANTHROPOLOGY: FROM CONCEPT TO PRACTICE 279, 293 (Emilio F. Moran ed., 1990). See generally, Igor Krupnik & Nikolay Vakhtin, *Indigenous Knowledge in Modern Culture: Siberian Yupik Ecological Legacy in Transition*, 34 ARCTIC ANTHROPOLOGY 236 (2000).

171. See generally FITZHUGH & CROWELL, *supra* note 33; BOCKSTOCE, *supra* note 47, at 77.

172. See generally Randall R. Reeves, *The Commerce in Maktaq at Arctic Bay, Northern Baffin Island, NWT*, 30 ARCTIC ANTHROPOLOGY 79, 79 (1993).

173. See generally Reeves, *supra* note 39; Stoett, *supra* note 39; PAUL NADASDY, HUNTERS AND BUREAUCRATS: POWER, KNOWLEDGE, AND ABORIGINAL-STATE RELATIONS IN THE SOUTHWEST YUKON (2003); Callicott, *supra* note 39.

objectify [the dominant] community’s sense of its goals and ideals.”¹⁷⁴ When indigenous groups, whose cultural and economic existence depends on trade, are restricted in doing so by governments, there is no question that severe social impacts can result.¹⁷⁵

On a more local scale, many factors are reflected in the harvest practices found in a specific community, including proximity to different segments of the resource’s population, cultural preferences for different types of animals (e.g., male vs. female), or differences in utilization of specific harvested parts. The fact that some villages keep and consume portions of harvested animals that other villages discard as undesirable is well established for walrus,¹⁷⁶ as well as other Arctic marine mammals.¹⁷⁷ Furthermore, individual hunters salvage parts based on the circumstances of a specific hunt, dependent on factors such as kill location (e.g., in water or on ice), ice conditions, numbers of animals already secured, hunt timing (utilization generally declines toward the end of the season as the need for

174. Monroe E. Price, *A Moment in History: The Alaska Native Claims Settlement Act*, 8 UCLA-ALASKA L.REV. 89, 89 (1979). See generally Firestone & Lilley, *Aboriginal Subsistence Whaling and the Right to Practice and Revitalize Cultural Traditions and Customs*, 8 J. OF INT’L WILDLIFE L. & POL’Y 177 (2005). The Courts also addressed this subject with respect to USDOF’s original rules concerning the MMPA, which stipulated that crafts made from marine mammal parts must have been “commonly produced on or before December 21, 1972.” 37 Fed. Reg. 28,173 (Dec. 21, 1972). In *USDOF v. Didrickson* (concerning sea otters), the U.S. District Court for Alaska overruled USDOF’s requirement for “authentic” pre-1972 crafts because it broadened the regulatory authority over Native activities, which the statute did not permit. 982 F.2d 1332, 1342 (D. Alaska 1992). If sea otters are depleted, USFWS is only authorized to regulate Native sea otter harvests for purposes of creating Native handicrafts. 50 C.F.R. § 18.3 (2005).

175. See Marsh et al., *supra* note 39, at 4-5.

176. See generally Lourie, *supra* note 120 (providing detailed walrus utilization patterns for six coastal Alaska Native communities). In addition, special agents with USFWS Division of Law Enforcement met with Alaska Native hunters in numerous meetings in the 1970s and early 1980s. Jerry Cegelski, *Marine Mammal Law Enforcement in Alaska*, in PROCEEDINGS OF A WORKSHOP CONCERNING WALRUS HARVEST MONITORING IN ALASKA AND CHUKOTKA 11, 11 (Joel Garlich-Miller & Caleb Pungowiyi eds., 1998). They felt discussions “were valuable in showing that some villages kept and ate portions of the walrus that other villages discarded as undesirable.” *Id.* This was the basis for the Harvest Guide-line’s concession to substitution.

177. Some tribes have traditionally utilized Cook Inlet beluga whale muktuk, skin, and meat, while others retain only the muktuk. Designation of the Cook Inlet, Alaska, Stock of Beluga Whale as Depleted Under the MMPA and Response to Petitions, 64 Fed. Reg. 56,300 (Oct. 19, 1999); see also Randall R. Reeves, *What is a Narwhal Worth* (1992) (unpublished Ph.D. dissertation, McGill University) (providing a comprehensive assessment for narwhal in Canada).

meat subsidies), quality of the harvested animal, and general needs of individual hunters.¹⁷⁸ A single concept of waste, with respect to utilization by an individual, will therefore be difficult or impossible to apply across the board if waste is defined by the generic and static description of cultural or traditional use.

Rapid and profound technological transitions have occurred within Native communities. There is little doubt that the capacity to harvest walrus has greatly increased over recent decades, and that new technologies have resulted in significantly different walrus utilization patterns. Nevertheless, walrus remain an important food source for coastal Natives, although the transition from primarily dog-powered transportation to snow machines has dramatically reduced the need for walrus meat. For example, in the 1950s, Gambell required approximately 125 walrus per year to adequately feed the village's 500 sled dogs.¹⁷⁹ Currently, only about 50 to 100 dogs live in Gambell, of which many are smaller breeds that are kept as pets. Exacerbating the reduced need for meat, is the replacement of subsistence products with imported products (e.g., food items, clothing, fuel, aluminum skiffs, outboard engines, medicine, childcare supplies etc.), which drive the contemporary necessity for acquiring cash.

Despite the profound changes in coastal Arctic communities, subsistence (including use of marine mammals) remains critical for many communities for sustenance,¹⁸⁰ socio-economic security,¹⁸¹ cultural security,¹⁸² and health.¹⁸³ With the rise in importance of cash in the mixed economies

178. See, e.g., CONGER & MAGDANZ, *supra* note 161, at 17-18.

179. Fay, *supra* note 95, at 21.

180. See Mark Nuttall, *Hunting, Herding, Fishing, and Gathering: Indigenous Peoples and Renewable Resource Use*, in ARCTIC CLIMATE IMPACT ASSESSMENT-SCIENTIFIC REPORT 649, 652-65 (Cambridge Univ. Press 2005); Sophie Thériault et al., *The Legal Protection of Subsistence: A Prerequisite of Food Security for the Inuit of Alaska*, 22 ALASKA L. REV. 35, 35-87 (2005); Carol Ballew et al., *The Contribution of Subsistence Foods to the Total Diet of Alaska Natives in 13 Rural Communities*, 45 ECOLOGY OF FOOD & NUTRITION 1, 1-26 (2006).

181. See Nuttall, *supra* note 180, at 656-57; Jens Dahl, *Hunting and Subsistence in Greenland in Light of Socioeconomic Relations*, in THE ANTHROPOLOGY OF COMMUNITY-BASED WHALING IN GREENLAND 168, 168-79 (Marc G. Stevenson et al. eds., 1997); Marsh et al., *supra* note 39, at 4-5.

182. See Nuttall *supra* note 180, at 655-56; Milton M.R. Freeman, *Issues Affecting Subsistence Security in Arctic Societies*, 34 ARCTIC ANTHROPOLOGY 7, 7-17 (1997); Reeves *supra* note 172, at 88-89.

183. Lori A. Verbrugge & John P. Middaugh, *Use of Traditional Foods in a Healthy Diet in Alaska: Risks in Perspective, Volume 1: Polychlorinated Biphenyls (PCBs) and Related Compounds*, in 8 STATE OF ALASKA EPIDEMIOLOGY BULLETIN 1, 10-23 (Beth Funk ed.

of Native villages, the scene is therefore set for walrus ivory to become a polarizing issue with respect to what can be done versus what could be done to procure a livelihood from a marine mammal. However, although there is frequent reference to ivory as the Native “white gold,”¹⁸⁴ this polarizing sentiment negates the importance of walrus and walrus hunting to the cultural identity and continuity of many coastal communities. It also sullies the well-recognized and long-standing role of ivory as a functional part of Native community economies, and the reputations of hunters and families who, for the most part, take pride in their hunting practices and crafts.¹⁸⁵ Furthermore, despite concerns during the transition to federal management under the MMPA that the Native exemption coupled with the commercial value of ivory would “set the stage for a massive destruction of the newly revived walrus herds,”¹⁸⁶ harvest levels by Alaska Natives have reportedly declined since the 1980s.¹⁸⁷ The role of Native Alaskans in the management of walrus has also increased, and their concern for the health of the walrus population is widely articulated.¹⁸⁸

Several factors restrict the harvest of walrus beyond the threat of USFWS Law Enforcement actions. Existing social norms recognize what waste is, and the elders and the EWC discourage such waste.¹⁸⁹ Another factor is the capacity to return harvested walrus to shore. Both outboard engines (introduced as early as 1916) and aluminum skiffs (introduced in the 1970s) changed the patterns of walrus hunting.¹⁹⁰ Whereas, the original

2004), available at http://www.epi.hss.state.ak.us/bulletins/docs/rr2004_08.pdf; Scott M. Arnold & John P. Middaugh, *Use of Traditional Foods in a Healthy Diet in Alaska: Risks in Perspective, Volume 2: Mercury*, in 8 STATE OF ALASKA EPIDEMIOLOGY BULLETIN 1, 5-6 (Beth Funk ed. 2004), available at http://www.epi.hss.state.ak.us/bulletins/docs/rr2004_11.pdf.

