

MARINE MAMMAL COMMISSION
4340 EAST-WEST HIGHWAY, ROOM 905
BETHESDA, MD 20814

26 September 2005

Mr. P. Michael Payne
Chief, Marine Mammal Conservation Division
National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors, has reviewed the draft 2005 stock assessment reports (SARs) for marine mammals. As we have noted in the past, these are very useful documents, and we encourage the Service to continue developing and improving them. To that end we make the following recommendations and general comments. Stock-specific comments and recommendations are provided in the attachment to this letter.

Comments and Recommendations

The SARs address a number of issues inconsistently, including: classification of a stock of unknown status as strategic or non-strategic; estimation of abundance and mortality for groups of species that are difficult to distinguish in the field; estimation of potential biological removal (PBR) levels for declining stocks; and estimation of abundance and mortality for transboundary stocks whose distribution extends beyond the U.S. Exclusive Economic Zone (EEZ) into international or foreign waters.

The Marine Mammal Commission recommends that the Service review these assessment issues, develop appropriate, precautionary policies for addressing them, and take the steps necessary to ensure consistent application of the policies among all regions and for all stocks of marine mammals. In addition, the Service should ensure that the information provided within the SARs is consistent among the contributions from various regional offices. For example, the summary tables for SARs from different regions should compile information in the same manner and should include not only estimates of population size and mortality rates, but also the variances of those estimates. For population estimates, it also would be useful to include the year of the most recent survey and the interval between repeat surveys for stocks that are monitored on a regular basis. The Service recently proposed revisions to the guidelines for preparing SARs (69 Fed. Reg. 67541), which begin to address many of these concerns. However, as the Commission's 8 March 2005 letter to the Service regarding the proposed revisions points out, several issues require further consideration.

Stock status

The proposed revisions to the SAR guidelines indicate that “[i]n the complete absence of any information on sources of mortality, and without guidance from the Scientific Review Groups, the precautionary principle should be followed and the default stock status should be strategic until information is available to demonstrate otherwise.” In its 8 March letter, the Commission noted that many stocks of unknown status (e.g., with no abundance or mortality estimates) are classified as non-strategic. This practice was continued in the 2005 draft SARs. For example, all four Arctic seal species in Alaskan waters are classified as non-strategic although very little information is available for any of those species, several of them are subject to substantial subsistence harvests, and they are all likely to be especially vulnerable to ongoing climate changes in the Arctic. In contrast, all stocks of beaked whales are classified as strategic even though the information on their status is similarly limited, they also may be vulnerable to climate change, and they may be sensitive to anthropogenic noise. To resolve these inconsistencies, the Marine Mammal Commission reiterates its recommendation of 8 March 2005 that the Service take a consistent, precautionary approach when determining whether a stock of unknown status should be classified as strategic.

Groups of species that are difficult to distinguish

A number of species of marine mammals are difficult to distinguish by visual observation in the field. Examples include dwarf and pygmy sperm whales, short- and long-finned pilot whales, and a variety of beaked whale species. The difficulty in distinguishing these animals confounds the estimation of population size, and rates and causes of injury and mortality. The Service has made considerable progress using a variety of techniques to distinguish these animals using photo-identification, genetic analyses, assessment of movement, and distribution patterns. At present, the Service seems to be relying on one or both of two approaches for estimating abundance of these species: (1) estimating a combined abundance for the entire group of species, or (2) estimating minimum abundance of each species based on the limited information available. Abundances for pilot whales, dwarf and pygmy sperm whales, and beaked whales along the U.S. Atlantic coast are estimated using the first approach. Estimates for beaked whales in the Gulf of Mexico, however, appear to be based on the second approach although that is not altogether clear in the respective SARs.

