9.0 Summary and Conclusions

9.1 Residual Effects of the Project

The predicted residual environmental effects of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program including possible accidental events on fish habitat/fish and the fishery are assessed as negative, but *not significant*.

The predicted residual environmental effects of the routine activities of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program on marine birds are assessed to be negative, but *not significant*. The predicted residual environmental effect of an accidental event such as a major oil spill on marine birds, although very unlikely, is assessed to be negative and *significant*. The overall effect of the Project on marine birds is assessed as *not significant*.

The predicted residual effects of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program including possible accidental events on marine mammals and sea turtles are assessed to be negative, but *not significant*.

In summary, after mitigation measures have been implemented, the overall predicted effects of the proposed Husky White Rose Development Project: New Drill Centre Construction & Operations Program on the biophysical environment and the fishery are assessed as *not significant*. The only exceptions are the potential effects of a large offshore oil spill on marine birds and on the marketability of offshore commercial fish. However, the likelihood of such an event is, as discussed previously, very low. In the event of an accidental blowout with release of oil, in calm conditions, some mitigation may be possible through oil spill response measures. Also, in the case of fishery losses directly attributable to the Project, actual loss would be mitigated through compensation. The capacity of renewable resources to meet present and future needs is not likely to be significantly affected by the proposed project.

9.2 Cumulative Effects of the Project

Projects and activities considered in the cumulative effects assessment included:

- New Drill Centre Construction & Operations Program within-project cumulative impacts. For the most part, and unless otherwise indicated, within-project cumulative effects are fully integrated within this assessment;
- Hibernia, Terra Nova, and White Rose (existing offshore oil developments);
- Other offshore oil exploration activity (seismic surveys and exploratory drilling). In 2007, Grand Banks activity could include multiple seismic surveys and delineation/exploration drilling. The Labrador Shelf may also see some exploration activity because there has been recent seismic survey activity there.

- Commercial fisheries;
- Marine transportation (tankers, cargo ships, supply vessels, naval vessels, fishing vessel transits, etc.); and
- Hunting activities (marine birds and seals).

CAPP had predicted that there would be between one and four drill rigs per year operating on the Grand Banks between 2000 and 2010 (CAPP 1999). CAPP's scenario for a moderate level of activity predicts two rigs drilling exploration, delineation and production wells on the Grand Banks each year over the ten-year period. It is reasonable to assume that there will be at least two exploratory drilling programs on the Grand Banks in 2007. Any cumulative effects on the Grand Banks ecosystem from drilling outside the proposed drilling area will probably not overlap in time and space and thus, will be additive but not multiplicative. This level of activity will not change the effects predictions when viewed on a cumulative basis unless significant oil spills or blowouts occur.

A potential scenario for cumulative effects from drill mud and cuttings discharge would be if the material settles on the ocean floor, smothers benthic communities partially or completely, and effects are persistent over time. This scenario is subject to numerous variables such as type of mud, weather conditions, water depth and velocity, discharge depth, species involved, biological and biodegradation activity. In order to obtain some order of magnitude of the area of seabed potentially affected by the Husky development drilling during the 2007-2011 period, one can quickly calculate a very rough approximation of the total affected area.

A maximum of 30 wells would be drilled during the Drilling Phase, all within the constructed glory holes. Assuming 500 m as the radius of each well's biological zone of influence (ZOI) (i.e., potential smothering due to a minimum of 1 cm thickness of deposited cuttings and mud) and given that the floor dimension of each glory hole will be 70 m x 70 m, there would be essentially 100% overlap of the ZOIs of adjacent wells within a single glory hole. Therefore, the ZOI associated with each glory hole would have an area of approximately 0.78 km^2. The total area of ZOI for all four proposed glory holes will be approximately 3.12 km^2, equivalent to <1% of the area of the Project Area. Including the ZOIs of the 19 wells in the existing 3 glory holes increases the total ZOI area to 5.46 km^2, equivalent to <1.4% of the area of the Project Area. Since the wells will be drilled on the floor portion of each glory hole which is approximately 11 m below the surface of the ocean substrate, it is likely that much of the mud and cuttings deposition will occur within the glory holes (136 m x 136 m including sloped ramps), areas already subjected to HADD. Deposition from adjacent wells in any single glory hole will accumulate vertically (i.e., overlap of individual well biological ZOIs).

9.3 Monitoring and Follow-up

Given that the likelihood of an oil well blowout or a significant oil spill occurring at the Project's development drilling sites is extremely low (Section 8.0), it is highly unlikely that simultaneous

accidental events would concurrently occur at a drilling site, Hibernia, Terra Nova or White Rose.

In the unlikely event of a major spill, Husky Oil commits to conducting a spill-specific EEM program to test specific hypotheses generated by this effects analysis. This would be part of Husky's Oil Spill Response Plan (OSRP).

Environmental Observers will conduct seabird and marine mammal observations on a daily basis in accordance with established protocols. The data compiled from these observations will be provided to the C-NLOPB, the Canadian Wildlife Service, the Department of Fisheries and Oceans, the Natural History Society and any other groups or individuals who request the report. In addition, an Oceanographic Monitoring Program will be conducted in accordance with the C-NLOPB *Guidelines Respecting Physical Environment Programs*.

All regulated discharges will be monitored for compliance under the *Offshore Waste Treatment Guidelines*. Husky will also monitor other aspects of the Project. The EEM program is designed to detect any project effects that could be occurring in the study area. Environmental observers will be on board the drilling rig to record weather and ice conditions and to oversee mitigations such as seabird handling and documentation. Current meter data will be collected during the Project and data archived at BIO. Marine mammal observers will be present during VSP operations and seabird and marine mammal data may be collected from the rig or from vessels of opportunity.

All Project vessels will document and report any damaged fishing gear attributable to the Project. Reports on all of the above will be submitted to the C-NLOPB in a timely fashion.

The current EEM program being conducted by Husky will be revised as necessary, as it has been to date, by establishing new baseline and operational sampling stations to accommodate monitoring of the environmental effects of the new drill centres as they are established.