184. K.W. KENYON, ALASKA DEPARTMENT OF FISH AND GAME, WALRUS AND OTHER MARINE MAMMAL STUDIES AT LITTLE DIOMEDE ISLAND, ALASKA 6 (1958) (quoting an unidentified Eskimo hunter on Little Diomedé).

185. See EWC REP. ON CULTURE AND MANAGEMENT, *supra* note 112.

186. Gilcrest, *supra* note 40, at 135.

187. Joel L. Garlich-Miller et al., *Trends in Age Structure and Productivity of Pacific Walrus Harvested in the Bering Strait Region of Alaska, 1952-2002*, 22 MARINE MAMMAL SCI. 880, 880 (2006).

188. Vera Metcalf & Martin Robards, *Sustaining a Healthy Human-Walrus Relationship in a Dynamic Environment: Challenges for Comanagement*, 18 ECOLOGICAL APPLICATIONS S148, S151 (2008); see also, 106th Cong. Hearing on MMPA, *supra* note 28.

189. See EWC REP. ON CULTURE AND MANAGEMENT, *supra* note 112.

190. Linda J. Ellanna, Alaska Department of Fish and Game, Bering Strait Insular Eskimo: A Diachronic Study of Ecology and Population Structure, Division of Subsistence, Technical Paper No. 77, 357-71 (May 1983) (unpublished Ph.D. dissertation, University of Connecticut), available at <http://www.subsistence.adfg.state.ak.us/TechPap/tp077.pdf>.

skin boats could safely bring back up to ten walrus,¹⁹¹ today's commonly used 5.5 meter aluminum skiff¹⁹² has a much lower capacity. However, because the aluminum boats travel farther and faster, they allow for greater selectivity, as a greater number of animals can be accessed. They also frequently allow for multiple trips in a single day.

With an average crew of four weighing about 300 kg, and gear and the engine weighing another 100 kg, a 5.5 meter aluminum boat can carry about 280 kg of harvested walrus. There is significant lack of consensus on what this 280 kg capacity represents with respect to the Harvest Guidelines. Based on our calculations for the average weight of Harvest Guidelines parts (336 kg and 504 kg for adult female and male walrus, respectively), or allowing minimal return of the "some red meat" requirement for the smaller females (reducing the requirement to 248 kg), this 280 kg boat capacity only represents about one adult walrus per trip.¹⁹³ Nevertheless, Wells Stephenson of USFWS suggests that six walrus could be returned while complying with the Harvest Guidelines.¹⁹⁴ The issue of capacity also highlights the nexus between safety as expressed in the Harvest Guidelines and a boat's ability to safely carry parts under any weather conditions. The recent increase in the use of aluminum boats has exacerbated the safety issue. In addition, although the use of aluminum boats has led to smaller crews, it has also resulted in a higher percentage of boat ownership. Previously, boat ownership was restricted by the limited availability of skills and materials to build skin boats. Now, hunters can simply buy their boats, which has resulted in an increase in boat ownership in hunting communities.

191. EWC REP. ON CULTURE AND MANAGEMENT, *supra* note 112, at 13.

192. The 18 foot aluminum Lund model SSV is commonly used on St. Lawrence Island with company specifications suggesting a maximum weight capacity of 682 kg (1500 pounds) that represents a passenger capacity of seven. The 4.3 and 4.9 meter Lund aluminum boats are used as well, with carrying capacities of about 416 kg and 523 kg, respectively. A few 6.1 meter aluminum vessels are present with a capacity of 818 kg.

193. We present calculations for adults, although it would be expected that more yearlings or sub-adults might be carried. However, Garlich-Miller, using samples from harvested walrus, found relatively few one to six year old walrus in the overall harvest. Garlich-Miller et al., *supra* note 187, at 889. We also caution against the conclusion that the "wasteful take" issue can be resolved by limiting the number of walrus per trip to one or two animals. This response would only address a small component of the waste issue and it would not address utilization at all.

194. Chambers, *supra* note 66, at n.133.

B. Dynamic Ecological Conditions

The current era of Arctic climate change is predicted to continue altering sea ice distribution and concentration, as well as regional ecological productivity.¹⁹⁵ These changes are expected to negatively impact pagophilic species such as walrus, particularly if sea ice decreases beyond the continental shelf in summer¹⁹⁶ or benthic productivity is reduced.¹⁹⁷ Of particular concern may be the plight of those females that prefer to remain more closely connected to ice during summer while nursing their calves. Collectively, these changes could result in the walrus population declining to a point where they are found to be legally depleted under the MMPA or listed under the Endangered Species Act (ESA). Concerns on this matter are widely voiced by hunters.¹⁹⁸ Unfortunately, walrus are a difficult species to count, and despite significant efforts by USFWS, there are currently no accurate population assessments. Therefore, walrus may become biologically depleted or severely stressed before they can be legally assessed as depleted.

Recognizing that a universally accepted population assessment is unlikely in the near future,¹⁹⁹ an effective walrus management plan prior to walrus becoming severely depleted will require precautionary actions. Such actions will need to consider the factors that increase waste as a result of changing ecological conditions. For example, more rapid recession and thinner ice conditions during the spring hunt can lead to more frequent hunting and butchering of walrus in the water.²⁰⁰ These conditions are not as conducive to securing a carcass, or salvaging as completely as possible

195. See, e.g., Jaqueline M. Grebmeier et al., *A Major Ecosystem Shift in the Northern Bering Sea*, 311 *SCIENCE* 1461 (2006) (discussing the alteration of ecological characteristics in the Bering Sea due to atmospheric changes).

196. Past the continental shelf, waters are too deep for walrus to feed. Metcalf & Robards, *supra* note 188, at S151-S152.

197. A switch from an ecosystem favoring benthic communities to one favoring pelagic fish is likely to negatively impact benthic feeders such as walrus. Grebmeier et al., *supra* note 195, at 1461.

198. Metcalf & Robards, *supra* note 188, at S152.

199. See Barbara L. Taylor et al., *Lessons from Monitoring Trends in Abundance of Marine Mammals*, 23 *MARINE MAMMAL SCIENCE* 157, 165 (2007). The authors conclude that “we cannot reliably detect even precipitous declines [50% decline in 15 years at which point a stock could be legally classified as “depleted” under the MMPA] in . . . ice-hauling pinniped populations with present levels of investment in surveys and current survey technology and design.” *Id.*

200. Metcalf & Robards, *supra* note 188, at S152.

as when on ice. These concerns are expressed in 50 CFR § 18.3 and the Harvest Guidelines, which prompt serious consideration of how to best “assure the capture” and maximize the chance to retrieve a harvested animal in poor ice or pelagic conditions in order to reduce hunting waste.

C. *Dynamic Political Conditions*

The authority to manage the Native harvest of the Pacific walrus population has changed dramatically through time, passing from communities to the State of Alaska, to the federal government, back to the state, and finally back to federal oversight. Although a return to the State of Alaska or community management is unlikely in the foreseeable future, changes to co-management under the MMPA were seen as the centerpiece of the proposed 2005 amendments to the MMPA.²⁰¹ These amendments would blend benefits of local oversight of walrus harvests with current federal oversight. In particular, the proposal would authorize harvest management agreements between the Secretary and Alaska Natives *prior to legally designated depletion*. The support from both the Native community²⁰² and the USDOJ²⁰³ for such a change in policy, which benefits marine mammals while recognizing full participation in management by Alaska Natives, lends credence to the viability of this amendment.²⁰⁴ Alaska Natives have complied with regulations in the past where an unhealthy walrus population level and clear benefits to harvest constraints were perceived. For example, bag limits on females and sub-adults between 1960 and 1972 enhanced the reproductive potential of the walrus population when its numbers were low.²⁰⁵ Subsequently in the 1980s, as subsistence

201. On June 16, 2005, the Administration transmitted its legislative proposal for amendments to the MMPA, written by NMFS, USFWS, MMC, the Department of Defense, and others. The MMPA was not reauthorized at the time of writing. Marine Mammal Protection Act Amendments of 2005, *available at* http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa_bill.pdf.

202. *See* 106th Cong. Hearing on MMPA, *supra* note 28.

203. *See The Implementation and Reauthorization of the Marine Mammal Protection Act Before the Senate Commerce Subcomm. on Oceans, Fisheries and Coast Guard*, 108th Cong. (2003) (statement of Marshall Jones, Deputy Director, USFWS).

204. Caleb Pungowiyi emphasized the Native support for an amendment of MMPA § 119 pertaining to cooperative agreements, rather than § 101(b) pertaining to the Native exemption. 106th Cong. Hearing on MMPA, *supra* note 28.