Estimation of serious injury/mortality of marine mammals is often even more difficult. For a variety of reasons, animals involved in entanglements, ship strikes, strandings, etc., often are identified only by broad taxonomic categories (e.g., “unidentified seal” or “unidentified whale”). The Service currently uses a variety of approaches to estimate serious injury/mortality rates for marine mammal stocks. In some cases, such as the western North Atlantic offshore stock of bottlenose dolphins, the Service does not estimate serious injury/mortality if unidentified takes occur within an area of spatial overlap with other stocks. In other cases, such as the western North Atlantic stocks of pilot whales, a combined mortality estimate is derived for all species within a group. For stocks that generally are not difficult to distinguish, such as the western North Atlantic stocks of gray seals and hooded seals, mortality estimates often are based only on identified animals, ignoring the potential contribution of unidentified animals to the true mortality (i.e., ignoring the fraction of “unidentified seal” mortalities that are either hooded or gray seals). In the Service’s proposed revisions to the SAR guidelines, mortalities that cannot be attributed to a specific stock would be prorated based on

estimated stock abundances. In the Commission's 8 March comments, we expressed concern that such prorating could disadvantage smaller, more vulnerable stocks. For that reason, the Marine Mammal Commission reiterates its recommendation that the Service develop alternatives to address this problem that do not pose disproportionately larger risks to small, vulnerable stocks.

PBR for declining stocks

In the proposed revisions to the guidelines for preparing SARs, the Service suggested that PBR should be "undefined" for stocks that were declining in the absence of known human impacts. In its letter of 8 March, the Commission suggested an alternative approach that would set PBR for those stocks at zero to ensure that declining stocks are not further disadvantaged by incidental mortality. For North Atlantic right whales, the Service does set PBR to zero although entanglement and ship strikes are known factors impeding the recovery of the species and possibly, if not likely, driving it ever closer to extinction. For Hawaiian monk seals, which are declining in the absence of known human impacts, PBR is reported as "undetermined." For both the western U.S. stock of Steller sea lions and eastern Pacific stock of northern fur seals, PBR is calculated and reported although both species have experienced extensive declines. The fact that these and other species are declining indicates that they have little to no tolerance for additional human-related mortality if they are to recover in the foreseeable future. For that reason, the Marine Mammal Commission recommends that the Service develop a precautionary approach to their management and apply that approach consistently.

Transboundary stocks

Transboundary stocks have distributions that extend beyond the U.S. Exclusive Economic Zone (EEZ) into international or foreign waters. These stocks can be difficult to manage, particularly when they interact significantly with international fisheries or are harvested in foreign or international waters. The Service seems to use two contradictory approaches for assessing the status of transboundary stocks. In the case of the Hawaiian stock of false killer whales, serious injury/mortality incidental to the Hawaii longline fishery is estimated for the portion of the stock that is found within the U.S. EEZ surrounding the Hawaiian Islands, and that mortality is compared to the PBR calculated for the population within that same EEZ. Any serious injury/mortality occurring in international waters, incidental to either the large international longline fishery or the Hawaii longline fishery, is assumed to affect an undefined "international" false killer whale stock for which population size and PBR are unknown. In the case of harp seals in the Atlantic, which are harvested in large numbers in Canada and Greenland, mortality is estimated within the U.S. EEZ and compared to the total population size of harp seals in Canada; the SAR states that "[t]he level of human-caused mortality and serious injury in the U.S. Atlantic EEZ is believed to be very low relative to the total stock size; therefore, this is not a strategic stock." Interestingly, the PBR (156,000–312,000) calculated based on the Canadian population estimate (5.2 million) is substantially less than the estimated total mortality (453,962), suggesting that the overall stock could be classified as strategic.

The inconsistency in assessment and management of transboundary stocks may allow a level of mortality or serious injury that these stocks cannot withstand. For that reason, the Marine Mammal Commission reiterates its recommendation of 16 February 2005 (pertaining to the 2004

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draft SARs) that the Service develop an effective strategy for assessing mortality levels in transboundary stocks of marine mammals with priority given to those stocks that are harvested or known to interact significantly with domestic or international fisheries. This will require that research be conducted to determine the boundaries of transboundary stocks and to estimate their population size, trend, mortality, and serious injury. The eventual goal should be to manage transboundary stocks based on PBR calculated for the entire stock in the context of an international management agreement, as suggested in the proposed revisions to the SAR guidelines.

