

Presentation for the BCC Science Forum, September 2013, on “Seismic Noise Disturbance of Albacore Tuna” by David Russell (MSc. Hons. Natural Resource Management) on behalf of Namibia’s Large Pelagic and Hake Longlining Association

Albacore tuna is caught by a pole and line fleet of Namibian and South African vessels, just north of the Namibia/South Africa border at Tripp Sea Mount, through to waters close to Luderitz.

Over the last three seasons, which run from October through April, catches have dramatically declined from 4046 tonnes in 2011, to 1822 tonnes in 2012, and devastatingly 643 tonnes as at the end of July 2013. Over 70% of the annual catch is during February and March. The International Commission for the Conservation of Atlantic Tunas sets tuna quotas for Namibia, and these are now under threat due to non-performance.

While a known range of factors can influence catches such as: sonar systems on board vessels; climate change; abundance of feed around the fishing grounds; and catches in international waters, the dominant conclusion of the Namibian Large Pelagic Industry is that noise from seismic exploration by the oil and gas industry is chasing away the migratory tuna.

The Luderitz community depends on tuna, and without fish to catch the tuna jobs, which amount to employment of around 440 people, are severely under threat. There are also losses of: foreign revenue of around \$150-200 million; fuel sales losses to oil companies; losses to local shops and the hospitality industry; losses to parastatals such as Namport, and Air Namibia who freight fish out; trucking and stevedoring companies; the Ministry of Fisheries in terms of levies; and the Fisheries Observer Agency to name some.

Scientific research has documented that seismic noise impacts fish and invertebrates through: disrupting schooling and migration; disrupting homing and orientation; decreasing feeding efficiency; deafening fish ears and causing massive hearing trauma in squid; and reducing catch rates of fish by 40-80% less than 30 kilometres from the seismic survey. What is not well researched is the impact of seismic noise on migratory tuna.

Migratory tuna seem to be particularly susceptible to seismic noise, resulting in avoidance by the fish, which is disrupting their migratory pathway. Albacore tuna caught in Namibia moves north through South African waters during the periods of May to April. Initially strong correlations between seismic exploration activity around Tripp Sea Mount and declines in tuna catches alerted the Namibian tuna industry, and a Seismic Taskforce has now been set up through the Ministry of Fisheries and Marine Resources to address this issue. Similar symptoms are now being felt by the South African tuna industry, however, with many tuna operators from fishing communities also under severe financial stress.

What has been documented is that marine seismic exploration is now occurring the whole length of South Africa’s West Coast, a Seismic Taskforce also being established in South Africa with the squid catching sector joining the tuna sector in trying to address the issue. It is obvious that the fishing and exploratory mining sectors must come to an agreement on how best to operate together.

The Benguela Current Commission with its trans-boundary management mandate and strong marine research links, as well as having both mining and fisheries stakeholders, appears best suited to co-ordinate this issue so it can be resolved.