205. On Jan. 1, 1960, resident hunters were limited to seven cow walrus or sub-adults of either sex per hunter. No limits on old males were established. In 1961, the female limit was reduced to five adults per hunter. F.H. Fay et al., *Status of the Pacific Walrus Population, 1950-1989*, 13 MARINE MAMMAL SCIENCE 537, 548 (1997).

harvest of walrus peaked, efforts by the EWC and USFWS reduced the take of females by 25%.²⁰⁶

Harvest management plans under the proposed reauthorization bill would enhance the role of Alaska Natives in the management and conservation of marine mammals.²⁰⁷ The proposed bill utilizes existing authorities that allow USFWS to provide assistance to local authorities, such as community governing councils, to implement and enforce local harvest management:

- (a) In General.—Notwithstanding the provisions of Section 101(b), the Secretary may enter into harvest management agreements with Alaska Native Tribes or Tribally Authorized Organizations to conserve and manage non-depleted stocks of marine mammals through the regulation of subsistence use by Alaska Natives. Such agreements may also apply to depleted stocks. Agreements shall include, at a minimum, a management plan that-
- (1) identifies the signatories to, and the stock or species and areas covered by the plan;
 - (2) is based on biological information and traditional ecological knowledge;
 - (3) provides for sustainable harvest and is designed to prevent populations from becoming depleted;
 - (4) describes the Tribal authority and procedures used by the signatory Alaska Native Tribes or Tribally Authorized Organizations to promulgate and enforce regulations and ordinances that will implement any management prescriptions; and
 - (5) specifies the duration of the agreement and sets forth procedures for periodic review and termination of the agreement.²⁰⁸

Local ordinances for the management of marine mammals are not a new concept for coastal Native communities, although the capacity to implement them has changed significantly over time. In historic times, prior to village councils, three factors imposed limits on the walrus harvest by local hunters: the environment, technology, and local mores against waste.²⁰⁹ As

206. Huntington, *supra* note 111.

207. This amendment was generally popular with Alaska Natives such as Caleb Pungowiyi. 106th Cong. Hearing on MMPA, *supra* note 28.

208. Marine Mammal Protection Act Amendments of 2005, *supra* note 201, at 2-3.

209. *See, e.g.*, EWC REP. ON CULTURE AND MANAGEMENT, *supra* note 112. *See also* J.A. FALL ET AL., ALASKA DEPT. OF FISH AND GAME, TECHNICAL PAPER NO. 212, WALRUS HUNTING AT TOGIK, BRISTOL BAY, SOUTHWEST ALASKA 12 (1991).

improved technology overcame environmental constraints, however, cash incomes became increasingly important. As trade increased in a more globalized world, so did the need to bolster local mores with regulation. Soon after its formation in 1925, Gambell Village Council passed local ordinances to address wasteful take of walrus.²¹⁰ In prior years, some crews harvested up to twenty walrus in one day with a focus on ivory. The new ordinances limited each crew to four large walrus and one small walrus per trip, and encouraged retrieval of all the skin (and presumably, also the attached meat and blubber).²¹¹ The year the ordinance went into effect, four vessels broke the law, but the enforcement provisions resulted in the confiscation of their ivory, which was then sold to stores to make money for the entire community.²¹² Subsequently, only four walrus per day (plus up to four calves) could be taken at Gambell up until the implementation of the MMPA.²¹³ Similarly, local rules in Diomedes limited hunters to ten females and ten males per hunter per season.²¹⁴

The Indian Reorganization Act (IRA) of 1934²¹⁵ was the catalyst that led to federally authorized councils, which continued to show an interest in marine mammal ordinances. During the 1980s, several Native villages including Gambell and Savoonga (the two primary walrus hunting communities) developed tribal ordinances with the expressed desire to “assist the U.S. Fish and Wildlife Service in the local management of [marine mammals].”²¹⁶ These ordinances provided harvest regulations for all persons present within the areas of traditional use and occupancy of a community, the ability to establish a local Marine Mammal Commission, sanctions, enforcement mechanisms, and cooperation between the neighboring villages of Gambell and Savoonga.²¹⁷ Gambell’s draft ordinance in

210. Dorothea C. Leighton, Warren Koozaata: The Story of the Gambell Village Council 22-27 (1940) (unpublished manuscript, on file with the University of Alaska Fairbanks, Archives).

211. Dorothea C. Leighton, Gambell Village Council Rules Act. I(7) (1940) (unpublished manuscript, on file with the University of Alaska Fairbanks, Archives).

212. *Id.* at Act I(8).

213. F.H. Fay, The 1978 Walrus Conference: A Report to the Marine Mammal Commission 8 (Aug. 23-25, 1978) (unpublished report, on file with author).

214. EWC REP. ON CULTURE AND MANAGEMENT, *supra* note 112, at 26.

215. 25 U.S.C. § 476 (2000). This section allows for Native Village Councils to establish regulations for governing the harvest of marine mammals.

216. Letter from Linda Tungiyon, IRA Coordinator for the Village of Gambell, to Dale Taylor, USFWS (May 28, 1986) (on file with author).

217. *Id.*

2000 also revived (but did not implement) the idea of local bag limits of five adult walrus or four females with calves per trip.

The Memorandum of Agreement (MOA) signed in 1996 between the EWC, USFWS, and Alaska Department of Fish and Game “intended to foster constructive dialogue and avoid misunderstandings in the course of addressing reports regarding alleged wasteful take of walrus,”²¹⁸ and sought to find a cooperative solution. The MOA sought to provide assistance to communities in developing local ordinances relating to waste. There is some irony in the fact that ordinances and rules existed seventy years previously in some villages such as Gambell, and the same continuing circumstances that prompted their original formation now suggest their resurrection.

VI. CHALLENGES TO RESOLVING WASTE IN A DYNAMIC ENVIRONMENT

Since the MMPA was implemented, several challenges have arisen: the walrus population may be vulnerable to continued reductions in sea ice and marine productivity, the methods used to utilize harvested walrus have become more limited, the limits on the walrus harvests are more relaxed, and the value of ivory and need for cash is greatly enhanced. In order to combat waste, USFWS currently cites or prosecutes those egregiously wasting walrus. Such waste, however, is not regarded as the norm by many hunters, researchers, or managers.²¹⁹ In 2004, the USDOJ emphasized the continuing chronic waste of walrus and criticized current USFWS efforts for institutionalizing, rather than eliminating the problem. This led to USDOJ’s assessment that USFWS policy is “illegal and cannot and will not be recognized.”²²⁰ The Harvest Guidelines, however, do address the issue of waste. The problem, though, is that the Harvest Guidelines only address the issue of egregious waste. It is chronic waste that remains recognized, yet unaddressed.²²¹

218. USFWS & EWC MOA, *supra* note 83.

219. Directors of the EWC and a senior biologist of the U.S. Fish and Wildlife Service have also indicated that headhunting is neither condoned nor a common practice. *See* Michael Tennesen, *Poaching, Ancient Traditions, and the Law*, AUDOBON MAG. July-Aug. 1991, at 93.

220. *United States v. Apasingok*, No. F04-008 CR(RRB), at 10 (D. Alaska 2005).

221. Elders frequently express the need for better utilization of harvested walrus. *See generally*, EWC Res. 92-10-13-02, *supra* note 115.

Current concerns over the mode of harvest, waste, or utilization of walrus are rarely about biological or ecological factors;²²² rather, they are political and represent the conflict within society over how walrus should be used. Some argue that “it is an ethical call that societies make about what is an appropriate use.”²²³ Furthermore, the “ethical call” is not limited to walrus, but also applies to Native communities. These issues directly relate to the ability of a Native community to adapt to current conditions.²²⁴ The increasingly recognized right of indigenous peoples to manifest their values in policy is fundamental not only to our discussion of “wasteful manner,” but also to alternative interpretations of what represent solutions.

Co-management, in principal, integrates the need for Native subsistence with the conservation mandate of USFWS.²²⁵ Therefore, waste, from a co-management perspective, crosses biological, social, economic, and cultural domains. At its most basic level, walrus waste refers to what is not “edible” or “useful for handicrafts.” Socially and culturally, it reflects fundamentally different and evolving values associated with the relationship between marine mammals and humans. Stakeholders, like hunters, government representatives, and general society, have different objectives regarding the use and value of walrus. These varying objectives make it difficult to define the terms “wasteful manner” and a “substantial portion.” Courts struggle with this ambiguity “when reviewing rulemaking and regulatory statutes [because they] are best at applying concrete rational definitions, not statutes defined along the hazy contours of a particular group’s cultural context.”²²⁶

The MMPA’s Native exemption was a deliberate effort by Congress to balance protection of wildlife and the interests of Native Alaskans. This balance has been challenged by an overemphasis on the ethics of utilization to define what is “wasteful.” A more effective definition might balance

222. There is no current population level, trend, or Potential Biological Removal (PBR) for Pacific walrus. However, Garlich-Miller and Burn of USFWS indicate that human-caused mortality was lower than an estimated PBR in 1999. See Joel L. Garlich-Miller & Douglas M. Burn, *Estimating the Harvest of Pacific Walrus, *Odobenus rosmarus divergens*, in Alaska*, 97 FISHERY BULL. 1043, 1046 (1999), available at <http://fishbull.noaa.gov/974/25garlic.pdf>.