Observer Coverage

Finally, the Service provides a number of useful summaries of fisheries information, including information on observer coverage. However, it should be noted that in many instances the observer coverage was very low and the resulting information may contain significant bias and error. As the underlying purpose of observer coverage is to provide reliable, accurate estimates of marine mammal mortality and serious injury in fisheries, the Marine Mammal Commission recommends that the Service review current levels of observer coverage, set appropriate standards for such coverage, and implement the changes needed to achieve those standards. If the Commission can be of assistance in this regard, please don't hesitate to contact us.

Please contact me if you wish to discuss these comments and recommendations.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cottingham", with a long horizontal flourish extending to the right.

David Cottingham
Executive Director

Attachment – Specific comments on stock assessment reports for individual stocks

Gulf of Mexico stocks

The Service should provide information regarding which fisheries are monitored in the Gulf of Mexico, similar to the summaries provided for other regions. Based on interactions described in the Gulf of Mexico SARs, menhaden, gillnet, and longline fisheries should be monitored closely.

Bottlenose dolphin – Northern Gulf of Mexico continental shelf stock

The scientific support for defining this management unit is not clear from the report, which suggests that dolphins on the continental shelf may include a mix of coastal and offshore stocks of dolphins.

False killer whale – Northern Gulf of Mexico stock

At least one false killer whale was killed as a result of human interactions (the 1999 stranding) within the 1999-2003 period evaluated in the report, resulting in at least 0.2 takes/year. If that observed rate is adjusted to account for the likelihood that stranding records underestimate actual takes, the rate could exceed 10% of PBR (0.61). Therefore, it seems inappropriate to conclude that false killer whale takes are approaching the zero mortality rate goal (ZMRG).

Beaked whales – all Northern Gulf of Mexico stocks

The reports should be revised to clarify the relationship of the various population estimates, particularly the estimate for unidentified Ziphiids. For example, it seems that the total abundance of all beaked whales would be the sum of the estimates for Cuvier's beaked whales (95), Mesoplodon spp. (106), and unidentified Ziphiids (146), or 347 total beaked whales. Similarly, the total abundance of Cuvier's beaked whales could be as large as the sum of the estimates for Cuvier's beaked whales and unidentified Ziphiids ($95 + 146 = 241$) if all unidentified animals were actually Cuvier's beaked whales. The reader can infer these relationships, but minor text edits would provide clarity.

Pygmy sperm whale – Northern Gulf of Mexico stock

The report should indicate whether any strandings showed evidence of human interactions.

Southeast Atlantic stocks

For all species, the reports should provide context for evidence of human interactions, particularly in cases with "... no indications of human interactions for stranded animals." For example, the reports could indicate how many stranded animals were too decomposed to make an assessment. The report on the western North Atlantic coastal morphotype stocks of bottlenose dolphins provides details of this sort.

Bottlenose dolphins (all western North Atlantic stocks)

The reports should indicate how many, if any, stranded bottlenose dolphins were coastal or offshore morphotypes and how many could not be identified as to morphotype.

Bottlenose dolphin – Western North Atlantic coastal morphotype stocks

The CVs for population estimates are substantially greater than 1, ranging from 15 to 111. If the estimates are truly that imprecise, then they are virtually meaningless and should not be reported.

The reports should provide the total estimated mortality for each fishery, for all fisheries combined, and for each management unit. That information is necessary to assess the mortality with respect to PBR for each management unit.

Pantropical spotted dolphin – Western North Atlantic stock

The authors should correct the species name throughout the entire population size section. The current text refers to surveys and estimates for Atlantic spotted dolphins, and then sums those estimates to derive pantropical spotted dolphin abundance. Presumably, the Atlantic references were typographical errors.

