

Cook Inlet Beluga Whale (*Delphinapterus leucas*)

Beluga whales are found in seasonally ice-covered waters throughout arctic and subarctic regions. With the exception of those in Cook Inlet and adjacent waters of the northern Gulf of Alaska, most beluga whales in U.S. waters are thought to winter in the Bering Sea in open leads and polynyas in the pack ice. In spring and summer, they are found in coastal areas or the offshore pack ice. Five stocks are recognized in U.S. waters based on the species' discontinuous summer distribution and on mitochondrial DNA analyses that indicate clear genetic differences among animals using different summering areas. The five stocks are named after their primary summering areas, which are located in Cook Inlet, Bristol Bay, the eastern Bering Sea, the eastern Chukchi Sea, and the Beaufort Sea.

The most isolated population of beluga whales in U.S. waters is found in Cook Inlet and is separated from the other four summer populations by the Alaska Peninsula. Because of their proximity to Anchorage, beluga whales in Cook Inlet are exposed to the largest urban coastal area in Alaska. Analyses by the National Marine Fisheries Service of beluga whale sightings in Cook Inlet over the past 30 years indicate that the stock's summer range has contracted substantially in recent years. Compared with sightings in the 1970s and 1980s, animals are rarely seen now in offshore waters or the southern reaches of the inlet. In early summer when the National Marine Fisheries Service conducts aerial surveys of the population, beluga whales are concentrated in a few groups in the upper reaches of the inlet around the Susitna River delta, Knik Arm, Turnagain Arm, and Chickaloon Bay.

Aerial surveys of beluga whales in Cook Inlet have been conducted by the Service annually in June or July since 1994. Data from those surveys indicate that the Cook Inlet population declined from an estimated 653 (CV = 0.43) individuals in 1994 to 347 (CV = 0.29) in 1998. This constitutes about a 47 percent decline in four

years. The 1999 surveys yielded an abundance estimate of 367 (CV = 0.14), somewhat higher but not significantly different than the 1998 estimate. The 2000 surveys produced the lowest index count (184 whales) since systematic surveys began. However, when corrected to account for missed whales and missed groups of whales, the 2000 estimate was 435 whales. The coefficient of variation around this estimate (0.23) again was rather large and it is likely that the apparent increase in the abundance estimate for the stock between 1999 and 2000 was the result of interannual variation in the survey results, rather than growth in the population. This is borne out by the results of the 2001 and 2002 surveys. For 2001 the Service estimated the stock to number 386 whales (CV = 0.087). The range of estimates within the 95 percent confidence interval was 325 to 459 whales. The 2002 surveys produced an index count of 192 beluga whales. When that count is corrected to account for whales missed during the surveys, the best estimate of stock abundance is 313 beluga whales (CV = 0.12). The ranges of estimates within the 95 percent confidence interval is 248 to 396 whales. Although lower than the estimates of stock size obtained in recent years, the difference between the 2002 estimate and those for 1998–2001 is not statistically significant. Abundance estimates dating back to 1994, and the confidence limits around those estimates, are provided in Figure 15.

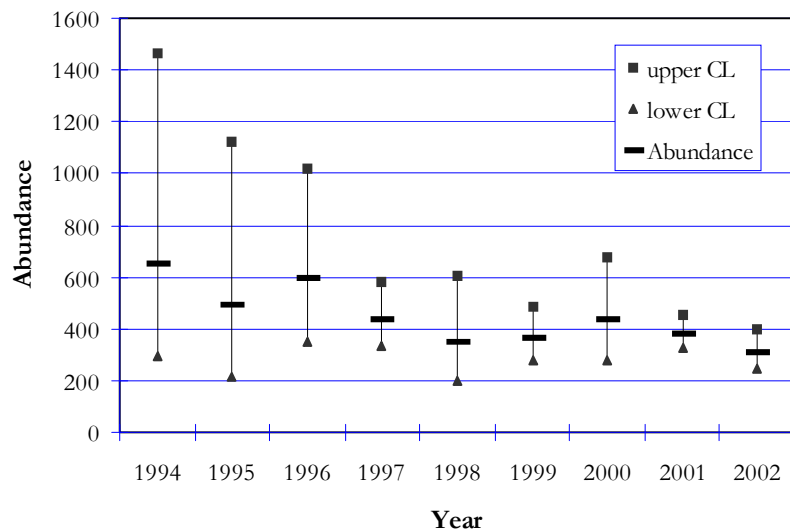


Figure 15. Abundance estimates of the Cook Inlet stock of beluga whales. (Data provided by the National Marine Fisheries Service.)

