

approximately 20 nm (37 km) from the eastern edge of the proposed activity area.

In the event that seismic surveys can be completed in that portion of the activity area ≥ 3 m (9.8 ft) before mid-March, no field surveys would be conducted of seal structures. Under this scenario, surveys would be completed before pups are born and disturbance would be negligible. Therefore, take estimates would be determined for only that portion of the activity area exposed to seismic surveys after March 20, which would be in water 3 m (9.8 ft) or less deep. Take for this area would be estimated by using the observed density (13/100 km²) reported by Moulton *et al.* (2001) for water depths between 0 to 3 m (0 to 9.8 ft) in the Northstar project area, which is the only source of a density estimate stratified by water depth for the Beaufort Sea. This would be an overestimation requiring a substantial downward adjustment to reflect the actual take of seals using lairs, since few if any of the structures in these water depths would be used for birthing, and Moulton *et al.* (2001) estimate includes all seals. This monitoring program was reviewed at the fall 2002 on-ice meeting sponsored by the National Marine Mammal Laboratory, NMFS, in Seattle and found acceptable.

An annual report must be submitted to NMFS within 90 days of completing the year's activities.

National Environmental Policy Act (NEPA)

As a result of the information provided in EAs prepared in 1993 and 1998 for winter seismic activities, NOAA concluded that implementation of either the preferred alternative or other alternatives identified in the EA would not have a significant impact on the human environment. Therefore, an Environmental Impact Statement was not prepared. Accordingly, because the proposed action discussed in this document is not substantially different from the 1992 and 1998 actions, and because a reference search has indicated that no significant new scientific information or analyses have been developed in the past several years significant enough to warrant new NEPA documentation, this action is categorically excluded from further review under NOAA Administrative Order 216-6.

Endangered Species Act (ESA)

NMFS has determined that no species listed as threatened or endangered under the ESA will be affected by

issuing an authorization under section 101(a)(5)(D) of the MMPA.

Conclusions

The anticipated impact of winter seismic activities on the species or stock of ringed and bearded seals is expected to be negligible for the following reasons:

(1) The activity area supports a small proportion (<1 percent) of the ringed seal populations in the Beaufort Sea;

(2) Most of the winter-run seismic lines will be on ice over shallow water where ringed seals are absent or present in very low abundance. Over 60 percent of the activity area is near shore and/or in water less than 3 m (9.8 ft) deep, which is generally considered poor seal habitat. Moulton *et al.* (2001) reported that only 6 percent of 660 ringed seals observed on ice in the Northstar project area were in water between 0 to 3 m (0 to 9.8 ft) deep.

(3) Seismic operators will avoid moderate and large pressure ridges, where seal and pupping lairs are likely to be most numerous, for reasons of safety and because of normal operational constraints;

(4) Many of the on-ice seismic lines and connecting ice roads will be laid out and explored during January and February, when many ringed seals are still transient, and considerably before the spring pupping season;

(5) The sounds from energy produced by vibrators used during on-ice seismic programs typically are at frequencies well below those used by ringed seals to communicate (1000 Hz). Thus, ringed seal hearing is not likely to be very good at those frequencies and seismic sounds are not likely to have strong masking effects on ringed seal calls. This effect is further moderated by the quiet intervals between seismic energy transmissions.

(6) There has been no major displacement of seals away from on-ice seismic operations (Frost and Lowry, 1988). Further confirmation of this lack of major response to industrial activity is illustrated by the fact that there has been no major displacement of seals near the Northstar Project. Studies at Northstar have shown a continued presence of ringed seals throughout winter and creation of new seal structures (Williams *et al.*, 2001).

(7) Although seals may abandon structures near seismic activity, studies have not demonstrated a cause and effect relationship between abandonment and seismic activity or biologically significant impact on ringed seals. Studies by Williams *et al.* (2001), Kelley *et al.* (1986, 1988) and Kelly and Quakenbush (1990) have shown that

abandonment of holes and lairs and establishment or re-occupancy of new ones is an ongoing natural occurrence, with or without human presence. Link *et al.* (1999) compared ringed seal densities between areas with and without vibroseis activity and found densities were highly variable within each area and inconsistent between areas (densities were lower for 5 days, equal for 1 day, and higher for 1 day in vibroseis area), suggesting other factors beyond the seismic activity likely influenced seal use patterns.

Consequently, a wide variety of natural factors influence this patterns of seal use including time of day, weather, season, ice deformation, ice thickness, accumulation of snow, food availability and predators as well as ring seal behavior and populations dynamics.

In winter, bearded seals are restricted to cracks, broken ice, and other openings in the ice. On-ice seismic operations avoid those areas for safety reasons. Therefore, any exposure of bearded seals to on-ice seismic operations would be limited to distant and transient exposure. Bearded seals exposed to a distant on-ice seismic operation might dive into the water. Consequently, no significant effects on individual bearded seals or their population are expected, and the number of individuals that might be temporarily disturbed would be very low.

As a result, CPA believes the effects of on-ice seismic are expected to be limited to short-term and localized behavioral changes involving relatively small numbers of seals. As NMFS came to a similar finding in the EA prepared in 1998 for on-ice seismic activity in the Beaufort Sea, NMFS has determined that these changes in behavior are expected to be negligible (NMFS, 1998). Therefore, the potential effects of the proposed on-ice seismic operations during 2003 are unlikely to result in more than small numbers of seals being affected, will have no more than a negligible impact on ringed and bearded seal stocks and will not have an unmitigable adverse impact on subsistence uses of these two species.

Authorization

For the reasons described previously in this document, NMFS has issued an IHA to CPA for a 5-month period, provided the mitigation, monitoring, and reporting requirements described in this document and the IHA are undertaken.