223. Chambers, *supra* note 66, at 70 (quoting Interview with Jim Magdanz, Alaska Department of Fish and Game).

224. F.L. Korsmo, *Problem Definition and the Alaska Natives: Ethnic Identity and Policy Formation*, 9 POL’Y STUD. REV. 294, 304 (1990).

225. See generally, Metcalf & Robards, *supra* note 188 (for challenges associated with this goal).

226. Sacks, *supra* note 29, at 265-66.

morally defensible catch limits with the Native communities’ right to sustain their cultural relationship with walrus.²²⁷ We contend that the focus on waste as a primary management tool by USFWS overshadows any other efforts undertaken to protect walrus.²²⁸ Use of discretionary and sporadic law enforcement to regulate a largely intractable problem, while not recognizing contemporary conditions, is a recipe for failure. It can only lead to greater entrenchment, resistance, lack of compliance and the loss of trust²²⁹ necessary to achieve the common goal of sustaining walrus. Furthermore, the focus on waste tends to demonize and marginalize Native hunters and ignore the benefits of utilization, which provides opportunities to address contemporary conditions in a mutually beneficial manner. Elsewhere, the application of how marine mammal products are utilized as a policy tool is more pernicious than constructive.²³⁰

Effective solutions to the waste issue are unlikely without accepting contemporary circumstances,²³¹ including the economic needs of remote

227. I.C. SUGG & U.P. KREUTER, *Elephants and Whales as Resources from the Noosphere*, in *ELEPHANTS AND WHALES: RESOURCES FOR WHOM* 28 (M.M.R. Freeman & U.P. Kreuter eds., 1994). Sugg and Kreuter suggest that animal preservationists rarely compare their artificially quantified existence values with the existence values of “individuals, communities, or cultures.” *Id.*

228. Such as protecting walrus habitat (addressing loss of sea ice and terrestrial haul-out sites) which is largely an unaddressed component of OSP for walrus. Stoett also supports the notion that habitat protection has more tangible benefits beyond ostracizing local communities by not considering multiple values and needs. Peter Stoett, *The International Regulation of Trade in Wildlife: Institutional and Normative Considerations*, 2 INT’L ENVTL. AGREEMENTS: POLITICS, LAW AND ECONOMICS 195, 205 (2002). See also William C.G. Burns, *From the Harpoon to the Heat: Climate Change and the International Whaling Commission in the 21st Century*, 13 GEO. INT’L ENVTL. L. REV. 335 (2001) (for a discussion of how harvest is a less serious threat to whales than the unknown consequences of climate change).

229. See Chambers, *supra* note 66, at 77 (for a general discussion of trust). Erosion of trust is aggravated by many circumstances outside of law enforcement. The primary science programs of USFWS focus on counting walrus or assessing harvest. Results may ultimately be used to impose quotas. In addition, while hunters have contributed to research for nearly fifty years, most USFWS research ignores the concerns and needs of subsistence hunters. This disparity hinders effective co-management. See Metcalf & Robards, *supra* note 188 (discusses how walrus health, contaminants, and habitat concerns remain largely unaddressed in USFWS research programs). See E. Fernandez-Gimenez et al., *Integration or Co-Optation? Traditional Knowledge and Science in the Alaska Beluga Whale Committee*, 33 ENVTL. CONSERVATION 306 (2006) for similar conclusions about Native perceptions of science as a tool of state control of beluga whale management.

230. See, e.g., Veltre & Veltre, *supra* note 29, at 69.

231. Elsewhere in Africa, Naughton-Treves indicates that this acceptance, and the move

Native communities.²³² Solutions will also require understanding both how these communities ensured their sustained existence,²³³ and the difficulties of implementing policies in these remote environments. Another challenge will be the regulation of individual Native hunters living outside of Native communities.

VII. REASSESSING WHAT IS “WASTEFUL MANNER”

In reevaluating the meaning of “wasteful manner,” we return to the goal of the MMPA: marine mammals “should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management”²³⁴ The parallel challenge is the continued protection of Native rights. These rights include the ability to hunt and participate in marine mammal management as established under national and international environmental law.²³⁵ To effectively address these challenges, a management approach should utilize the best available scientific evidence²³⁶ from multiple disciplines²³⁷ to establish an informed

away from conservation prescriptions juxtaposing communities and the state using co-management, may entail “tragic choices and creative compromises.” See L. Naughton-Treves, *Whose Animals? A History of Property Rights to Wildlife in Toro, Western Uganda*, 10 LAND DEGRADATION & DEV. 311, 326 (1999).

232. There are other considerations apart from the clear congressional intent to include the economic considerations of Alaskan Native communities. See CALEB PUNGOYI, KAWERAK NIPLIKSUK 3 (1984) (Pungowiyi, President of Kawerak in 1984, emphasizes the economic benefits to Alaska Natives from producing and selling marine mammal products); Baumgartner, *supra* note 7, at 64 (1984) (provides the testimony of Matthew Iya, staff member of the EWC, who emphasizes the need to protect Alaska’s cottage industry of crafts from marine mammal parts).

233. See generally Marshall Sahlins, *What is Anthropological Enlightenment? Some Lessons of the Twentieth Century*, 28 ANN. REVS. IN ANTHROPOLOGY i (1999).

234. 16 U.S.C. § 1361(6) (2000).

235. International Covenant on Civil and Political Rights, G.A. Res. 2200A(XXI), art. 27, U.N. GAOR, 21st Sess., 1496th plen. mtg., Supp. No. 16, U.N. Doc. A/6316 (Dec. 16, 1966) (upholds the right of minority peoples to “enjoy their own culture.”). *Id.* See generally A.W. Harris, *Making the Case for Collective Rights: Indigenous Claims to Stocks of Marine Living Resources*, 15 GEO. INT’L ENVTL. L. REV. 379 (2003); CASE & VOLUCK, *supra* note 9, at 262-63.

236. Exceptions to the take of marine mammals under the MMPA’s moratorium may be considered based on the “best scientific evidence available” and “in accord with sound principles of resource protection and conservation as provided in the purposes and policies of the Act.” 16 U.S.C. §§ 1371(a)(3)(A) & 1373(a).

237. In 1976 during negotiations concerning return of marine mammal management to Alaska, Dr. Fay expressed the idea that there should be urgency to improving walrus

balance between a sustainable harvest of walrus and the Native exemption to hunt walrus.²³⁸

The MMPA seeks to promote healthy walrus populations and ecosystems with the ability to buffer impacts and contribute to the sustained subsistence by communities. Furthermore, social health may also benefit from increased cooperation within a community, trust building with regulatory agencies, and incentives for self-regulation. Perhaps a precautionary approach to management should be considered to foster long-term resilience of the resource²³⁹ in the absence of an assessment of optimal sustainable population.²⁴⁰ We focus on three areas in our assessment of new management options that address waste: first, we address the need to maintain an optimum sustainable population, while avoiding waste of demographic components that provide resilience to the population; second, the need to avoid egregious waste of walrus (harvesting just ivory); and third, the need to substantively address chronic, but legal waste (minimal but legal utilization).

utilization to reduce waste. *See* INTERAGENCY TASK GROUP, NMFS AND USFWS, FINAL ENVIRONMENTAL IMPACT STATEMENT: CONSIDERATION OF A WAIVER OF THE MORATORIUM AND RETURN OF MANAGEMENT OF CERTAIN MARINE MAMMALS TO THE STATE OF ALASKA 78 (1976). The subsequent 1994 USFWS Conservation Plan for Walrus recommended that the EWC should lead efforts to resolve the definition of waste through an interdisciplinary meeting of Native elders, hunters, economists, wildlife managers, social anthropologists, and others. The Conservation Plan emphasized the need to examine waste in terms of “modern Native culture.” USFWS, CONSERVATION PLAN FOR THE PACIFIC WALRUS IN ALASKA 50 (1994). *See also* Marsh et al., *supra* note 39, at 15 (emphasizing that marine mammal conservation requires “development and integration of policy based on expertise in biology (and especially ecology), economics, law, political science, human behavior, adaptive management, statistical uncertainty, sociology, philosophy, ethics and property rights.”). *Id.*

238. *See also* Reeves, *supra* note 177, for a similar approach for Canadian narwhal.