Stock Assessment

Under the Marine Mammal Protection Act, the National Marine Fisheries Service is required to prepare a stock assessment for each marine mammal stock under its jurisdiction that occurs in U.S. waters. These assessments are to be updated annually for strategic stocks, such as the Cook Inlet beluga whale, which is considered strategic because it has been designated as depleted. The Service published a notice of availability of its 2001 final assessment for Cook Inlet beluga whales on 8 March 2002. The Service made available the draft 2002 assessment for this stock, along with those for the other marine mammal stocks under its jurisdiction, for public review and comment on 19 April 2002.

One issue that has been somewhat controversial for this stock is what recovery factor to use for calculating the stock's potential biological removal level. This calculation is based on the stock's estimated minimum population size, its maximum net productivity rate, and a recovery factor ranging from 0.1 to 1.0, depending on the status of the stock. The potential biological removal level is the maximum number of animals, not including natural mortalities, that can be removed from the stock while providing reasonable assurance that it will recover to or remain within its optimum sustainable population level. The Alaska Scientific Review Group, appointed by the Service to provide advice on the status of Alaska marine mammal stocks, meets at least once a year to evaluate information on the Cook Inlet beluga whale stock. At its meeting in April 1999 the group evaluated information concerning the Cook Inlet beluga whale population and concluded that it should be considered a "high risk" stock because of its low abundance, declining trend, limited range, and susceptibility to catastrophic events. As a result of that review, the scientific review group recommended that the National Marine Fisheries Service use a recovery factor of 0.1 when calculating the potential biological removal level for this stock. Despite this advice, the Service's stock assessment report used a recovery factor of 0.5. Subsequent reports, including the final 2001 report and the 2002 draft report, used a recovery factor of 0.3, which is halfway between the 0.1 recovery factor generally used for endangered species and the factor of 0.5 associated with depleted and threatened stocks. Using this value and the minimum population esti-

mate of 360 whales obtained in 2000, the Service calculated a potential biological removal level of 2.2 whales for this stock in the draft 2002 assessment.

The Commission submitted comments on the draft assessments on 24 July 2002. One of the general observations made by the Commission was that many of the reports, particularly those for stocks in Alaska, concluded that a particular activity was not affecting the marine mammal stock because no data existed to document a potential impact, even when no investigation of the issue had been conducted. The Commission pointed out that such conclusions depended, in part, on the power of the monitoring efforts being made to detect such effects and recommended that the reports discuss such efforts, rather than establishing a "no-effect" determination as the default conclusion.

This was a problem noted by the Commission in its specific comments on the draft assessment report for Cook Inlet beluga whales. In this regard, the Commission pointed out that the report indicated that three large stranding events that had occurred between 1996 and 1999 had not resulted from human causes. However, the report did not discuss the nature and extent of the efforts undertaken to determine the cause or causes of the strandings. Similarly, the Commission noted that the apparent lack of adverse effects on beluga whales by municipal, commercial, and industrial activities may reflect the level of investigation of those factors rather than the fact that such effects were not occurring.

Native Subsistence Harvest

Section 101(b) of the Marine Mammal Protection Act allows Alaska Natives to take marine mammals for subsistence purposes or for making and selling handicrafts provided that the taking is not done in a wasteful manner. Only if a stock has been determined to be depleted or has been listed as endangered or threatened may any other limits be placed on such taking. The National Marine Fisheries Service designated the Cook Inlet stock of beluga whales as depleted in May 2000.