Dwarf and pygmy sperm whales – Western North Atlantic stocks

In the pygmy sperm whale (*Kogia sima*) report, the Service estimates that six *Kogia* spp were taken in the pelagic longline fishery, which is twice the PBR (3) for the two species combined, suggesting that both species should be strategic. Currently, dwarf sperm whales (*Kogia breviceps*) are not considered strategic, and no takes of any *Kogia* spp. are listed in the dwarf sperm whale report.

Short-finned pilot whale – Western North Atlantic stock

The Service estimates that 228 pilot whales were taken in 1999 incidental to the mid-Atlantic groundfish trawl fishery and zero whales were taken in other years. Low observer coverage in this fishery likely contributed to the large variability in annual estimates, but the possibility that the true annual take may be closer to 228 than to 0 merits serious concern. The Service should consider increasing the observer coverage within the mid-Atlantic groundfish trawl fishery.

Northeast Atlantic stocks

Grey seal – Western North Atlantic stock

Currently, the report indicates that F_R for this stock is 1.0 although the status of the population is unknown. An F_R of 1.0 may be appropriate, given that the stock seems to be increasing in U.S. waters; however, if the Service is not confident that the stock is increasing, then F_R should be 0.5, the default value for stocks of unknown status.

Harbor seal – Western North Atlantic stock

Several of the estimates provided in the report clearly represent typographical errors (e.g., 91,032 serious injuries/mortalities from all observed fisheries 1999-2003, and 000 mortalities observed in the northeast sink gillnet fisheries 1990-2003). In addition, the 1997 abundance estimate provided in the text (30,617) does not match the estimate provided in Table 1 (30,990). The report also mentions recent tagging efforts but provides no findings.

Fin whale – Western North Atlantic stock

The estimated mortality of 1.4 is not less than 10% of PBR (4.7), and therefore the level of mortality and serious injury is not approaching the ZMRG.

Humpback whale – Gulf of Maine stock

Typographical errors should be corrected throughout, particularly those regarding estimates (e.g., the text should indicate 173 records of entanglements under “fishery-related serious injuries and mortalities,” not 106173, and 15 records of ship strikes under “other mortality,” not 1115).

Minke whale – Canadian east coast stock

The first sentence under annual mortality should be revised to state that "... although not all takes have resulted in mortalities ...," rather than indicating that all takes were not mortalities. Also, it is not clear how the 1995 takes incidental to the pelagic gillnet fishery were estimated with a CV of 0; this would only seem possible if the Service had 100% observer coverage for that fishery in 1995.

Long-finned pilot whale – Western North Atlantic stock

Data from the Kingsley and Reeves (1998) survey are not shown in Table 1 although the text suggests otherwise. Also, the 1998 survey data for Florida to Maryland in Table 1 should be corrected (estimate should be 5,109 not 4,7245,5,109). As mentioned above for short-finned pilot whales, the Service should consider increasing the observer coverage within the mid-Atlantic groundfish trawl fishery to reduce the variability in take estimates and clarify the potential impact of this fishery on pilot whales.

White-sided dolphin – Western North Atlantic stock

The observed mortality in the bottom trawl fishery in 2003 was approximately 10 times higher than in other recent years, suggesting a potential problem for white-sided dolphins. Once the total mortality is estimated for 2003, it is very likely that the estimate will exceed the PBR for this stock. To address this concern, the mortality estimates for 2002, 2003, and the annual average mortality from 1999-2003 should be calculated. The Service also should consider increasing the observer coverage within the mid-Atlantic groundfish trawl fishery, which also would help clarify the impact of this fishery on pilot whales.

Common dolphin – Western North Atlantic stock

The text indicates that the joint surveys overlapped spatially (from North Carolina to Maryland). The text should describe how the surveys were designed to avoid double-counting animals.

Harbor porpoise – Gulf of Maine/Bay of Fundy stock

The estimated takes of 2,100-2,500 harbor porpoises in the Gulf of St. Lawrence gillnet fishery are worrisome, even if the estimates are unreliable. If the estimates are even close to accurate, they indicate a serious problem for harbor porpoise. It is not clear whether these estimates or any information from this fishery are included in the mortality estimate for the stock.