239. This precautionary approach is embodied in international environmental law in Principle 15 of the Rio Declaration: “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” Rio Declaration on Environment and Development of 14 June 1992, princ. 15, 31 I.L.M. 874, 879 (1992). As it relates to walrus, resilience is the ecosystem’s capacity to absorb disturbance to some state variable (e.g., on the number of female walrus) and still retain its organizational structure and essentially the same functions, structure, identity, and feedbacks. *See generally* B. Walker et al., *Resilience, Adaptability, and Transformability in Social-Ecological Systems*, 9 *ECOLOGY & SOCIETY* 5 (2004).

240. This, by itself, may be unrealistic in a directionally changing or highly dynamic environment. *See generally* EUGENE H. BUCK, CRS REP. FOR CONGRESS: MARINE MAMMAL PROTECTION ACT: REAUTHORIZATION ISSUES FOR THE 107TH CONGRESS (2001), available at http://openocrs.cdt.org/rpts/RL30120_20010109.pdf.

A. *Optimizing Walrus Population Numbers with Respect to Harvest*

A logical interpretation of the MMPA's goal based on congressional intent is to harvest as few walrus as possible, while allowing the full suite of indigenous needs to be met. This is consistent with the United Nations Convention on the Law of the Sea (UNCLOS),²⁴¹ which in reference to indigenous subsistence hunting of bowhead and gray whales is interpreted as permitting the "taking" of cetaceans by indigenous peoples provided there is "close adherence to a requirement of 'optimum utilization' (the achievement of subsistence goals with the lowest possible harvest)."²⁴² Reeves concurs with respect to narwhals:

From a strictly biological point of view, with the health of whale stock of paramount concern, questions as to how hunting products are consumed or distributed, or as to how the animals are taken (i.e., whether by "traditional" or modern means), have no intrinsic relevance (except insofar as the methods used affect the magnitude of hunting loss, or "hidden mortality"). . . . What is important for conservation is simply to ensure that the rate of hunting removals from the whale population is sustainable on a long-term basis.²⁴³

Since the State of Alaska management days, maximizing the contribution of an individual walrus to the subsistence goals of a community, while minimizing economic incentives to expand the hunt, has received relatively little attention.²⁴⁴ This topic spans the need to minimize loss of wounded walrus, and maximize returns and utilization of harvested parts in a manner that benefits communities, while reducing the need to harvest more walrus to accomplish the same needs (irrespective of whether those needs are cultural, social, or economic). By taking this approach, rather than simply focusing on total numbers, nuanced demographic concerns can be addressed. In the past, stricter limits on the harvest of females reduced waste of the walrus population's reproductive potential.²⁴⁵ However,

241. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

242. Harris, *supra* note 235, at 427.

243. Reeves, *supra* note 177, at 274.

244. "[W]ildlife . . . belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses." ALASKA CONST. art. VIII, § 4. See BURNS *supra* note 37, at 37-40 (discusses utilization, waste, and economic value/potential of the walrus harvest).

245. JAMES W. BROOKS, A CONTRIBUTION TO THE LIFE HISTORY AND ECOLOGY OF THE

although limits to harvest are likely to be a component of effective management, care should be taken. Quotas alone could lead to negative changes in communal practices, as the most aggressive hunters are favored, rather than traditional hierarchies or modes of allocation.

B. Eliminating Egregious Waste

Earlier in this article, we stated that the Harvest Guidelines²⁴⁶ are a salvage benchmark, which provide guidance as to what represents egregious take of walrus. The continued repudiation by the EWC of egregious waste of walrus, continued education about its negative effects, and reporting by community members is likely to improve compliance over time and ensure that this practice remains socially unacceptable, reported, and punished accordingly.²⁴⁷

C. Reducing Chronic Waste

The definition of chronic waste is likely to be contentious because of differing individual, community, and cultural perceptions of the term. The best solution, then, may be one that is created to provide incentives not to waste at all. Law enforcement alone is unlikely to work, as it is expensive, sporadic, and requires trust-eroding tactics such as undercover agents or community informants. Coercive wildlife management elsewhere over large areas has frequently led to ecological failure, as well as social trauma for communities dependent on local resources.²⁴⁸ Furthermore, the relatively remote threat of being cited and the low penalty if caught (which

PACIFIC WALRUS 92 (1954). Brooks recommends constraints on hunting females, while allowing unlimited hunting of bulls in 1958. *Id.* at 95.

246. *See supra* notes 90-94 and accompanying text.

247. *See* J. Olanna & C. Pungowiyi, *The Eskimo Walrus Commission: Co-Management of the Pacific Walrus*, in PROCEEDINGS OF A WORKSHOP CONCERNING WALRUS HARVEST MONITORING IN ALASKA AND CHUKOTKA 36 (J. Garlich-Miller & C. Pungowiyi eds., 1998).

248. *See generally* Nancy Lee Peluso, *Coercing Conservation? The Politics of State Resource Control*, 3 GLOBAL ENVTL. CHANGE 199 (1993) (arguing that the protection of wildlife in Kenya and Indonesia is unsuccessful due to dependence on militaristic management techniques). *But see* R. Hilborn et al., *Effective Enforcement in a Conservation Area*, 24 SCIENCE 1266 (2005) for a wildlife-centric perspective.

is usually low in comparison to the value of ivory)²⁴⁹ may not be a sufficient disincentive to waste, except in the most egregious cases.

Hughes describes two mechanisms that led to chronic waste in 1950s Gambell: (1) waste due to “struck and lost” walrus,²⁵⁰ and (2) waste that occurs in the latter part of the spring hunt, when less of the carcass is saved since the community’s walrus meat needs have already largely been met.²⁵¹ These issues have remained remarkably consistent over the last fifty years. Although both are ethical issues, the first lends itself to resolution through the practices of the hunt,²⁵² and the second to addressing the values and morals associated with the accepted and allowable uses of a harvested walrus. Furthermore, this latter type of waste acknowledges the circumstances where quick money returns from ivory, in an environment of few other economic options, provide little additional incentive to better utilize walrus. If the goal of the statute as a whole is to protect walrus, then addressing either of these aspects would be a significant effort towards attaining the intent of the MMPA.

VIII. ALTERNATIVE RESOLUTIONS TOWARD BETTER-UTILIZING WALRUS

Participation of communities in walrus conservation under the current rendition of the MMPA must be voluntary because walrus are not legally depleted.²⁵³ Elsewhere, open access to common pool resources has generally led to resource depletion; therefore, an effective solution is likely to require some form of formal restraint on take that makes biological sense.²⁵⁴ The literature on common pool resources also emphasizes the

249. A citation for harvesting in a wasteful manner in 2005 was accompanied with a \$1250 fine. Ivory was valued at \$180 per animal. *United States v. Apassingok*, No. F04-008 CR(RRB), at 6 (D. Alaska 2005). Therefore, apart from the record and stigma of citation, fines represent less than eight harvested walrus.

250. Those animals that are wounded or killed during the hunt but not retrieved, due primarily to sinking. USDOJ emphasizes that “wasteful manner” is defined as:

[N]ot only failure to salvage an animal, but also includes ‘any taking or method of taking which is likely to result in the killing or injuring of marine mammals beyond those needed for subsistence purposes . . . [including] a method of taking which is not likely to assure the capture or killing of a marine mammal.’

Apassingok, No. F04-008 CR(RRB), at 3 (quoting 50 C.F.R. § 18.3 (2006)).

251. C.C. HUGHES, AN ESKIMO VILLAGE IN THE MODERN WORLD 142-43 (1960).

252. See generally NAMMCO, *supra* note 106 (providing commentary on the 12th Annual Meeting in March 2003, the goal of which was to formulate safe and efficient hunting methods for seals and walrus).

253. 16 U.S.C. § 1371(b) (2000).

254. Common pool resources “include natural and human-constructed resources in which

negative consequences of situations where political intervention erodes local mores of restraint and conduct, while ignoring informally recognized problems.²⁵⁵ Therefore, we return to the use of ordinances that were effective in the past at setting limits to the harvest and methods of harvest (to reduce struck and loss).²⁵⁶ Effective management of common pool resources also requires research and monitoring, which lends itself to both local and population-level assessments—a prime opportunity to utilize the inherent benefits offered by the different co-management partners.

To address utilization, we turn to four incentives that would increase the value of a more limited harvest, three of which would potentially require changes to the MMPA.²⁵⁷ These ideas are put forward to illustrate arenas that may support reductions in waste. Specific communities would need to assess their needs with respect to walrus. Policy changes that allow alternative uses of walrus would have to provide enough incentive to self-regulate the size and method of harvest that would be essential for most of our suggestions.

A. Devolving Harvest Management While Maintaining Federal Oversight

The EWC mission is to “[e]ncourage self regulation of walrus hunting and management of walrus stock by Alaska Natives who use and need walrus to survive.”²⁵⁸ Although some believe that basing Native subsistence on cultural autonomy risks upsetting the delicate balance between human needs and rational resource preservation, this perspective neglects to consider the potential conservation benefits of incorporating local tribal governments in management.²⁵⁹ Furthermore, it is likely that any

(i) exclusion of beneficiaries through physical and institutional means is especially costly, and (ii) exploitation by one user reduces resource availability for others.” Ostrom & Field, *supra* note 44, at 278.

