

modifications that we believe will have no effect on rates of recruitment or survival. Other takes will be associated with deterrence or, hazing, events. We believe these events will have no effect on rates or recruitment and survival as well. Lethal takes are extremely rare, but they may also occur (only 2 polar bear deaths have been attributed to oil and gas activities in Alaska during the past 30 years). Although the small potential for a lethal take occurring continues to exist throughout the length of this rule, it is unlikely that a lethal take will have little effect on the rates of recruitment or survival of the population as a whole.

Takes that may have effects on recruitment and survival are associated with oil spills. We calculated that the probability of a spill that will cause mortality of one or more bears is 0.4–1.3 percent. As the threshold number of bears is increased, the likelihood of that event decreases; that is, the likelihood of taking more bears becomes less and less. The probability of a spill that will cause a mortality of 5 or more bears is 0.3–1.1 percent; for 10 or more bears is 0.3–0.9 percent; and for 20 or more bears is 0.1–0.5 percent.

*Comment:* The Service should establish a mechanism to evaluate and authorize the incidental taking of marine mammals resulting from activities associated with, but occurring outside of, the geographic location of the proposed regulation (e.g., ship traffic that passes through the Bering and Chukchi seas and supplies industry operations in the Beaufort Sea).

*Response:* This suggestion goes beyond the scope of this rule and beyond the petitioner's request. We considered past oil and gas support activities beyond the geographic area of the rule. The vast majority of the secondary industry support activities occur during the open water season associated with barge re-supply when encounters with polar bears or walrus would be minimal. We determined that the potential effect of these activities was not significant and did not contribute cumulatively to the impacts within the geographic area requested. We concluded that the boundaries that were requested were accurate to monitor effects of the oil and gas activity on polar bears and Pacific walrus occurring within the Beaufort Sea. If concerns for the potential takes associated with Industry support activities beyond the current geographical area of the regulations increase in the future, we may consider this issue elsewhere.

*Comment:* Prior to finalizing the regulations, the Service should conduct a thorough analysis of possible impacts of oil and gas activities on the

availability of polar bears to the village of Nuiqsut.

*Response:* We have considered this issue and find that the total taking of polar bears will not have an unmitigable adverse impact on the availability of this species to Nuiqsut residents for subsistence uses during the duration of the regulation. We base this conclusion on the results of coastal aerial surveys conducted within the area during the past three years, upon direct observations of polar bears occurring on Cross Island during the village of Nuiqsut's annual fall bowhead whaling efforts, and upon anecdotal reports of Nuiqsut residents. In addition, the Service has not received any evidence or reports that bears are being deflected or being impacted in other ways to diminish their availability for subsistence use by the existing level of oil and gas activity.

*Comment:* The Service should modify its oil spill risk assessment to properly reflect the assumptions and uncertainties concerning the effects of oil spills on walrus and polar bears.

*Response:* The oil spill risk assessment represents the best available methodology and is a marked improvement from the previous lack of information on this topic. The Service recognizes the limitations of the oil spill assessment model and the predictive values based on data inputs, assumptions, and model construction. This model is a stochastic model and incorporates levels of variance associated with certain parameters such as environmental conditions and polar bear distribution probabilities. The model presents a range of values representing the number of polar bears that may be oiled resulting from the numerous model run interactions conducted, and an associated frequency of occurrence or likelihood value. We believe that this is the most reliable assessment given the existing information. We are working to improve the model for future use. This will take time, effort, coordination, and funds.

*Comment:* The Service should initiate a complete analysis of cumulative effects on polar bears and walrus for the future, longer-term regulations.

*Response:* The Service agrees with this comment. We are currently accumulating information for consideration in a future longer-term rule, such as reviewing elements of existing and future research and monitoring plans that will improve our ability to detect and measure changes in the population.

In this final rule, the cumulative effects of the previous incidental take regulations are considered. Incidental

take regulations have been in place in the Arctic oil and gas fields for the past 10 years. Monitoring results indicate that there has been little to no short-term impact on polar bears or Pacific walrus. Additional information, such as subsistence harvest levels and observations of the frequency, timing, and magnitude of polar bear occurrence near shore, provides evidence that these populations have not been adversely affected. For the duration of this rule, we anticipate that the level and effect of oil and gas industry interactions with polar bears and Pacific walrus will be similar to interactions of past years.

Our goal is to continue to collect or improve on the collection of the types of information that have been useful in assessing cumulative effects in the past. We also anticipate that additional analysis and collection of additional data will be necessary to improve upon future longer-range impact assessment.

*Comment:* In the final regulations, the Service should describe mitigation measures that will be required for industry to minimize impacts to polar bears.

*Response:* We have revised the regulations to include those mitigation measures that may be required as conditions of LOAs to ensure that the total taking of polar bears and walrus will have a negligible impact on these species and will not have an unmitigable adverse impact on the availability of these species for subsistence uses during the duration of the regulation. Some of the conditions are standard requirements, and others are activity- and site-specific and may vary. The final rule has been expanded and also lists a map that delineates polar bear denning habitat and can include the use of FLIR or polar bear scent-trained dogs to determine the presence or absence of dens as examples of mitigation measures that have been used successfully in the past on a case-by-case basis.

*Comment:* The Service should develop and implement a monitoring program with sufficient resolution to detect changes in parameters that might be expected to occur.

*Response:* We find that the independently gathered population data on the Southern Beaufort Sea population demonstrated that development, as guided under the previous regulations, has not affected rates of recruitment and survival of this polar bear population. As scientific methods improve and better information becomes available they will be incorporated into monitoring programs to help to assess potential effects to rates of recruitment and survival and the