Pacific stocks

Harbor seal – California stock

The methods used to estimate the correction factor applied to estimate the minimum population size (N_{min}) are different than methods used for other stocks of harbor seals. It would be useful if the Service would standardize the approach for estimating abundance for harbor seals. The Service should consider conducting a correction factor study using VHF or satellite-linked tags on seals during surveys of the Pacific stock to validate the correction factor being used.

Figure 3 and the related text should be revised to remove the reference to the non-significant regression, which suggests a possible decline in production. This regression seems to be driven by one low data point in 1992, and a non-significant trend is just that, not significant.

The assessment indicates that 15 seals were shot, but it is not clear if they were shot while they were onshore or were shot at sea and then washed up on shore. In either case, such shootings are evidence of the need for the Service's enforcement program to monitor the situation and take appropriate action against those responsible for shooting marine mammals.

The Service should consider placing observers to monitor the California large mesh gillnet fishery to assess harbor seal mortalities because this is the single largest source of mortality reported for this stock, and the current estimates are based on extrapolations from 1999-2000 observer data collected from only the Monterey Bay portion of the fishery.

Killer whale – Eastern North Pacific southern resident stock

The report should include information about the population viability analyses that were conducted to support the recent proposal to list the stock as threatened.

False killer whale – Hawaiian stock

Following its annual meeting in Hawaii in 2004, the Marine Mammal Commission recommended that the Service's Pacific Islands Regional Office convene a take reduction team for false killer whales in the Pacific Islands region to develop a broad range of options for reducing take levels (25 January 2005 letter to the Regional Administrator). We reiterate that recommendation based on takes of false killer whales within the EEZ surrounding the Hawaiian Islands exceeding PBR for the portion of the stock within that section of the EEZ, the potential for takes within the EEZ surrounding Palmyra Atoll to exceed PBR for the portion of the stock within that section of the EEZ, the unknown, but possibly significant, impact of the international longline fleet on transboundary stocks of false killer whales, and the apparent existence of island-associated endemic stocks of false killer whales that may be at high risk.

Alaska stocks

For all stocks, the reports should clarify the meaning of "N/A" for observer coverage. Presumably, N/A indicates that the exact level of observer coverage is unknown, but that some portion of the fishery was observed. Otherwise, the observed mortality should be N/A rather than 0. Until observer programs are instituted for Southeast Alaska fisheries, the status of many stocks of marine mammals in Southeast Alaska cannot be adequately evaluated.

Steller sea lion – Western U.S. stock

The report should explain why pups and non-pups were counted separately, using different methods. Presumably, it relates to the difficulty in seeing small, dark pups from the air. Also, the report should clarify whether pups were counted at all rookeries or if, in fact, some rookeries were not counted (resulting in a minimum count).

We note with interest that half of the fisheries mortality of Steller sea lions occurs incidental to the Prince William Sound salmon drift gillnet fishery, based on extrapolation from 1990-1991 data. NMFS should place observers to monitor this fishery to provide more up-to-date information on take levels.

It is not clear how many Steller sea lions that strand have bullet wounds, or whether these mortalities/injuries are reported under subsistence hunting (i.e., struck and lost). They are not listed under potential fishery interactions.

Steller sea lion – Eastern U.S. stock

The minimum count (the uncorrected count of pups added to the uncorrected count of non-pups) is only 2.5% lower than the population estimate based on pup counts and a correction factor. Either the minimum count includes almost every individual, which seems unlikely, or the correction factor applied to pup counts is unexpectedly low.

The counts reported in Table 4 are presumably uncorrected counts, which should be indicated in the text.

Northern fur seal – Eastern Pacific stock

The 4.5 expansion factor, which has been applied to pup counts to estimate population size, is based on a historical sex-age distribution for fur seals that may no longer be valid. This factor should be validated or updated or an alternate method for estimating population size should be developed.