255. *Id.* at 281; *see generally* DIETZ ET AL., *supra* note 44; D.W. BROMLEY & M.M. CERNEA, *THE MANAGEMENT OF COMMON PROPERTY NATURAL RESOURCES: SOME CONCEPTUAL AND OPERATIONAL FALLACIES* (1989).

256. Including EWC Res. 11-22-85-06 (Nov. 22, 1985) (on file with author).

257. Gilcrest provides similar, general arguments for walrus management in 1990. *See generally* Gilcrest, *supra* note 40 (arguing that the MMPA should be amended so that Alaskan Natives can make better use of the products derived from walrus harvests).

258. Restated Bylaws of the Eskimo Walrus Commission (Nome 1998).

259. *See generally* Oran R. Young et al., *Subsistence, Sustainability, and Sea Mammals: Reconstructing the International Whaling Regime*, 23 *OCEAN & COASTAL MGMT.* 117 (1994). Young et al. also argue that what makes whaling unsustainable are “not commercial

“conservation management system [for walrus] which fails to consider the Natives is doomed from the start.”²⁶⁰ Local involvement in natural resource management reflects a shift toward the inclusion of humans in the ecosystem, and toward participatory approaches to ecosystem management.²⁶¹ Although credited with varying degrees of success, institutional arrangements such as co-management where there is sharing of power and responsibility,²⁶² offer potential benefits over more conventional top-down ‘command and control’ style arrangements.²⁶³

Local ordinances that limit harvest could foster the subsistence relationship,²⁶⁴ while attending to at least three of the four critical issues of waste: (1) harvesting more walrus than needed, with ordinances focused on conserving specific demographic segments of the population through trip or day limits using flexible quotas that mimic the prior ordinances; (2) salvage, with ordinances designed to reinforce *Harvest Guidelines* and condemn egregious waste; (3) struck and loss, through ordinances requiring specific firearms and rules about pelagic hunting,²⁶⁵ and (4) utilization,²⁶⁶ the most challenging aspect to be resolved, which we discuss in more detail below. Since USFWS currently cannot regulate the Alaska Native walrus harvest, it might find a more effective and cooperative relationship by encouraging voluntary community participation in setting limits and modes

end uses or technological innovations but rather a breakdown of the key elements of traditional management practices.” *Id.* at 120.

260. Gilcrest, *supra* note 40, at 147.

261. Fikret Berkes, *Rethinking Community Based Conservation*, 18 CONSERVATION BIOLOGY 621, 628 (2004).

262. E.W. Pinkerton, *Toward Specificity in Complexity: Understanding Co-Management from a Social Science Perspective*, in THE FISHERIES CO-MANAGEMENT EXPERIENCE: ACCOMPLISHMENTS, CHALLENGES, AND PROSPECTS 61, 61-78 (D.C. Wilson et al. eds., 2003); Metcalf & Robards, *supra* note 188, at S148-S149; Marc G. Stevenson, *The Possibility of Difference: Rethinking Co-Management*, 65 HUMAN ORGANIZATION 167, 169 (2006).

263. C.S. Holling & G.K. Meffe, *Command and Control and the Pathology of Natural Resource Management*, 10 CONSERVATION BIOLOGY 328 (1996).

264. Wildlife is frequently less the subject of resource management than the relationship they share with people. “It is this relationship that is critical for achieving sustainable use practices.” Marsh et al., *supra* note 39, at 4.

265. Francis H. Fay et al., *The Struck-and-Lost Factor in Alaskan Walrus Harvests, 1952-1972*, 47 ARCTIC 368 (1994) (documenting loss of walrus during pelagic hunting). Elsewhere, ordinances prohibit pelagic hunting: only allowing harvest of walrus hauled out on ice (Russia) or require harpooning prior to shooting (Greenland). Fay, *supra* note 213, at 10.

266. BURNS, *supra* note 37, at 7-8.

of harvest, in return for greater opportunity to improve benefits from utilization. This could help build trust, while moving away from the “uncritical application of numerical catch quotas.”²⁶⁷

One problem with the current MMPA Section 119 cooperative agreements is the weak role that EWC and other Alaska Native Organizations have in enforcing regulations. Alaska Natives who are not members of a local community are not required to abide by local ordinances, even if local tribal regulations are part of a co-management plan.²⁶⁸ Caleb Pungowiyi suggests a move toward the model of the Alaska Eskimo Whaling Commission (AEWC), where tribal regulations are adopted and enforced as tribal *and* federal law.²⁶⁹ Federal enforcement only responds as requested by the AEWC, in support of actions jointly agreed upon in the co-management context.²⁷⁰ Both Gambell and Savoonga have acknowledged the value of formally promulgated ordinances regulating the take of marine mammals.

Despite the benefits of regulations against “wasteful take” (rather than relying exclusively on local mores), most tribal offices do not have a judicial system or enforcement officers.²⁷¹ Further, the MMPA does not currently provide authority for USFWS to support the EWC in enforcement and adjudication of violations. This contrasts with the AEWC, which is authorized under legislation outside the MMPA.²⁷² The AEWC receives quotas from the International Whaling Commission (IWC), in contrast to the EWC, which receives no quotas from USFWS. Subsequently, the AEWC enforces quotas and harvest regulations (both national and local regulatory requirements), while NMFS provides a smaller back-up role. Although the AEWC does not supply its own definition of waste, it does authorize monitoring and enforcement of regulations and has the power to impose sanctions. In contrast, while unable to delegate authority, the EWC

267. Freeman, *supra* note 182, at 7.

268. 106th Cong. Hearing on MMPA, *supra* note 28, at 6. Currently, “if a hunter who is not a tribal member decides not to comply [with co-management harvest regulations], the agency takes the position that it cannot help with the enforcement unless the stock is depleted.” *Id.*

269. *Id.*

270. *Id.*

271. Eskimo Walrus Commission, Annual Meeting Minutes, *supra* note 96.

272. *On section 119 of the Marine Mammal Protection Act of 1972: Before the Subcomm. on Fisheries Conservation, Wildlife, and Oceans of the H. Comm. on Resources*, 106th Cong. 4 (2000) (statement of Penelope Dalton, Assistant Administrator for Fisheries, NMFS). The AEWC works under the authority of the Whaling Convention Act.

is unlikely to implement effective ordinances in all member communities.²⁷³ This scenario would require trust in local enforcement both locally, which itself provides significant challenges in small communities, and between USFWS and the local judicial system, if developed. Proposed amendments to the MMPA, authorizing harvest management agreements with Alaska Native Organizations or Tribes prior to depletion could provide new opportunities, new responsibilities, and an increasingly meaningful role for the Native community in walrus management.

B. Community Cooperatives

Irrespective of implementing ordinances or changing the MMPA's statute, communities could handle ivory in a manner that provides better long-term value to the community and potentially reduce waste. Ivory cooperatives were advocated by the EWC as a method to prevent quick opportunities for hunters to garner cash. Ivory cooperatives have existed in several communities with varying degrees of success, although they have not been fully utilized as a management tool in recent years. Currently, there are no community-oriented rules on the handling of ivory once it is landed. The requirement to register ivory with a USFWS-registered agent within one month and the ban on selling raw ivory to non-Natives nationally, and to anyone internationally, are requirements of the MMPA, the Lacey Act,²⁷⁴ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).²⁷⁵ Non-local Alaska Natives still

273. *Id.*

Thus, the only current possibility of enforcement is for a tribal government or council to adopt ordinances that reflect provisions contained within an agreement or management plan, and then adjudicate violations through whatever traditional conflict resolution process is applicable. However, for statewide commissions representing many villages, it could be particularly cumbersome to attempt to gain passage of such ordinances from all member tribes. Such ordinances would also not be applicable to hunters unaffiliated with the member tribes.

Id.

274. Lacey Act, 16 U.S.C. §§ 3371-3378 (2000). It is unlawful under the Lacey Act for any person to import, export, transport, sell, receive, acquire, or purchase any fish or wildlife or plant taken, possessed, transported, or sold in violation of any law, treaty, or regulation of the United States or in violation of any Indian tribal law whether in interstate or foreign commerce. 16 U.S.C. § 3372(a).