According to figures derived from a variety of sources and provided by the Alaska Beluga Whale Committee (a group made up of Alaska Native beluga whale hunters and biologists), the estimated subsistence harvest of beluga whales from Cook Inlet averaged about 15 animals per year

between 1990 and 1994. It is generally accepted, however, that this figure underestimates the take because it does not include all beluga hunters using the Cook Inlet area or all animals that were struck and lost. The Cook Inlet Marine Mammal Council, a Native group formed in 1992, estimated that more than 30 whales were taken annually by subsistence hunters in Cook Inlet from 1990 through 1994.

The most thorough surveys of beluga whale subsistence harvests in Cook Inlet were undertaken in 1995 and 1996 by the Cook Inlet Marine Mammal Council. The Council reported that 70 whales were taken in 1995, including 26 that were struck and lost. The kill in 1996 was estimated to be 98 to 147 whales, including an estimated 49 to 98 whales struck and lost. In 1997, 70 whales were estimated to have been taken, of which an estimated 35 were struck and lost. The National Marine Fisheries Service estimates that 42 whales were taken in 1998 although other information, including an unverified report of 20 whales taken during one weekend in June by hunters from outside the Cook Inlet region, suggests that the actual number may have been much larger. Taking at these unsustainable levels resulted in about a 50 percent reduction in Cook Inlet beluga whale numbers during the 1990s.

The imprecision of the estimates of subsistence taking during much of the 1990s prompted the Commission and others to recommend that the National Marine Fisheries Service adopt marking and tagging regulations, as provided for by section 109(i) of the Marine Mammal Protection Act. In response, the Service promulgated such regulations in 1999, requiring Alaska Native hunters to report each Cook Inlet beluga whale landed and to present the lower left jawbone of the whale for marking. Since establishment of the reporting and marking requirements, however, there have only been two reported landings of beluga whales.

Part of the impetus for the increased number of beluga whales being taken was the availability of commercial outlets for beluga whale muktuk (a popular Native food composed of the skin and blubber of the whale) in Anchorage. The National Marine Fisheries Service has determined that such sales are authorized under the provision of section 101(b) of the Marine Mammal Protection Act that allows edible portions of marine mammals taken by Alaska Natives for subsistence purposes or for

the creation of authentic Native handicrafts to be sold in Native villages and towns. Under the Service's interpretation of the Marine Mammal Protection Act, Anchorage is considered to be a Native village. Because of the demand for muktuk, beluga whales taken near Anchorage had a significant cash value. Before 1999 some hunters reportedly took large numbers of beluga whales for the muktuk, which they sold privately or at Native food stores in Anchorage.

The overharvest and precipitous decline of the Cook Inlet beluga whale has led to a number of actions to prevent further decline and to bring about the eventual recovery of the stock. At first, action was limited to a decision by some hunters to refrain voluntarily from taking whales. Subsequently, a free-standing legislative provision was enacted as part of the 1999 Emergency Supplemental Appropriations Act, Public Law 106-31, that prohibited until 1 October 2000 the taking of a beluga whale from the Cook Inlet stock unless authorized by a cooperative agreement between the National Marine Fisheries Service and an Alaska Native organization. Allowing the Service to limit the taking of Cook Inlet beluga whales for a 16-month period was believed to provide sufficient time for the agency to either (1) conclude a comprehensive co-management agreement with Native hunters or (2) list the stock as endangered or threatened under the Endangered Species Act or as depleted under the Marine Mammal Protection Act and complete a rulemaking to restrict the hunt.

In October 2000 the Service published proposed regulations to govern the hunting of Cook Inlet beluga whales under the Marine Mammal Protection Act. When it became apparent that the Service could not conclude the rulemaking quickly enough to provide the needed protection to the stock, Congress passed a revised provision in December 2000. That provision, enacted as section 627 of Public Law 106-553, extended indefinitely the prohibition on hunting Cook Inlet beluga whales unless authorized by the National Marine Fisheries Service through a cooperative agreement. As discussed below, the rulemaking to establish harvest limits has yet to be completed.

