

## Making ship emissions more ship-shape

Adrian Burton

The US Environmental Protection Agency (EPA) announced a new ruling in December, requiring large reductions in NO<sub>x</sub> and sulfur emissions from US-flagged, ocean-going vessels ([www.epa.gov/otaq/regs/nonroad/420r09019.htm](http://www.epa.gov/otaq/regs/nonroad/420r09019.htm)). Not many people think of ships as important sources of air pollution, but research suggests that ship emissions may be responsible for some 60 000 cardiopulmonary and lung cancer deaths annually, worldwide (*Environ Sci Technol* 2007; **41**: 8512–18). Low-sulfur fuels could substantially reduce this figure (*Environ Sci Technol* 2009; **43**: 4776–82).

Neither are the dangers of ship emissions restricted to coastal areas. “There are enormous health and environmental consequences as a result of marine diesel emissions, affecting both port cities and communities hundreds of



A new EPA ruling should lead to cleaner smoke out of the stack.

miles inland”, explains EPA Administrator Lisa Jackson (Washington, DC). “Stronger standards will help make large ships cleaner and more efficient, and protect millions of Americans from harmful diesel emissions. These new rules mark a step forward in cutting dangerous pollution in the air we breathe and reducing the harm to our health, our environment, and our economy.”

The new rule mirrors the Amendments to Annex VI of the International Convention for the Pre-

vention of Pollution from Ships (MARPOL), and initially affects all new 30 liter-or-above marine diesel engines on US-flagged vessels. By 2011, these engines must reduce their NO<sub>x</sub> emissions to 15–25% below the current standard. By 2016, these emissions must be reduced by 80%. In addition, diesel fuel for ships will generally only be allowed a maximum sulfur content of 1000 parts per million (ppm; some fuels currently have 30 000 ppm). Plans are also afoot to declare the eastern and western US and Canadian seabords (in places up to 200 nautical miles offshore) as “Emissions Control Areas”. Irrespective of flag, all shipping passing through these areas would have to meet the < 1000 ppm fuel standard. The EPA estimates that by 2030, these actions will prevent some 12 000–31 000 premature deaths in the US.

Says Richard Kassel, Director of Clean Fuels and Vehicles at the Natural Resources Defense Council (New York, NY), “This announcement will start the cleanup of these ships, and is an important first step toward reducing pollution from all ships at US ports”.

## Cull of the wild

Nancy Bazilchuk

Swedish officials have authorized the first-ever licensed hunt of the nation’s wolf (*Canis lupus*) population since the species was partially protected under Swedish law in 1966. The decision allows hunters to take a total of 27 wolves from the country’s population of more than 200 animals.

“We are now implementing the new, large carnivore management policy approved by Parliament. Licensed hunting of wolves is the first step”, explains Maria Ågen, Director-General of the Swedish Environmental Protection Agency (EPA; Stockholm). The Swedish Parliament’s decision temporarily capped the wolf population at 210 individuals and introduced measures to improve the population’s genetic diversity.

Wolves had been hunted nearly to

extinction throughout Scandinavia by the 1960s, but the arrival of a pair of animals from a Finnish–Russian pack in 1982–1983 – augmented by the appearance of a solitary male in 1990–1991 – re-established a small but highly inbred population on the Norwegian–Swedish border. Estimates from last winter put the population at between 213 and 252 individuals, but new litters have been born since then. Most of Scandinavia’s wolves are found in Sweden.

Per Risberg, with the EPA’s Wildlife Management Unit, reports that the Agency received several hundred comments protesting the cull, but also some pressure to increase the number of wolves to be shot. The Världsnaturfonden WWF (Solna, Sweden) has opposed the decision, and has joined with several other Swedish conservation groups to request a meeting with the European Union

Commission, says Peter Westman, Conservation Director for the group. WWF Sweden argues that the country’s wolf population is neither large enough not sufficiently genetically diverse to support a hunt.

The decision to allow licensed hunting was based on a study by the Swedish University of Agricultural Science that concluded, in part, that if wolf pups lost both parents in January or February, they would still be able to survive. The EPA therefore set the hunting season from January 2 to February 15. Nevertheless, determining the quota was a balancing act, according to Susanna Löfgren, head of the EPA’s Wildlife Management Unit. “We cannot permit too many wolves to be shot under license, since we need to have scope for controlled hunting of wolves that attack livestock”, concludes Löfgren.