275. The Pacific walrus is listed in Appendix III of CITES, which recognizes the need for international cooperation for protection of certain species such as walrus against over-exploitation through international trade. Convention on International Trade in Endangered Species of Wild Fauna and Flora app. III, July 1, 1975, 27 U.S.T. 1087. Because CITES

can legally purchase raw ivory from hunters. This practice has been a problem in the past for communities,²⁷⁶ and again recently.²⁷⁷ In 2006, a non-local Native buyer waiting on the beach paid hunters \$300 per walrus for raw ivory (almost double the amount paid by the local stores),²⁷⁸ fostering more individualistic and economically-oriented hunting. This is potentially deleterious to collective action, which seeks effective local rules and management of the walrus resource and wasteful hunting.²⁷⁹

Ivory cooperatives offer several ancillary benefits for local walrus management. Notably, if all ivory is required to pass through the cooperative, then the cooperative becomes the focus of community management, providing a venue for “local” monitoring of the harvest, an attribute conducive to effective local rules and management of common-pool resources. It also simplifies cooperative enforcement, as all legal ivory is tagged at the cooperative (ivory kept by hunters for their own use would still need to be first registered at the cooperative). Non-local Native hunters or buyers would also be required to operate through a local cooperative, providing both tracking and local opportunities to control flow of resources out of communities. Recognizing the economic role of ivory, the cooperative offers opportunities for the community to better profit from the endeavor through greater control of exports. However, we caution against focusing exclusively on economics; elsewhere, sale of marine mammal parts has rarely been about profit maximization.²⁸⁰

“determines the terms of trade for wildlife products[,] it essentially decides what can be traded and with whom and under what conditions and—by extension—at what price.” Jon Hutton, *Exploitation and Conservation: Lessons from South Africa*, in CONSERVATION HUNTING: PEOPLE AND WILDLIFE IN CANADA’S NORTH 28, 35 (Milton M.R. Freeman et al. eds., 2005). This can have profound impacts on local communities economically those dependent on local wildlife. *See id.*

276. IRA NOEL GABRIELSON, WALRUS 4 (1889) (ivory buyers from southeastern Alaska encouraged hunters to harvest more walrus for their ivory).

277. 106th Cong. Hearing on MMPA, *supra* note 28.

278. A Gambell store recently paid \$30 per pound for ivory, and sold it locally for \$35 per pound. Ivory needs to dry before carving, so in communities where hunting requires up-front expenses for commodities such as gasoline (\$5 per gallon in spring 2007), selling ivory immediately can fund the hunt, while still allowing ivory to be obtained later for carving. Selling to outside buyers leads to loss of ivory in communities and potential shortages for local carvers.

279. The basic solution to managing common-pool resources is to establish rules that constrain resource use by individuals in the interest of long-term sustainability of the resource. *See James M. Acheson, Institutional Failure in Resource Management*, 35 ANN. REV. ANTHROPOLOGY 117, 119 (2006).

280. Dahl, *supra* note 181.

C. Guided Hunting

Hunting for conservation, although contentious, has proven successful in a variety of locations around the world. Fred Nelson, in considering the role of big game hunting in Africa, provides a perspective strikingly relevant to balancing conservation of marine mammals, considering the health of remote communities, and the necessary involvement of local interests under the MMPA:

Any evaluations of the practice of hunting revolve around two fundamental ethical issues: first the survival and prosperity of human communities, often in the face of entrenched poverty; and second, the maintenance of the abundance and diversity of other species with which people share landscapes and resources . . . ultimately, the value of safari hunting to people and to conservation in Africa is a function of how hunting is managed, and specifically whether or not hunting provides direct economic benefits to, and is controlled by landholders.²⁸¹

Debra Gilcrest has suggested that the MMPA be amended “to allow Alaska Natives to choose to continue to hunt the walrus themselves or to guide non-Native hunters in what might well be a more profitable endeavor.”²⁸² Guided trophy and sport hunts of walrus by non-Natives were first authorized by an amendment to the Walrus Act in 1957 prior to Alaska statehood.²⁸³ The regulations required a Native-guided hunter with a license to bring back the head and hide, and donate the meat to local Native communities. The hunt was seasonal from May 15 to August 15 in the territorial waters of the Bering and Chukchi Seas, and the Arctic Ocean north of fifty-nine degrees north latitude. A minimum-caliber firearm was required and no aerial hunting was allowed. As walrus are polygamous, a guided hunt limited to bulls reduced impacts to the reproductive potential of the walrus population. Dr. Fay regarded this as a positive move in 1957:

This regulation was designed to help minimize waste and encourage bull hunting, for trophies and hides are both exclusive products of the older males. It is expected that the particular groups of Eskimos who practice ivory hunting will recognize the

281. Fred Nelson, *The Ethics of Hunting*, 3 FRONTIERS IN ECOLOGY AND THE ENV'T 395, 396 (2005).

282. Gilcrest, *supra* note 40, at 150-51.

283. Press Release, USDO, Information Service (May 15, 1957) (on file with author).

financial advantage provided them, for the income from guiding fees and sale of hides has a potential value greatly exceeding that of raw ivory.²⁸⁴

Under State of Alaska management in the 1960s, and again in the latter part of the 1970s, guided hunting provided significant revenues to some hunters in Native communities. Although guided hunting is not currently permitted under the MMPA, the Act contains conditions for considering the return of walrus management to the State of Alaska. This includes a specific reference to guided hunting, which requires Alaska to adopt a statute or regulation that requires:

any consumptive use of marine mammal species, other than for subsistence uses, will be authorized during a regulatory year only if the appropriate agency first makes findings, based on an administrative record before it, that—

- (i) such use will have no significant adverse impact upon subsistence uses of the species, and
- (ii) the regulation of such use, including, but not limited to, licensing of marine mammal hunting guides and the assignment of guiding areas, will, to the maximum extent practicable, provide economic opportunities for the residents of the rural coastal villages of Alaska who engage in subsistence uses of that species.²⁸⁵

In 1979, the EWC approved a limited Alaska sport hunt for walrus, providing there existed sufficient walrus to first cover subsistence needs.²⁸⁶ Matthew Iya of the EWC concurred that Native guides could bring much needed cash to village economies and reduce hunting pressure on the remaining walrus.²⁸⁷ The idea continues to be popular in some communities. The community of Savoonga had the sale of guiding trips among its top ten priorities for community development in 2003.²⁸⁸

Guided hunting is not a panacea, and is actively objected to in some quarters.²⁸⁹ Nevertheless, with adequate research, the experience of polar

284. Fay, *supra* note 36, at 440-41.

285. 16 U.S.C. § 1379(f)(1)(B) (2000).

286. See Espinoza et al., *supra* note 68.

287. Management Plan Advisory Team Meeting, Meeting Minutes (Mar. 7, 1989) (on file with author); Eskimo Walrus Commission Annual Meeting, Meeting Minutes (Dec. 2006) (on file with author).

288. COMMUNITY STRATEGIC DEVELOPMENT PLAN FOR SAVOONGA 2004 – 2009 (2003), available at <http://www.kawerak.org/ledps/savoonga.pdf>.

289. “[T]rophy hunting amounts to the State’s condoning headhunting and waste of meat

bear conservation hunting in Canada²⁹⁰ suggests that a mutually beneficial program could be developed between communities and the USFWS.²⁹¹ In such a program, community quotas could be formulated and enforced through co-management; the allocation of guided walrus harvests (which would be subtracted from the community limit) could be assessed by communities, and communities could share income and meat, as salvage rules would still apply. Guided hunting could take the pressure off females, and potentially the population, through non-transferable tags (i.e., a tag allotted to an unsuccessful guided hunt could not be reassigned for subsistence). Although guided hunting does not directly deal with utilization or waste, it can potentially lead to fewer walrus harvested because hunters would have fewer subsistence opportunities,²⁹² and fewer animals would be needed to meet the same economic requirements, thus indirectly increasing the importance of those that are taken.

D. Sale of Meat

Policies governing the trade and exchange of marine mammal parts acknowledge the cash value of skins, tusks, and oosiks²⁹³ when significantly altered into salable craft products.²⁹⁴ These can be sold to both Natives and non-Natives. However, other consumable products such as meat and blubber are precluded from similar unrestricted sales, despite their historic

by non-natives, whereas it does not condone headhunting waste by natives.” Fay, *supra* note 213, at 8. Elsewhere, conflict also seems normal, both in concept and in allocation of guiding permits within and between communities. See generally George W. Wenzel & Martha Dowsley, *Economic and Cultural Aspects of Polar Bear Sport Hunting in Nunavut, Canada*, in CONSERVATION HUNTING: PEOPLE AND WILDLIFE IN CANADA’S NORTH 37 (Milton M.R. Freeman et al. eds., 2005).

290. Freeman and Wenzel conclude that “the wildlife conservation and community social, economic, and cultural benefits associated with these polar bear hunts justify the emerging practice of referring to such regulated recreational hunts as ‘conservation hunting.’” Milton M.R. Freeman & George Wenzel, *The Nature and Significance of Polar Bear Conservation Hunting in the Canadian Arctic*, 59 ARCTIC 21, 29 (2006).