Under “Fisheries information” the report indicates that “... several fisheries which are known to interact with northern fur seals ... have not been observed.” For that reason, the resulting mortality estimate should be considered an underestimate. However, the text currently suggests that the estimate is “conservative,” which could be interpreted to mean different things and therefore may be misleading in a management context.

The subsistence harvest of juvenile males has not been terminated, as is suggested in the text.

Harbor seal – All Alaska stocks

The SARs for Alaska harbor seal stocks have not been updated since 1998 even though significant new information is available. The Commission believes that the information is sufficient to support the recognition of new stocks, and encourages the Service and its co-management partners to finalize the new stock structure as soon as possible. In the interim, the Commission believes the Service should identify prospective stocks and include data for those prospective stocks within the SARs (recommended most recently in the Commission’s 25 November 2003 letter regarding the 2003 draft SARs). Until these actions are taken, it is not possible to evaluate the status of harbor seals with regard to fisheries, subsistence harvest, or other potential conservation issues.

Spotted seal – Alaska stock

For spotted seals to be classified as non-strategic, the subsistence harvest of 5,265 seals/year should be less than the PBR for the stock. Although no information is available to estimate PBR, a PBR of 5,265 would require an N_{\min} of >175,000 seals. A population size greater than 175,000 seems plausible, given the early population size estimates from the 1970s (335,000-450,000). However, these estimates are three decades old, and spotted seals have been subjected to subsistence harvests and changes in climate that reasonably could be expected to reduce abundance. Furthermore, it is reasonable to expect that spotted seals in Alaska do not comprise a single stock. If that is the case, then certain stocks may be subjected to take levels or mortality in excess of their tolerance. For these

reasons, the Commission encourages the Service to develop and implement the research needed to provide a better, more reliable basis for management of spotted seals.

Bearded seal – Alaska stock

For bearded seals to be classified as non-strategic, the subsistence harvest of 6,788 seals/year should be less than the PBR for the stock. Although no information is available to estimate PBR (the Bengtson et al. 2005 estimates are based on the density of seals on the ice, not accounting for a large, unknown number of seals in the water), a PBR of 6,788 would require an N_{\min} of >226,000 seals. That N_{\min} is close to early estimates of 250,000-300,000 from the 1970s, suggesting that harvest levels may approach PBR and could impact the population. In addition, changes in the Arctic climate, seasonal sea ice extent, and/or the benthic food web may have altered the population size over the last three decades. Here, too, research is needed to better assess stock structure, population size, and subsistence harvests.

Ringed seal – Alaska stock

The 43-72% population declines described in the text are indeed substantial and are cause for concern. Although these apparent declines could reflect errors or biases in survey results, they also may reflect real declines. There has been a longstanding concern about the lack of research on this species, and these apparent declines heighten those concerns, particularly in the face of changes in the Arctic climate, substantial harvests, and industrial activities.

For ringed seals to be classified as non-strategic, the subsistence harvest of 9,567 seals/year should be less than the PBR for the stock. Although PBR has not been estimated for ringed seals, a PBR of 9,567 would require an N_{\min} of >318,000 seals. The current estimate of population size (Bengtson et al. 2005 and Frost et al. 2002 and 2004), is <250,000 seals. That estimate does not encompass the entire ringed seal population within the U.S. EEZ, but it does include all of the coastal waters of the Beaufort Sea (out to 40 km) and all of the Chukchi Sea (coastal and offshore waters). Although both the abundance and harvest estimates are not precise (e.g., the Beaufort Sea abundance estimates are not corrected for seals that were not hauled out during the survey) or even comprehensive, the potential for an impact of harvest on ringed seals is clear. As with other Arctic seals, research is needed to estimate stock structure, abundance, and subsistence harvest.

The Moulton et al. study, cited in the report for this species, may only be relevant for the Prudhoe Bay situation, where very low densities of ringed seals seem to not be impacted by industrial activity. The results may be different in other areas with higher densities of seals or different habitat. Discussion of this study should be amended to clarify that the results may not apply throughout the range of ringed seals.