As a result of these actions, no beluga whales were reported to have been taken during the 1999 season. Although the Service entered into a cooperative agreement with the Cook Inlet Marine Mammal Council to allocate one strike to the Na-

tive Village of Tyonek for 2000, no whale was struck during the year. In June 2001 the Service again entered into a cooperative agreement with the Cook Inlet Marine Mammal Council authorizing one strike to Tyonek. This time the hunt proved successful, with the single strike resulting in the landing of a whale. No other taking of a Cook Inlet beluga whale was reported during 2001. The cooperative agreement between the National Marine Fisheries Service and the Cook Inlet Marine Mammal Council entered into in June 2002 again authorized the Village of Tyonek to strike one whale. In addition, Native hunters residing in Anchorage were authorized one strike. The Anchorage hunters struck and landed a large male whale on 22 July 2002. Hunters from Tyonek tried unsuccessfully to find a suitable whale during 2002. On those occasions when whales were spotted, the groups included calves. This prompted the hunters to proceed cautiously to ensure that a female whale accompanied by a calf was not inadvertently taken. As a result, no strike was made by Tyonek village hunters during 2002.

Stock Status and Related Litigation

The National Marine Fisheries Service designated the Cook Inlet beluga whale as depleted under the Marine Mammal Protection Act on 31 May 2000. The Service also determined on 22 June 2000 that listing under the Endangered Species Act was not warranted at that time, primarily because it believed that overharvest by subsistence hunters was the primary threat to the stock and was being adequately addressed by limitations imposed by Public Law 106-31 and by regulations that the Service planned to promulgate pursuant to the depletion designation under the Marine Mammal Protection Act.

Dissatisfied with the Service's reasoning, the groups that had petitioned the Service to list the Cook Inlet stock of beluga whales under the Endangered Species Act filed suit in September 2000 challenging the Service's decision not to proceed with a listing proposal (*Cook Inlet Beluga Whale et al. v. Daley*). The court issued its ruling in the matter on 20 August 2001, finding that the Service had acted within its discretion in declining to list the Cook Inlet beluga whale under the Endangered Species Act. The plaintiffs appealed the district court ruling in October 2001. However, in July 2002, before the appellate court had considered

the matter, the groups that had filed the case withdrew their appeal.

Regulation of Native Harvest

Section 101(b) of the Marine Mammal Protection Act provides authority for the Service to regulate the taking of depleted species of marine mammals by Alaska Natives when necessary for the conservation of the affected species or stock. Such regulations, however, may only be prescribed through formal rulemaking, which affords affected Natives and other interested parties the opportunity for a hearing on the record, through which an administrative law judge develops the record of the proceeding and subsequently provides a recommended decision to the agency. Section 103(d) of the Act sets forth the rulemaking procedures and the information that must be published by the agency prior to, or concurrent with, the publication of a proposed rule. Among other things, the agency is to make available to the public any Commission recommendations provided to the Service that relate to the regulations.

Following the Service's designation of the Cook Inlet beluga whale as depleted in May 2000, it began to develop regulations to limit subsistence taking. The Commission supported these efforts, and in a July 2000 letter concluded that such an action was essential to conserve the depleted stock of beluga whales.

The Service convened a formal hearing on 5–8 December 2000 at which the proposed regulations were considered. The Commission participated as one of seven parties at the hearing.

Rather than relying on an adversarial process whereby posthearing briefs are submitted by the parties, the presiding administrative law judge encouraged the parties to work cooperatively to arrive at compromise solutions. Heeding that advice, the parties tentatively agreed to an interim quota of six beluga whales over the next four years, with four of the allowable strikes to go to the Village of Tyonek. The parties also agreed that the Service would convene a meeting of agency and other scientists to design a proposal for a longer-term, flexible management regime to be considered by the parties and to develop criteria for determining when the agreed-to harvest limits should be modified in response to unusual mortalities.

The Commission, along with representatives of the National Marine Fisheries Service and the

Village of Tyonek, continued to pursue discussions to resolve these issues. These efforts culminated in the submission on 2 October 2001 of proposed stipulations and a draft final rule by the three parties. Under that proposal, the agreement for six strikes over four years would be formalized and an emergency suspension provision would be added. The parties would request that the judge retain jurisdiction over the issue of strike limits for 2005 and establish a process for developing a long-term, science-based harvest regime that (1) provides reasonable certainty that the population will recover within an acceptable period of time, (2) takes into account the uncertainty with respect to the population dynamics and vital rates of the Cook Inlet beluga whale population, (3) allows for periodic adjustments of allowable strike levels based on the results of abundance surveys and other relevant information, (4) provides assurance that the strike levels will not be reduced below those for 2001–2004 unless substantial information indicates that taking must be reduced to allow recovery of the stock, and (5) can be readily understood by diverse constituencies.