291. See generally *id.*

292. Historically, hunters have not been allowed to subsistence hunt on days they guide a hunt.

293. The oosik is the walrus penis bone.

294. Under the MMPA, unaltered ivory may be sold to Alaska Natives and significantly-altered ivory may be sold to anyone. 50 C.F.R. § 18.23. “Significantly altered” is another vague term with respect to the Alaska Native exemption that is interpreted differently by NMFS and the USFWS, but examination of such distinctions is beyond the scope of this manuscript.

use in trade.²⁹⁵ Although “any edible portion of marine mammals may be sold [for cash] in [N]ative villages and towns in Alaska or for [N]ative consumption,”²⁹⁶ these sales cannot occur outside of Alaska or between Alaska Natives and non-Natives. The sale of marine mammal meat was addressed by Congress during the writing of the MMPA. Senator Stevens alluded to the idea that subsistence take should include the ability of the Eskimo Foods Company to can seal meat for sale.²⁹⁷ However, Sacks feels this is difficult to justify on either cultural or sustenance grounds.²⁹⁸ Nevertheless, Sacks’ argument negates the long history of trade in walrus parts between Alaskan and neighboring groups for non-local necessities.²⁹⁹ Furthermore, although Sacks contends that “the demand for cash in these areas itself undermines the claim that Native communities are culturally or socially distinct,”³⁰⁰ there is some federal precedent with respect to fish, wildlife, and plants to equate monetary and barter transactions as comparable forms of pecuniary gain.³⁰¹ This undermines the argument that cash makes transactions fundamentally different.

In 2003, both Savoonga and Gambell regarded the sale of marine mammal meat as one of their top ten desires for community development.³⁰²

295. Reeves, *supra* note 172, at 88-89.

296. 16 U.S.C. § 1371(b)(2) (2000). This provides opportunities for the many Alaskan Natives who, due to location (including assisted-living homes for the elderly) or occupation, have limited opportunity to continue their hunting and gathering traditions to maintain their cultural identities. The current interpretation of the MMPA language according to Eugene Buck is that “all Alaska locales, including the city of Anchorage, qualify as Native villages and towns.” EUGENE H. BUCK, THE MARINE MAMMAL PROTECTION ACT: REAUTHORIZATION ISSUES, CRS REPORT FOR THE 109TH CONGRESS 31 (June 18, 2004), *available at* <http://www.ncseonline.org/NLE/CRSreports/04Jun/RL30120.pdf>.

297. 118 CONG. REC. 8400 (1972) (statement of Sen. Stevens).

298. Sacks, *supra* note 29, at 281; Case and Voluck are also reticent to allow changes in cultural expectations to expand the sale of subsistence resources by Natives in commercial markets. CASE & VOLUCK, *supra* note 9, at 276.

299. Trade of this type likely has occurred for thousands of years. *See generally* FITZHUGH & CROWELL, *supra* note 33; BOCKSTOCE, *supra* note 47.

300. Sacks, *supra* note 29, at 285.

301. The U.S. Sentencing Guidelines Manual states that “‘pecuniary gain’ [means for] receipt of, or in anticipation of receipt of, anything of value, whether monetary or in goods or services. Thus, offenses committed for pecuniary gain include both monetary and barter transactions.” U.S. SENTENCING GUIDELINES MANUAL § 2Q2.1 (2006). In contrast, NMFS distinguishes monetary and barter transactions with respect to subsistence, stating that barter is partly defined as “for other food or for nonedible items other than money if the exchange is of a limited and noncommercial nature.” 50 C.F.R. § 216.3.

302. COMMUNITY STRATEGIC DEVELOPMENT PLAN FOR GAMBELL 2004 – 2009 (Sept. 2003), *available at* <http://www.kawerak.org/ledps/gambell.pdf>; COMMUNITY STRATEGIC

The expansion of opportunities to utilize meat under a limited harvest has clear potential to reduce chronic waste. Although the size and potential for markets is unclear, restaurants have cited interest in selling marine mammal meats in the past.³⁰³

E. Bilateral Trade with Chukotka

Significant connections persist between Alaska and Chukotka, irrespective of the political boundary that bisects the range of the Pacific walrus and divides kinship ties between Central Yup'ik, Siberian Yupik, Iñupiaq and Chukchi cultures.³⁰⁴ There is wide recognition that effective management of the Pacific walrus requires collaboration between Chukotka and Alaska.³⁰⁵ A shared vision on how to conserve walrus from a wide-range perspective is therefore valuable.

Trade and material assistance is well-documented through history between Chukotka and Alaska,³⁰⁶ however, CITES and the MMPA currently prevent the legal trade of marine mammal parts between nations. There is no doubt that CITES provides important protections of marine mammals against commercialized trade in their parts. However, at the very least, the rise in consumption of walrus for food in Chukotka, plans to reopen fox farms for economic development using walrus meat as a food source in Chukotka, the relatively poor utilization of walrus meat in Alaska, and the shortage of cash opportunities in remote Alaskan communities provide bilateral possibilities for reducing waste from hunted walrus. Management of the Pacific walrus, like management of migratory wildlife

DEVELOPMENT PLAN FOR SAVOONGA 2004 – 2009, *supra* note 288.

303. Dan Strickland, *The Eskimo vs. the Walrus vs. the Government*, 90 NAT. HIST. 48, 57 (1981). Restaurants in Nome, Anchorage, and Japan have expressed interest in walrus meat.

304. See generally I.I. Krupnik, 'Siberians' in Alaska: *The Siberian Eskimo Contribution to Alaskan Population Recoveries, 1880-1940*, 18 ÉTUDES/INUIT/STUDIES 49 (1994); Schweitzer & Golovko, *supra* note 33.

305. See, e.g., Shevchenko, *supra* note 162, at 28-29; Fay, *supra* note 213.

306. See generally FITZHUGH & CROWELL, *supra* note 33; BOCKSTOCE, *supra* note 47. See also Joseph F. Bernard, *Local Walrus Protection in Northeast Siberia*, 4 J. MAMMALOGY 224, 227 (1923) (noting that in 1921-1922 the village of Ingshong (now Inchoun) in Chukotka supplied the Siberian Yupik population of St. Lawrence Island with meat, as there were fewer walrus close to St. Lawrence); Igor Krupnik & Nikolai Vakhtin, *In the 'House of Dismay': Knowledge, Culture, and Post-Soviet Politics in Chukotka, 1995-96*, in PEOPLE AND THE LAND: PATHWAYS TO REFORM IN POST-SOVIET SIBERIA 7, 20 (Erich Kasten ed., 2002).

elsewhere, “must reflect ecosystem-level processes and macropolitical and economic forces shaping use of wildlife.”³⁰⁷

IX. CONCLUSION

Unless the walrus population becomes, and can then be proven to be legally depleted, the MMPA “permits only a single group (Native Alaskans) access to the walrus, provides for only limited commercial use of the species, and fails to adequately regulate either of these elements.”³⁰⁸ The primary focus of walrus management has been on harvest of the subsistence hunt. Specifically, management has focused on trying to ensure that walrus are not harvested in a wasteful manner. Apart from epitomizing a crisis management approach, the intractability of defining “wasteful” within the MMPA has been deleterious to relations with subsistence hunters. As a result, conditions present in the 1920s, at Alaska statehood in 1958, at the passage of the MMPA in 1972, and informally recognized by contemporary managers and communities remain unaddressed.

Trust in fostering a solution is eroding. Law enforcement’s capacity to enforce the MMPA in these remote communities is tenuous, compliance is low, and current regulations provide minimal incentive to comply. Thirty years have passed since any substantive walrus harvest management took place in Alaska, so young hunters have no experience with formal harvest constraints. Changing ecological conditions that may significantly impact walrus and continued increases in the importance of cash in remote communities, collectively make solutions that are mutually agreeable to conservation interests and Native communities essential.

The MMPA seeks to balance the conservation of marine mammals with the protection of Alaska Native rights. These goals could be accomplished using the best scientific evidence, an attitude of pluralism, consideration of actual contemporary conditions, and support of incentives for mutually beneficial outcomes between communities, the government, and other parties. Restating the problem of waste, which is currently largely characterized as a problem of details, to one that takes a broader view of walrus utilization has the potential to cultivate working relationships between parties. It also has the potential to promote hunter and community pride in accomplishing the harvest in a manner that is mutually agreed upon, rather than the current situation that neither fosters walrus populations nor Alaska

307. Naughton-Treves, *supra* note 231, at 326.

308. Gilcrest, *supra* note 40, at 150.

Native communities. Repercussions of not fostering better utilization of renewable resources such as walrus in a manner that benefits communities can only be speculative. However, elsewhere, the consequences have often affected renewable resources and communities more severely than if efforts had been made to find mutually agreeable options.³⁰⁹ Addressing waste in a manner that fosters resilient walrus populations and Alaska Native coastal communities will require serious and simultaneous commitments toward goals at local, national, and international levels, and significant investments in time, money, and political will.

309. *See generally*, J. PETER BROSIUS ET AL., COMMUNITIES AND CONSERVATION: HISTORIES AND POLITICS OF COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT (2005). *See also* Reeves, *supra* note 39, at 96; Marsh et al., *supra* note 39, at 4-5.