Ribbon seal – Alaska stock

The estimated harvest of ribbon seals is much lower than for other Arctic seals. As a result, the harvest is unlikely to exceed the PBR for this stock unless ribbon seals number less than about 6,400, which seems improbable. However, very little is known about ribbon seals, and the stock is likely to be impacted by other factors, such as incidental bycatch in Russian fisheries and changes in Arctic climate. In view of these uncertainties in status, a precautionary approach to classification seems warranted for this stock.

Beluga whale – Beaufort Sea stock

The correction factor used for estimating abundance appears to be arbitrary in spite of the existence of empirically derived correction factors. The basis for rejecting the empirically derived factors was not explained. The use of an arbitrary correction factor results in an underestimate of the variance (CV) of the population estimate (N), because the uncertainty about the correction factor is not incorporated into the variance of N. As a result, N_{\min} may be overestimated.

Beluga whale – Eastern Chukchi Sea stock

The use of a 1.0 recovery factor (F_R) seems unwarranted because population estimates are poor, and it is difficult to conclude that the population is stable. A more precautionary approach would be to classify stock status as “unknown” and use the default F_R of 0.5. Under that scenario, PBR would be 37 and the current subsistence harvest would exceed PBR. This possibility indicates that more accurate means of monitoring the population are needed.

Beluga whale – Eastern Bering Sea stock

For this stock, the Service again uses F_R of 1.0 with no reliable evidence that the stock is stable. If a more precautionary F_R of 0.5 is used, the harvest again exceeds PBR suggesting that the harvest could impact the population and highlighting the need for further research.

Beluga whale – Cook Inlet stock

When commenting on the draft 2001 SARs (letter dated 4 September 2001), the Commission agreed with the Alaska Scientific Review Group and recommended that the Service set the recovery factor to 0.1 or provide a justification for using 0.3 based on an analysis of factors that may affect the population in the future. The Service continues to use F_R of 0.3 in the current draft SAR. Use of a 0.1 recovery factor is more inappropriate now than it was in 2001 because the population has shown no signs of recovery despite only a few known subsistence takes during the past seven years. As indicated in the Commission’s comments on the Service’s draft conservation plan for this stock (see letter of 27 June 2005), we believe that listing under the Endangered Species Act is warranted. Under these circumstances, adoption of a recovery factor of 0.1 is appropriate.

Killer whale – Eastern North Pacific Alaska resident stock

The report does not, but should, indicate whether shooting of resident killer whales is still a problem in Alaska.

Killer whale – Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea transient stock

Mortality estimates approach the PBR for this stock, and they would exceed PBR if the N_{\min} derived from line-transect surveys were used instead of the N_{\min} resulting from photographic mark-recapture studies. The potential for unsustainable mortality suggests a high priority for further research on this stock of transient killer whales.

Pacific white-sided dolphin – North Pacific stock

The text should be revised to indicate that PBR was not calculated for this stock because the data were too old, not that PBR was “undefined.” The text also should be revised to be consistent with regard to stock status. In one place, the text suggests that mortality is less than PBR and approaching ZMRG (even though PBR is not calculated). Elsewhere, the text suggests that mortality exceeds PBR and the stock is strategic. We reiterate our recommendation that the Service should

take a precautionary approach when determining whether a stock of unknown status is strategic or not.

Gray whale – Eastern North Pacific stock

The table of strandings and entanglements provided for this species is quite useful. The Service should consider providing such tables for all large whales or all species that commonly strand or become entangled.

Humpback whale – Western North Pacific stock

Noise pollution and low-frequency active sonar are listed as concerns for humpbacks and beaked whales, but they also should be listed as concerns for other species that are likely to be affected by anthropogenic noise. Also, the SPLASH program should be mentioned and described in the report for Western North Pacific humpbacks (it is described in the report for central North Pacific humpbacks).