Under the proposed stipulations, the National Marine Fisheries Service is to develop a proposed schedule for accomplishing this no later than March 2004. The Service would provide funding to Alaska Native subsistence users necessary to facilitate their meaningful participation in that process. Related provisions would prohibit hunting before 1 July of any year and prohibit the taking of maternally dependent calves and adults accompanied by such calves. Further, the proposed stipulation would recognize the need to develop objective standards for identifying maternally dependent calves to provide sufficient guidance to hunters and enforcement officials.

Under the proposal, the sale or purchase of any part or product of a Cook Inlet beluga whale would be prohibited except for authentic Native articles of handicrafts and clothing made from non-edible byproducts of legally taken whales. The proposal would, however, allow customary and traditional barter and sharing practices to continue. The parties also recognized the possible enforcement problems that could develop if parts and products of beluga whales from other populations were to enter into commerce in the Cook Inlet area. In response, the proposed stipulations would require that all cooperative agreements authorizing the take

of Cook Inlet beluga whales include a mechanism to identify legally taken beluga whales from that population (e.g., through the collection and archiving of genetic samples). Further, the proposed stipulation would ask the judge to retain jurisdiction over this issue and consider remedial action if it appears that parts and products from other beluga populations are being sold in areas and in ways that undermine enforcement of the restrictions on the taking and sale of Cook Inlet beluga whales.

The three parties also developed the framework for the process and criteria that would be used to allocate strikes among Cook Inlet subsistence hunters. Recognizing that the Natives themselves have the greatest knowledge and understanding of subsistence use patterns and needs, the Service would defer to allocation recommendations that reflect the consensus of the hunting community. When consensus is not reached, priority would be given to Cook Inlet tribes and hunters that demonstrate a long-term pattern of use of and reliance on Cook Inlet beluga whales. Factors that would be considered include the duration, history, dependency, and cultural significance of such hunting and the availability of alternative subsistence resources. The parties also recognized that the Village of Tyonek had already established that it has a historical and continuing tradition of reliance on Cook Inlet beluga whales as a mainstay of the tribe's subsistence way of life. They also recognized that other tribes and hunters may be able to establish similar claims. As with other issues not fully resolved, the judge would retain jurisdiction to consider any petitions from the parties challenging the modification of these criteria.

The administrative law judge issued his recommended decision on 29 March 2002. That decision recommended that the regulations originally proposed by the Service be amended to conform to the stipulations discussed above, which, with only a few exceptions, were agreed to by the other parties. The Service published a notice of availability of the recommended decision in the *Federal Register* on 7 May 2002, seeking public comment. Inasmuch as the Commission had already agreed to the modifications to the proposed rule recommended by the judge, the Commission did not submit any comments at that point in the rulemaking. A copy of the judge's recommended decision, the *Federal Register* notice soliciting comments, and the

comments submitted are all available on the Service's web site (<http://www.fakr.noaa.gov/protectedresources/whales/beluga/belugapr.htm>).

No further action to finalize the regulations or to convene the working group to design the long-term harvest regime apparently had been taken by the Service during 2002. This prompted the Commission to write to the Service on 31 December 2002. The Commission noted that the administrative law judge's decision directs the Service to submit a final recommendation for the long-term regime to him no later than 15 March 2004. In light of that deadline, and the considerable work that needs to be done to develop the regime, the Commission recommended that the Service take prompt action to develop a schedule for convening the agreed-to workshop and provide it to the parties as soon as possible. The Commission also requested that the Service provide it with an update on the status of the rulemaking, noting that the comment period on the judge's recommended decision had closed seven months ago.

Although the rulemaking has yet to be completed, the taking of Cook Inlet beluga whales is limited by the Service under the provisions of Public Law 106-553. Nevertheless, the Service still needs to issue final regulations under the Marine Mammal Protection Act to establish criteria for setting strike limits and for resolving other issues related to harvest management.